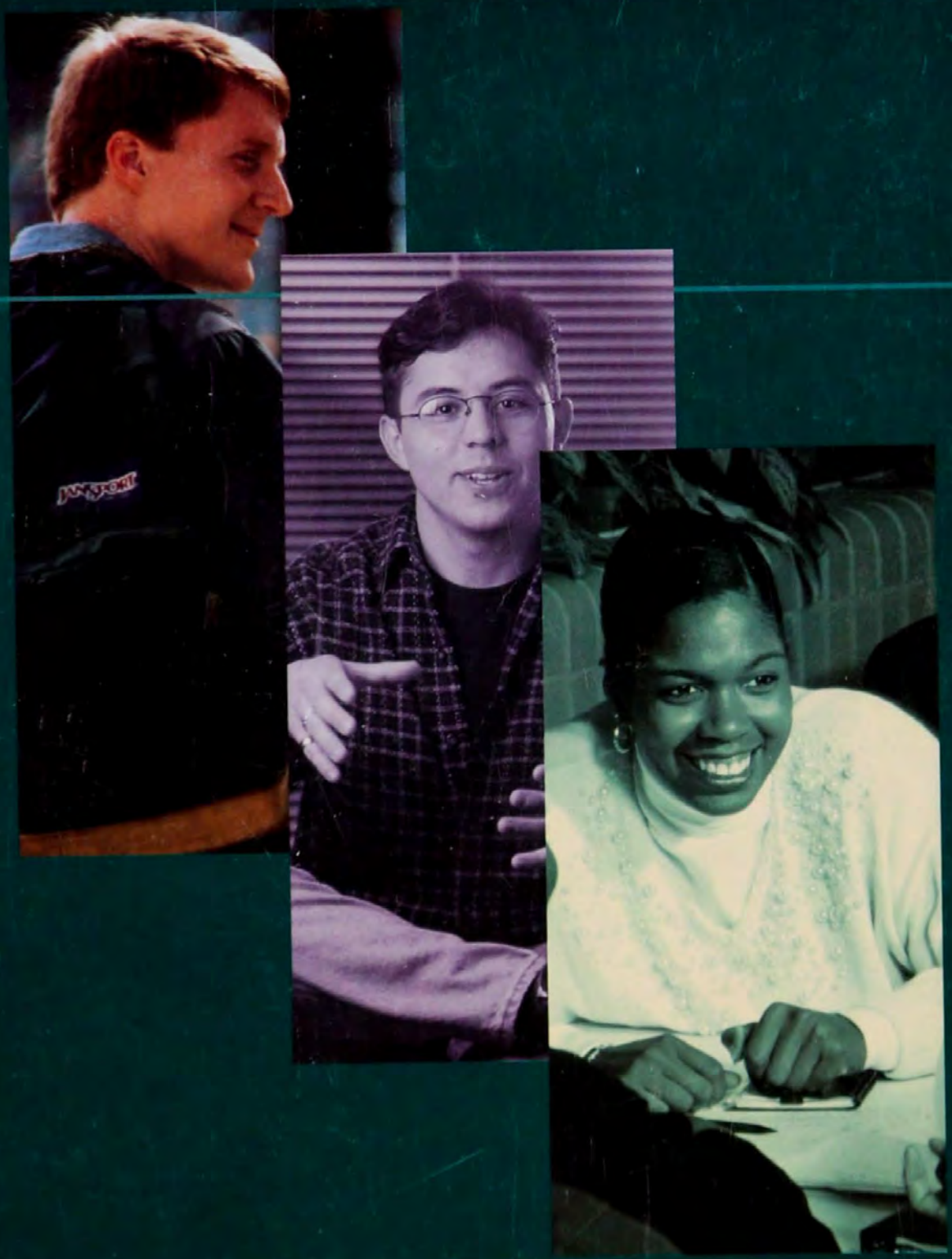
General Catalog

1996-1998



SOUTHERN COLLEGE OF TECHNOLOGY

Visitors to the Campus

Southern College of Technology welcomes visitors to the campus at any time. Classes are held six days a week, Monday through Friday, from 7 a.m. until 11 p.m. and Saturday, from 8 a.m. until 6 p.m. Administrative offices are open from 8 a.m. until 5 p.m., Monday through Friday. The Registrar's Office is open until 7 p.m., Monday through Thursday.

Applicants and other persons interested in obtaining information about Southern College of Technology's programs are encouraged to contact the Admissions Office regarding appointments.

General Catalog

1996-1998

1100 South Marietta Parkway
Marietta, Georgia 30060-2896

SOUTHERN COLLEGE OF TECHNOLOGY

Directory for Correspondence

For additional information on the following topics, please address inquiries as follows:

Admissions	Director of Admissions
Alumni Affairs	Vice President for Advancement
Athletics	Director of Athletics
Career Counseling	Director of Career Services
Continuing Education Programs	Director of Continuing Education
Cooperative Education Program	Director of Career Services
Counseling Services	Director of Counseling
Credit by Examination	Registrar
Evening School	Registrar
Financial Aid	Director of Financial Aid
Fraternity Affairs	Director of Student Activities
Health Services	Vice President for Student Affairs
Housing	Director of Housing and Residence Life
Placement	Director of Career Services
Public Relations	Director of Public Relations
Registration	Registrar
Student Activities	Director of Student Activities
Student Records	Registrar
Testing Services	Coordinator of Testing
Transcripts	Registrar
Transfer Credit	Director of Admissions
Veteran Affairs	Registrar

For Your Information

Admissions	(770) 528-7281
Development and College Relations	(770) 528-7351
Financial Aid	(770) 528-7290
President	(770) 528-7230
Registrar	(770) 528-7267
Vice President for Academic Affairs	(770) 528-7238
Vice President for Business and Finance	(770) 528-7232
Vice President for Student Affairs	(770) 528-7225
Emergency Locator Numbers	Day (770) 528-7225
	Evening and Weekends (770) 528-7348
From outside the Atlanta Metro area (For Admissions Information Only)	**800-635-3204**

Southern College of Technology
1100 South Marietta Parkway
Marietta, Georgia 30060-2896

Contents

About This Catalog

The statements set forth in this catalog are for informational purposes only and should not be construed as the basis of a contract between a student and this institution. While the provisions of this catalog will ordinarily be applied as stated, Southern College of Technology reserves the right to change any provision listed in this catalog, including but not limited to academic requirements for graduation and various fees and charges without actual notice to individual students. Every effort will be made to keep students advised of such changes. Information on changes will be available in the offices of the Registrar and major academic departments. It is especially important that each student note that it is his or her responsibility to keep himself or herself apprised of current graduation requirements for his or her particular degree program.

Southern College of Technology is an equal educational and employment opportunity institution and does not discriminate on the basis of race, color, sex, religion, creed, national origin, age, or disability.

Student Rules and Regulations

The rules and regulations for Southern College of Technology students are comprised of the catalog sections on Academic Regulations and Student Life Regulations. These regulations are intended to set forth the requirements of the faculty to the end that a large student body may live and work together harmoniously with a minimum of friction and misunderstanding. Each student is expected to be familiar with these catalog sections. The student is also expected to be a law-abiding citizen and to obey the laws of the City of Marietta, Cobb County, the State of Georgia, and the United States.

Responsibility for Notices

Students are expected to be aware of the contents of all general notices including those appearing on official campus bulletin boards and in the official school newspaper.

Accreditation

Southern College of Technology is an accredited, coeducational, residential college offering associate, bachelor, and master's degrees:

Associate of Science degree transfer programs are offered in:
- Engineering Technology
- General Studies

Bachelor of Applied Science degree program

Bachelor of Architecture degree program

Bachelor of Science degree programs are offered in:
- Apparel/Textile Engineering Technology
- Civil Engineering Technology
- Computer Engineering Technology
- Computer Science
- Construction
- Electrical Engineering Technology
- Environmental Development
- Industrial Distribution
- Industrial Engineering Technology
- Management of Technology
- Manufacturing
- Mathematics
- Mechanical Engineering Technology
- Physics
- Technical and Professional Communication

Master of Science degree programs are offered in:
- Computer Science
- Construction
- Engineering Technology
- Management of Technology
- Quality Assurance
- Technical and Professional Communication

Southern College of Technology is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools.

The engineering technology programs, except the program leading to the master's degree, are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

The Bachelor of Architecture program is accredited by the National Architectural Accrediting Board, Inc. (NAAB).

The Bachelor of Science degree program in Construction is accredited by the American Council for Construction Education (ACCE).

The Master of Science degree program in Management of Technology is accredited by the Association of Collegiate Business Schools and Programs (ACBSP).

Academic Calendar

1996-98

This is a tentative academic calendar and is subject to change. An official school calendar is published prior to the beginning of each quarter.

Summer Quarter 1996

June 19	(W)	Registration; New student orientation
June 20	(Th)	Classes begin
July 4	(Th)	Independence Day holiday
July 19-August 3	(F-Sa)	Olympic Break - Holidays for students
September 2	(M)	Labor Day holiday
September 13	(F)	Last day of classes
September 16-18	(M-W)	Final examinations
September 18	(W)	End of summer quarter

Fall Quarter 1996

September 24	(Tu)	New student orientation
September 25	(W)	Registration
September 26	(Th)	Classes begin
November 27-30	(W-Sa)	Thanksgiving holidays for students
December 9	(M)	Last day of classes
December 10-13	(Tu-F)	Final examinations
December 13	(F)	End of fall quarter
December 15	(Su)	Commencement

Winter Quarter 1997

January 3	(F)	Registration; New student orientation
January 6	(M)	Classes begin
January 20	(M)	MLK Day holiday
March 17	(M)	Last day of classes
March 18-21	(Tu-F)	Final examinations
March 21	(F)	End of winter quarter

Spring Quarter 1997

March 31	(M)	Registration; New student orientation
April 1	(Tu)	Classes begin
May 26	(M)	Memorial Day holiday for students
June 9	(M)	Last day of classes
June 10-13	(Tu-F)	Final examinations
June 13	(F)	End of spring quarter
June 15	(Su)	Commencement

Summer Quarter 1997

June 23	(M)	Registration; New student orientation
June 24	(Tu)	Classes begin
July 4	(F)	Independence Day holiday
September 1	(M)	Labor Day holiday
September 2	(Tu)	Last day of classes
September 3-5	(W-F)	Final examinations
September 5	(F)	End of summer quarter

Fall Quarter 1997

September 15	(M)	Faculty reception
September 16	(Tu)	New student orientation
September 17	(W)	Registration
September 18	(Th)	Classes begin
November 26-29	(W-Sa)	Thanksgiving holidays for students
December 1	(M)	Last day of classes
December 2-5	(Tu-F)	Final examinations
December 5	(F)	End of fall quarter
December 7	(Su)	Commencement

Winter Quarter 1998

January 5	(M)	Registration; New student orientation
January 6	(Tu)	Classes begin
January 19	(M)	MLK Day holiday
March 17	(Tu)	Last day of classes
March 18-21	(W-Sa)	Final examinations
March 21	(Sa)	End of winter quarter

Spring Quarter 1998

March 30	(M)	Registration; New student orientation
March 31	(Tu)	Classes begin
May 25	(M)	Memorial Day holiday for students
June 8	(M)	Last day of classes
June 9-11	(Tu-F)	Final exams
June 12	(F)	End of spring quarter
June 14	(Su)	Commencement

Preparing for the Future

Southern College of Technology, located 15 miles northwest of Atlanta in Marietta, Ga., was founded in 1948 as a direct response to needs expressed by industry. Today, Southern College of Technology continues to meet those needs by moving ahead and providing quality educational programs.

A senior college in the University System of Georgia, Southern College of Technology offers associate degree transfer programs, a bachelor of architecture program, bachelor degree programs in several areas of engineering technology and related fields, as well as six master's programs.

As Southern College of Technology has moved ahead, it has continued to provide programs to suit industry needs. The college's teaching laboratories include a number of "centers of excellence" equipped with the latest state-of-the-art technologies, jointly supported by industry, private donations, and state funds.

The College has more than 4,000 students enrolled in both day and evening classes. It is coeducational and residential.

Mission Statement

Southern College of Technology, a special purpose senior college in the state-supported University System of Georgia, has a state-wide mission to meet the needs of Georgia's citizens and industries for technological and related instruction at the collegiate level. To accomplish this, the College seeks to recruit and retain academically-prepared and highly-motivated students representative of the diversity within our society. Additionally, the College seeks highly qualified faculty and staff with the same diversity. Southern College of Technology offers both degree and non-degree programs designed to meet the needs that have been articulated by employers, faculty, or students. The College seeks to develop a culture of continuous improvement in all of its units and activities through the implementation of the principles of total quality management.

The College offers, both day and evening, degree programs at the associate, baccalaureate, and masters levels through its Schools of Architecture, Arts and Sciences, Management, and Technology. These programs are regionally and/or professionally accredited where appropriate. The quality of all programs is maintained by recruiting and retaining outstanding faculty who are dedicated to teaching and advising; to the acquisition and dissemination of knowledge in their discipline through scholarship, industrially-oriented research, and other creative endeavors; and to service to the college and the larger community. Additionally, the graduate programs of the College seek to introduce students to research that is industrially, technically, or applications focused. The College seeks to provide high caliber academic support services which enhance its academic programs.

Beyond its mission to offer technically oriented programs of the highest quality, Southern College of Technology also recognizes its responsibility to serve the whole student. Fulfilling this role requires that the College provide a balanced education with strengths not only in the varied technical fields but also in humanities, social sciences, natural sciences, mathematics, and communications. Southern College of Technology further prepares its graduates by fostering inquisitiveness, problem solving, and an ability and a desire for continued learning, as well as preparing them to adapt to rapid technological and societal change. It is also the mission of the college to meet the diverse cultural needs of its student body and to equip its graduates with a sensitivity to ideas and cultures other than their own.

The College recognizes that all students are unique individuals; that they move through various developmental stages and that they are all at different levels of

personal development. College programs and services are designed to help students master increasingly complex developmental tasks, achieve self-direction, and function both independently and inter-dependently. Believing that students learn best through personal experiences, the College offers a variety of opportunities for personal enhancement, career awareness, social participation, cultural literacy, and leadership development. It also encourages a healthy life-style through wellness programs and other leisure and recreational activities.

The College exists in close partnerships with its various constituencies. It addresses the needs and concerns of the alumni, and encourages community interaction and support of the College. The College serves the community by engaging in a variety of industrially or business focused projects, including applied research and other scholarly activities; continuing education; cooperative education; and public service programs with industry, government, the community, and other educational entities. Southern College of Technology will promote activities which increase public awareness of and generate support for science, technology, and their related fields.

The Faculty and Staff strive to promote an atmosphere in which open communication and free exchange of ideas can flourish in a tolerant and supportive environment. Recognizing the role that the campus environment plays in the learning process, the College seeks to provide adequate ancillary services; modern, clean, attractive, well-maintained, safe facilities and grounds; and to acquire necessary new facilities. It is the mutual goal of the administration, faculty, and staff to offer the highest quality academic programs and support services to ensure that the student's overall college education is maturing, positive, and fulfilling.


CRITICAL
STRATEGIES


JOE MACK WILSON
STUDENT CENTER

Admission Information

Admission to Southern College of Technology is made without regard to race, nationality, sex, or religion. For any information regarding admission to Southern College of Technology, write the Director of Admissions, Southern College of Technology, 1100 South Marietta Parkway, Marietta, Georgia 30060-2896. Both freshman and transfer students are accepted for any of the four academic quarters which normally begin in September, January, March, and June.

All applicants for admission to Southern College of Technology must have all required credentials, including the certificate of immunization, on file in the Admissions Office by the application deadline date for the quarter in which the applicant plans to enroll.

The application deadline dates for each quarter are as follows:

Quarter	Deadline Date
Summer Quarter	June 1
Fall Quarter	August 31
Winter Quarter	December 5
Spring Quarter	March 10

The College reserves the right to withdraw admissions prior to or following enrollment if the student becomes ineligible as determined by the standards of the college or Board of Regents.

Freshman Admission Requirements

Course Requirements for Regular Admission

Students who are considering Southern College of Technology should plan their high school schedule to include the following courses:

Course (Units)	Instructional Emphasis
English (4)	Grammar and usage Literature (American and World) Advanced composition skills
Mathematics (3)	Two courses in Algebra and one in Geometry
Science (3)	Physical Science At least two laboratory courses from Biology, Chemistry, Physics, or related areas of science
Social Science (3)	American History World History Economics and Government
Foreign Language (2)	Two courses in one language emphasizing speaking, listening, reading, and writing

Students graduating from high school in the spring of 1988 or later and who do not complete the above College Preparatory Curriculum (CPC) in the area(s) of science, social science, or foreign language will be required to make up the deficiencies upon enrolling at Southern College of Technology. All course work required as a result of a deficiency must be completed prior to the accumulation of 30 hours. Courses taken for these purposes will not apply toward a degree. Students who have not completed the College Preparatory Curriculum in the areas of math and/or English, but meet all other admission requirements will be required to take the Collegiate Placement Exam and score at least a 75 on all required areas of the exam before being offered admission. Students graduating prior to the Spring of 1988 will not be subject to College Preparatory Curriculum requirements, but they must meet all other admission requirements. All freshmen applicants must be high school graduates or possess the equivalent (GED) and must have passed a course in Elementary Algebra.

Test Requirements

All freshman applicants for admission to Southern College of Technology are required to take the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board or the ACT from the American College Testing Program. **Minimum scores for admission currently are 350 verbal (recentered score 430) and 350 math (recentered score 400) on the SAT and 18 English and 16 math on the ACT. Scores must be submitted to the Admissions Office by the application deadline date for the quarter they plan to enroll.**

Application blanks for the SAT may be obtained from high school counselors or by writing the College Entrance Examination Board, P.O. Box 592, Princeton, New Jersey 08540. Application blanks for the ACT may be obtained from high school counselors or by writing the American College Testing Program, P.O. Box 168, Iowa City, Iowa 52244. The CEEB code assigned to Southern College of Technology is 005626.

High School Grade Point Average

To be considered for admission as a freshman, an applicant must have a high school GPA of 2.0 or higher.

Admission Procedure

Freshman

Applicants for freshman admission to Southern College of Technology must submit the following to the Admissions Office:

(a) an application for admission,
(b) an official high school transcript, if not a high school graduate, an official high school transcript and an official copy of scores on the GED (General Educational Development) test,
(c) official SAT or ACT scores, and
(d) the certificate of immunization.

All application credentials must be on file in the Admissions Office by the application deadline date for the quarter in which the applicant plans to enroll.

A freshman applicant may apply as early as the end of his or her junior year in high school. After the receipt of the application, and official high school transcript through the junior year with senior subjects indicated, official SAT/ACT scores, and the certificate of immunization, the Admissions Office will notify the applicant of his or her admission status.

Students considering Southern College of Technology are advised to take the SAT or ACT as early as possible, preferably during the junior year in high school.

College Level Examination Program (CLEP)

Students may receive college credit for certain courses based on scores on the College Level Examination Program offered by the College Entrance Examination Board. The criteria for credit awarded under this program are as follows:

CLEP Exam	Minimum Score Required	SCT Course for which credit is given	Credit Hours
American History	50	HIST 210 or 211*	4
College Algebra	50	MATH 109, 111	10
English Composition (Essay Edition) General Exam	500	ENGL 110	4
English Literature	50	LIT 222	4
General Chemistry	50	CHEM 201	5
General Psychology	50	PSYC 230	4
Introductory Calculus	50	MATH 253	5
Introductory Micro/ Macro Economics	50	ECON 230	4
Trigonometry	50	MATH 112	5
Western Civilization	50	HIST 220 or 221 or 222	4

*In order to receive credit for HIST 210 or 211 and satisfy the constitution requirement for graduation, the student must also complete HIST 290 with a grade of "C" or better.

Advanced Placement Program

Students may receive college credit for certain courses based on scores of the Advanced Placement Exam as follows:

Advanced Placement Exam	Minimum Score Required	SCT Course for which credit is given	Credit Hours
AB Calculus Test	3	MATH 109, 111, 112, 253*	20
BC Calculus Test	3	MATH 109, 111, 112, 253, 254**	25
Computer Science A	3	CS 105	5
Computer Science AB	3	CS 105, 205	10
English-Language/ Composition	3	ENGL 110	4
English-Language/ Composition	5	ENGL 110, 112	8
English-Literature/ Composition	3	ENGL 110	4
English-Literature/ Composition	5	ENGL 110, 112	8
United States History	3	HIST 210***	4
United States History	5	HIST 210, 211***	8

*The student must validate this by completing MATH 254.

**The student must validate this by completing MATH 255 or MATH 306.

***In order to receive credit for HIST 210 or 211 and satisfy the constitution requirement for graduation, the student must also complete HIST 290 with a grade of "C" or better.

Official results must be sent directly from the Admissions Testing Board of the College Board to SCT for credit to be awarded.

International Baccalaureate Program

Students may receive college credit for certain courses based on scores of the International Baccalaureate Exam as follows:

Subject Taken at the Higher Level	Minimum Score Required	SCT Course for which credit is given	Credit Hours
American History	4	HIST 210, 211	8
Biology	4	BIOL 201 or 202	5
Biology	5	BIOL 201, 202	10
Chemistry	5	CHEM 201, 202	10
English	4	ENGL 110	4
Foreign Language	5	Free Elective	10
Mathematics	4	MATH 253, 254	10
Mathematics	5	MATH 253, 254, 5 additional hours based on exam content	15
Physics	5	PHYS 201, 202, 203 or 221, 222, 223	15

Early Admission

This program allows highly qualified students to begin their freshman year of college without having graduated from high school.

To be considered for early admission, applicants (1) must have completed his or her junior year in high school, (2) must have minimum SAT scores of 450 on the verbal section (recentered score 530) and 500 on the math section (recentered score 520) or have minimum ACT scores of 24 in the English section and 23 on the math section, (3) must have a minimum high school academic grade point average of 3.0, (4) must have completed the necessary College Preparatory Curriculum, (5) must receive the recommendation of his or her counselor or principal, (6) must submit a letter of permission from his or her parents, and (7) must submit the certificate of immunization.

It is expected that all students who enroll under early admission will sit for the GED exam when eligible or will arrange to successfully complete high school graduation requirements.

Joint Enrollment

This program is for superior high school juniors or seniors who may earn high school and college credit concurrently. With prior high school approval, students may fulfill high school graduation requirements by enrolling in freshman college courses at Southern College of Technology.

Postsecondary Options (PSO) is a joint enrollment program designed for juniors and seniors in Georgia public high schools. Under PSO regulations, students simultaneously receive high school Carnegie unit credit(s) and college credit hours. Under the PSO program, tuition for classes taken by the student at Southern College of Technology is paid for with funds generated by the Quality Basic Education funding formula. Interested students should contact their high school counselor.

To be considered for joint enrollment, applicants (1) must have minimum SAT scores of 450 on the verbal section (recentered score 530) and 470 on the math section (recentered score 500) or have minimum ACT scores of 24 on the Eng-

lish section and 22 on the math section, (2) must have completed two years of algebra and a year of geometry and be enrolled in the necessary College Preparatory Curriculum and scheduled to complete the requirements by the end of the senior year, (3) must have a minimum high school academic grade point average of 3.0, (4) must receive the recommendation from his or her counselor or principal, (5) must submit a letter of permission from his or her parents, and (6) must submit the certificate of immunization.

Transfer Admission Requirements

Applicants to Southern College of Technology who have been previously enrolled at a college or university will be considered for admission under the following policies:

(a) applicants must have completed and exited all required remedial courses at their previous institution.
(b) applicants with less than 20 hours of transferable college credit will be required to meet freshman admissions requirements.
(c) applicants must have completed at least the equivalent of Elementary Algebra.
(d) applicants who graduated from high school in the Spring of 1988 or later and have not completed at least 45 quarter hours of acceptable core curriculum credit with a minimum of a 2.0 grade point average must submit high school transcripts to determine if any College Preparatory Curriculum deficiencies exist. Standards concerning the high school college preparatory curriculum, as described under the Freshman Admissions Requirements, will be applied to transfer applicants under these circumstances. Transfer students satisfying the CPC requirements elsewhere in the University System will be recognized as having met those requirements at Southern College of Technology upon admission and evaluation of transcripts.
(e) applicants who are on probation at their previous college may be considered for admission only on a probation status at SCT.

Applicants for transfer admission must submit the following to the Admissions Office by the application deadline date for the quarter in which the applicant plans to enroll:

(a) an application for admission,
(b) an official transcript sent directly from each college the applicant has attended, regardless of the applicant's wishes concerning transfer credit,
(c) an official high school transcript sent directly from the high school and official SAT or ACT scores, if required by the Admissions Office, and
(d) the certificate of immunization.

Transfer Credit

Students participating in the University System of Georgia Core Curriculum Program at system institutions may transfer to Southern College of Technology with little or no loss of credit. In addition, pre-engineering technology curricula are available at several University System of Georgia colleges. A student graduating from these curricula or a student graduating from any ABET (Accreditation Board for Engineering and Technology) accredited associate degree program may transfer to Southern College of Technology with little or no loss of credit provided the student does not change majors. The maximum transfer credit allowable from an ABET accredited associate degree program will not exceed the amount of credits required in the corresponding Southern College of Technology associate degree program.

The basic policy regarding the acceptance of courses by transfer is to allow credit for college level courses completed with a grade of "C" or better in accredited programs provided the courses correspond in time and content to courses

offered at Southern College of Technology. Transfer credit will not be allowed for courses completed at another institution that have been failed at Southern College of Technology. An official transcript, requested by the student, must be on file in the Office of Admissions before credit will be awarded.

A grade of "D" is acceptable for Core Curriculum courses taken from a University System of Georgia institution with the exception of ENGL 110, MATH 109, and MATH 111 which require a grade of "C". Students completing U.S. History out-of-state must complete HIST 290 with a grade of "C" or better to receive transfer credit for HIST 210 or 211.

The specific credit for work completed at other institutions is recommended by the appropriate department head and approved for transfer by the Director of Admissions. The total amount of recommended credit shall not exceed that allowed by the Director of Admissions. Allowance of transfer credit by the Director of Admissions does not mean necessarily that all approved credit will be applied toward a specific Southern College of Technology degree. The amount of transfer credit that may be applied toward a degree will be indicated and controlled by an evaluation of transfer credit prepared in the Office of Admissions.

Southern College of Technology reserves the right to test the proficiency of any student in coursework transferred from another institution when such coursework was not taken as part of the University System of Georgia Core Curriculum Program. Therefore, Southern College of Technology reserves the right to disallow transfer credit in such coursework if the student cannot demonstrate acceptable proficiency.

The total amount of transfer credit acceptable to Southern College of Technology is subject to the college's regulations related to the residency requirements applicable to the degree sought.

University System of Georgia Core Curriculum Program

The Core Curriculum of the University System of Georgia was established for the general purpose of aiding and facilitating the educational progress of students as they pursue baccalaureate degrees within and among the units of the University System. It represents an effort to deal effectively with increasing curricular problems of students which result from increased enrollment at institutions of higher education, an increased number and percentage of students enrolled in junior colleges, an increased number and complexity of major fields of studies offered by senior units, and increased problems related to transfer of credit among units of the University System.

The Core Curriculum provides for (1) 90 quarter credit hours of which 60 are in general education and 30 in a major area of study, (2) the assurance of acceptance of transfer of the Core Curriculum or a fractional part thereof toward a baccalaureate degree, and (3) the preservation of the maximum possible amount of institutional autonomy.

The Core Curriculum

Areas of study	Hours
I. Humanities, including, but not limited to, grammar and composition and literature	20
II. Mathematics and the natural sciences, including but not limited to, mathematics and a 10-hour sequence of laboratory courses in the biological or physical sciences	20

III.	Social sciences, including, but not limited to, history and American government	20
IV.	Courses appropriate to the major field of the individual student	30
	TOTAL	90

The following specific provisions are inherent in the implementation of the Core Curriculum:

1. If only a fractional part of the Core Curriculum is completed at the home or initial institution, the receiving institution shall give full credit for those hours taken but shall determine which courses shall be taken to satisfy its (the receiving institution's) requirements up to the 90-hour core total requirement. This is not to exceed the total number of 20 hours required in each of the first three areas of the Core and the 30 hours required in Area IV. A transfer student should be able to graduate with the same total of credit hours as a native student.
2. The University System Uniform Grading Policy is reaffirmed with the provision that a "C" or higher in freshman English composition courses is required to guarantee transferability to institutions that require "C" or higher in English composition of their native students. The receiving institution must have the same policy for both transfer and non-transfer Core Curriculum "D" grades. The policy that applies to on-campus Core Curriculum "D" grades will apply to transfer Core Curriculum "D" grades. (At SCT this applies to ENGL 110, MATH 109, and MATH 111).
3. Military and physical education requirements are to be over and above the Core Curriculum requirements of 90 hours.
4. Courses in the behavioral sciences which have laboratories may be considered in either the mathematics-natural science area (II) or the social science area (III). In order for a behavioral science course to be considered as satisfying the requirements under Area II, the course must have a laboratory period or periods as integral components, and be so described in the general catalog of this institution. The use of a behavioral science course in Area II would not alter in any way the requirement of a "10-hours sequence of laboratory courses in the biological or physical sciences" or the requirement that mathematics be a required subject for all students.
5. Proficiency examinations in any of the Core Curriculum courses when successfully passed at a sending institution (for course credit or exemption of courses) will be honored by the receiving institution.
6. Nothing in this core should be construed to mean that any specific course must be required, but rather demonstrated achievement in the core area as determined by the institution where the core or the fractional part thereof is taken shall be the intent of this Core Curriculum.
7. Foreign languages may be included in the humanities area (I).
8. In all courses requiring a laboratory in Area II, the content and the length of the laboratory periods shall be determined by each institution, which determination shall be honored by a receiving institution.
9. It is recognized that certain programs at four-year institutions require specialized courses at the two-year college level, and students should be so counseled.

Because of an ongoing evaluation by the University System, changes may occur in the Core Curriculum. Reasonable attempts will be made to notify students when these changes occur.

All four-year curricula of Southern College of Technology meet the requirements of the Core Curriculum of the University System of Georgia.

Listed below are Southern College of Technology core-curriculum courses and the credit hours for those courses.

Area I		**Hours**
Humanities (20 hours)*		
Group 1	English 110	4
	English 112	4
Group 2	One of the following:	4
	Literature 220, 221, 222, or 223	
Group 3	One of the following:	4
	Arts 230, 231, or 232	
	Philosophy 230	
Group 4	One of the following	
	(or an additional course from Group 2 or 3):	4
	French 240	
	Literature 244	
	Spanish 240	
	Speech 240	

*Specific courses are required in some programs.

Area II	
Mathematics and Natural Sciences (20 hours)	
Mathematics 109	5
Mathematics 111	5
One of the following*:	10
Biology 201 and 202	
Chemistry 201 and 202	
Physics 201 and 202 or 203	
Physics 221 and 222 or 223	

*Specific courses are required in some programs.

Area III		
Social Sciences (20 hours)*		
Group 1	History 210 or 211	4
Group 2	One of the following:	4
	History 220, 221, or 222	
Group 3	One of the following:	4
	Economics 230	
	Psychology 230	
Group 4	One of the following and	
	an additional course from Group 1, 2, 3, or 4:	8
	Anthropology 240	
	Geography 240	
	History 241 or 242	
	Political Science 240, 241, or 242	
	Religion 240	
	Social and International Studies 240	

*Specific courses are required in some programs.

Area IV

Note: Southern College of Technology offers Associate degree transfer programs in Engineering Technology and General Studies.

Major field (30 hours)

Architecture

Architecture 221	3
Architecture 222	3
Architecture 223	3
Design Foundation 101	5
Design Foundation 102	5
Design Foundation 103	5
Design Foundation 110	2
Mathematics 253	5

Computer Science

Computer Science 105	5
Computer Science 205	5
Computer Science 219	5
Mathematics 253	5
Mathematics 254	5
Mathematics 260	5

Construction

Construction 210	4
Construction 215	3
English 221	4
Environmental Development 171	4
Mathematics 112	5
Mathematics 253	5
Physics 202 or Chemistry 201	5

Engineering Technology

Chemistry 201	5
English 221 or 232	4
Mechanical Engineering Technology 113 or Civil Engineering Technology 150	4
Four courses from the following:*	19-20

Computer Science 103, 105, 200, or 215
Mathematics 112, 253, 254, 260
Physics 202 or 222

*Specific courses are required for different options.

Environmental Development

Environmental Development 221	3
Environmental Development 222	3
Environmental Development 223	3
Design Foundation 101	5
Design Foundation 102	5
Design Foundation 103	5
Design Foundation 110	2
Mathematics 253	5

General Studies

100- or 200-level electives in Arts and Sciences	15
100- or 200-level Free electives	15

Industrial Distribution

Computer Science 200	5
English 232	4
Industrial Distribution 101	2
Industrial Engineering Technology 227	5
Mathematics 112	5
Mathematics 253	5
Mechanical Engineering Technology 113	4

Management of Technology

Mathematics 112	5
Mathematics 253	5
Technology Management 101	5
Technology Management 205	5
Technology Management 235	5
Technology Management 240	5

Manufacturing

Chemistry 201	5
Computer Science 103, 105, 200, or 215	4-5
Mathematics 253	5
Mathematics 254	5
Mathematics 260	5
Physics 222	5

Mathematics

Computer Science 105	5
Mathematics 253	5
Mathematics 254	5
Mathematics 255	5
Mathematics 268	5
Physics 222	5

Physics

Chemistry 201	5
Chemistry 202	5
Mathematics 253	5
Mathematics 254	5
Mathematics 255	5
Physics 222	5

Technical and Professional Communication

Computer Science 101 and 103 **or** 105 and 205	9-10
English 221	4
English 232	4
Mathematics 112	5
Mathematics 253	5
One additional 100-level or 200-level course	5

Transient Students

Transient students are those students attending Southern College of Technology for a limited period of time, usually one quarter, and who are expected to return to their previous college at the beginning of the next quarter. Transient credit earned at Southern College of Technology may not be applied toward the residency requirement.

A transient applicant must submit to the Admissions Office (1) an application, (2) a transient letter from the Registrar of his or her college, and (3) a certificate of immunization. **A transient letter is good for one quarter only.**

It is the responsibility of the transient applicant to determine from his or her previous college the course he or she should take on the SCT campus.

Although not required by the Admissions Office, a transient applicant should obtain a copy of his or her previous college work for the use of his or her SCT faculty advisor.

The application, transient letter, and the certificate of immunization must be in the Admissions Office at least 10 working days before the registration date of the quarter in which the student plans to attend as a transient student.

Audit Students

Persons not seeking a degree from Southern College of Technology yet wishing to gain knowledge from courses taught here may apply for admission as audit students.

An audit student is required to file an application form and submit official proof of graduation or official copy of scores on the GED test as well as a certificate of immunization. An auditor will receive grades of "V" and will not receive transferable credits. In order to become a regular student, auditors must meet regular entrance requirements. An audit student may not change to regular student status after beginning a course as an auditor. The audit grade "V", may never be used as a basis for gaining credit in any course.

Audit applications, required credentials, and the certificate of immunization must be in the Admissions Office at least 10 working days before the registration date of the quarter in which the student plans to attend.

International Students

All international applicants are required to submit the following data to the Admissions Office (All papers must be in the Admissions Office at least three months before the registration date of the quarter in which the student plans to enroll.):

(a) an application for admission including a social security number,
(b) an official transcript (translated into English) of all formal education previously undertaken by the student,
(c) official scores on the Test of English as a Foreign Language (TOEFL),
(d) an affidavit indicating financial security, and
(e) the certificate of immunization.

To be accepted for admission, international applicants must be at least 18 years old, must be in the top section of their class, and must have high grades on the examinations by the Ministry of Education or a similar agency where national examinations are available. International students may be required to take the Collegiate Placement Exams for admission screening purposes. A score of 50 in each area of the TOEFL is required.

All international students are expected to have medical insurance coverage.

Non-Traditional or Adult Students

Applicants who have not attended high school or college within the previous five years and have earned fewer than 20 transferable quarter hours of college credit are not required to take the SAT or ACT; however, all other admission requirements must be met. These students will be required to take the Collegiate Placement Examination prior to admission for admission screening purposes. Applicants must submit official evidence of graduation from an accredited secondary

school or a GED certificate which satisfies the minimum score requirement of the State of Georgia. Applicants are also required to have passed a course in Elementary Algebra.

Non-Degree Students

Applicants who want to take courses for professional improvement or for general knowledge and do not want to pursue a degree program can be admitted as non-degree students. Applicants must submit official evidence of graduation from an accredited secondary school or a GED certificate which satisfies the minimum score requirement of the State of Georgia and the certificate of immunization. Applicants who have attended previous colleges must submit official college transcripts. Individuals in this category are not required to submit SAT or ACT scores, but must be screened for admission purposes with the Collegiate Placement Examination. **Students admitted as non-degree students may earn a maximum of 20 quarter credit hours (including institutional credit).** Applicants must submit to the Admissions Office along with an application a brief statement explaining the reason for selecting this special program rather than the degree program.

Admission Requirements for the Master's Program in Computer Science

The Master of Science program with a major in Computer Science is designed to enhance career options for a broad mix of students, from those with an academic background in computer science just beginning their careers to those who have worked for years as computer professionals who may have academic credentials in other fields. Students from undergraduate disciplines other than computer science who are willing to make a major commitment to an academic graduate program in computer science may be admitted to the program in "'post baccalaureate" status pending successful transition to the study of computer science at the graduate level. Although no specific undergraduate major is required, applicants must have a baccalaureate degree from an accredited school. Preferred (but not required) for admission is some relevant work experience. Students will be admitted if their academic accomplishments, work experience, and motivation predict the ability to complete the program successfully.

Admission Procedure

Applicants for admission to the Master of Science program with a major in Computer Science must submit the following to the Admissions Office:

(a) an application for admission to the program,
(b) an official transcript from each college the applicant has attended,
(c) a certificate of immunization, and
(d) an official copy of scores from the "General Test" of the Graduate Record Examination (GRE). With permission, the results of other graduate aptitude examinations (such as the GMAT) that have already been taken may be used in place of the GRE. Students already holding a recognized master's degree are exempt from this requirement.

In addition, applicants must submit the following to the Department of Computer Science:

(a) a statement of purpose in seeking this degree, and
(b) three recommendation forms completed by former or current supervisors, professors, or professional colleagues.

All admissions materials must be submitted according to the following schedule:

August 1 for the Fall Quarter
November 1 for the Winter Quarter
February 1 for the Spring Quarter
May 1 for the Summer Quarter

One of the following must be met for a student to be fully admitted to the MS program at Southern College of Technology:

Basic

(a) undergraduate GPA of 3.0 or better (out of a possible 4.0) or the equivalent, and
(b) a score of 500 or better on at least one of the three components (verbal, quantitative, analytic) of the General Test of the GRE. (A composite score of 500 on the GMAT may be submitted to meet this requirement if it was already taken before beginning the MS admission process.)

Advanced

The candidate for admission has already earned a recognized master's or doctor's degree in another field of study. GRE is not required.

Alternative

A student not meeting criteria above may be admitted upon convincing the faculty of the CS department of extraordinary alternative qualifications (e.g., lengthy and distinguished employment in the computer field) that would predict the likelihood of success in completing the MS program.

Note: Students not meeting the above-stated criteria may be considered for provisional post-baccalaureate admission as a temporary measure while establishing their likelihood of success by taking undergraduate or transitional graduate courses.

International Students

International applicants who do not possess a bachelor's degree from a college within the United States must submit the following additional information to the Admissions Office:

(a) an official transcript (translated into English) of college-level education,
(b) score on the Test of English as a Foreign Language (TOEFL), and
(c) an affidavit indicating financial security.

International students are expected to purchase medical insurance made available through Southern College of Technology or to otherwise show proof that they already have adequate major medical insurance coverage.

Transfer Credit

Students may receive (subject to approval of the CS department) up to ten hours credit for any combination of the following:

(a) transfer credit (if a graduate course equivalent to a Southern College of Technology Computer Science course was taken in the last five years, was completed with a grade of "B" or better, and was not used to satisfy any other graduate degree),
(b) credit for documented work experience at the level of an equivalent Southern College of Technology Computer Science graduate course, or

(c) a graduate course approved in advance that is taken in another department at Southern College of Technology or at another institution while admitted to this program. (Additional regulations about joint enrollment or transient status may apply).

An additional five hours of credit may be awarded (based on the same criteria) by petition to the Graduate Programs Committee of Southern College of Technology.

Not more than 15 hours of credit for any combination of transfer courses from other institutions, transition (graduate foundations) courses, and credit for experience may be applied to the degree.

Admission Requirements for the Master's Program in Construction

Admission to the Master of Science program with a major in Construction is open to persons holding the bachelor or higher degree in engineering, engineering technology, construction management, construction technology, architecture, management, or related degree from an accredited college. Preference in admission will be given to applicants having professional experience in a construction work environment. The admission procedure is competitive in that students will be admitted only if their academic accomplishments and work experience demonstrate that they can successfully complete the program.

Admission Procedure

Applicants for admission to the Master of Science program with a major in Construction must submit the following to the Admissions Office no later than 20 working days before the beginning of the quarter in which the applicant plans to enroll:

(a) an application for admission to the program,
(b) an official copy of scores from the "General Test" of the Graduate Record Examination (GRE) or scores from the Graduate Management Admissions Test (GMAT),
(c) an official transcript from each college the applicant has attended,
(d) certificate of immunization, and
(e) at least three recommendation forms which have been completed by former or current supervisors, a professor, or professional colleagues. These three recommendations must be sent directly to Southern College of Technology's Construction Department.

Admission Criteria

Applicants for admission to the Master of Science program in Construction must meet the following criteria:

Regular admission:	A score of 750 or higher on the GRE General Test (verbal and quantitative) **or** A score of 500 or higher on any section of the GRE General Test (verbal, quantitative, or analytical) **or** A score of 450 or higher on the GMAT and an undergraduate GPA of 2.75 or better on a 4.00 scale
Conditional Admission:	A score of 700 or higher on the GRE General Test (verbal and quantitative) **or** An index score of GMAT + (200 x undergrad-

uate GPA) of 800 or better and an undergraduate GPA of 2.20 or better on a 4.00 scale

NOTE: Students who are admitted under conditional admission may be changed to Regular Admission by obtaining a grade of "B" or better in the first 4 CNST graduate courses.

International Students

International applicants who do not possess a bachelor's degree from a college within the United States must submit the following additional information to the Admissions Office:

(a) an official transcript (translated into English) of college-level education,
(b) for applicants from countries where English is not the official language, a score of at least 550 on the Test of English as a Foreign Language (TOEFL), and
(c) an affidavit indicating financial security.

International students are expected to purchase medical insurance made available through Southern College of Technology or to otherwise show proof that they already have adequate major medical insurance coverage.

Transfer Credit

Students may wish to transfer credit from other graduate programs in which they have been enrolled. Transfer credit is limited to ten hours subject to the discretion of the head of the Construction Department. Students may apply for transfer credit if:

(a) the student was enrolled as a graduate student in a construction, management, or related technical program,
(b) the course is completed with a grade of "B" or better,
(c) the course is equivalent to one offered in the Master of Science program in Construction at Southern College of Technology, and
(d) the course credit was earned within the last 5 years.

Admission Requirements for the Master's Program in Engineering Technology

Admission to the Master of Science program with a major in Engineering Technology is open to persons holding the bachelor or higher degree in engineering, engineering technology, or related degree from an accredited college. Preference in admission will be given to applicants having professional experience in a technical work environment. The admission procedure is competitive in that students will be admitted only if their academic accomplishments and work experience demonstrate that they can successfully complete the program.

Admission Procedure

Applicants for admission to the Master of Science program with a major in Engineering Technology must submit the following to the Admissions Office no later than 20 working days before the beginning of the quarter in which the applicant plans to enroll:

(a) an application for admission to the program,
(b) an official copy of scores from the "General Test" of the Graduate Record Examination,
(c) an official transcript from each college the applicant has attended,
(d) certificate of immunization, and

(e) at least three recommendation forms which have been completed by former or current supervisors, a professor, or professional colleagues. These forms must be sent directly to Southern College of Technology's Admissions Office.

International Students

International applicants who do not possess a bachelor's degree from a college within the United States must submit the following additional information to the Admissions Office:

(a) an official transcript (translated into English) of college-level education,
(b) score on the Test of English as a Foreign Language (TOEFL), and
(c) an affidavit indicating financial security.

International students are expected to purchase medical insurance made available through Southern College of Technology or to otherwise show proof that they already have adequate major medical insurance coverage.

Transfer Credit

Students may wish to transfer credit from other graduate programs in which they have been enrolled. Transfer credit is limited to ten hours subject to the discretion of the head of the academic department where the program resides. Students may apply for transfer credit if:

(a) the student was enrolled as a graduate student in a technical or scientific program,
(b) the course is completed with a grade of "B" or better,
(c) the course is equivalent to one offered in the Master of Science program in Engineering Technology at Southern College of Technology, and
(d) the course credit was earned within the last five years.

Admission Requirements for the Master's Program in Management of Technology

Admission to the Master of Science program with a major in Management of Technology is open to persons holding the bachelor or higher degree from an accredited college.

Admission Procedure

Applicants for admission to the Master of Science program with a major in Management of Technology must submit the following to the Admissions Office no later than 20 working days before the beginning of the quarter in which they plan to enroll:

(a) an application for admission to the program,
(b) an official copy of scores from the Graduate Management Admissions Test,
(c) an official transcript from each college the applicant has attended,
(d) certificate of immunization, and
(e) at least three recommendation forms which have been completed by former or current supervisors, professors, or professional colleagues. (To be sent from recommender directly to Dean, School of Management.)

Admission Criteria

Applicants for admission to the Master of Science program in Management of Technology must meet the following criteria:

Regular admission index: GMAT + (200 x undergraduate GPA) = 900

Admission index for enrolled Post-Baccalaureate students:	GMAT + (200 x common professional component GPA) = 1050

Provisional admission: Consideration will be given to admitting applicants provisionally whose prior academic and/or professional achievement seem to warrant admissions, but who have been unsuccessful in meeting the admission index. The decision to grant provisional admission must be supported by a majority vote of the faculty with the concurrence of the Dean. Students admitted "provisionally" would be required to make a minimum grade of "B" in their first four courses and to meet whatever additional requirements as are deemed advisable by the school.

International Students

International applicants who do not possess a bachelor degree from a college within the United States must submit the following additional information:

(a) an official transcript (translated into English) of college-level education,
(b) score on the Test of English as a Foreign Language (TOEFL), and
(c) an affidavit indicating financial security.

International students are expected to purchase medical insurance made available through Southern College of Technology or to otherwise show proof that they already have adequate major medical insurance coverage.

Graduate Management Admissions Test (GMAT)

Application forms and testing schedules for the GMAT may be obtained from the Admissions office at Southern College of Technology or from the Educational Testing Service (ETS), P.O. Box 6103, Princeton, NJ 08541-6103. The telephone number for ETS is (609) 771-7330. In order to have scores forwarded to Southern College of Technology you must provide Southern College of Technology's reference code number (5626) on your test application.

Transfer Credit

Students may wish to transfer credit from other graduate management programs in which they have been enrolled. The transfer credit is limited to ten credit hours subject to the discretion of the Dean of the School of Management. Students may apply for transfer credit if:

(a) the student was enrolled as a graduate student in a School of Management,
(b) the course was completed with a grade of "B" or better,
(c) the course is equivalent to one offered in the Southern College of Technology Management of Technology program, and
(d) the course credit was earned within the past five years.

Admission Requirements for the Master's Program in Quality Assurance

Admission to the Master of Science program with a major in Quality Assurance is open to persons holding the bachelor or higher degree in engineering, engineering technology, or related degree from an accredited college. Preference in admission will be given to applicants having professional experience in a technical work environment. The admission procedure is competitive in that students will be admitted only if their academic accomplishments and work experience demonstrate that they can successfully complete the program.

Admission Procedure

Applicants for admission to the Master of Science program with a major in Quality Assurance must submit the following to the Admissions Office no later than 20 working days before the beginning of the quarter in which the applicant plans to enroll:

(a) an application for admission to the program,
(b) an official copy of scores from the "General Test" of the Graduate Record Examination,
(c) an official transcript from each college the applicant has attended,
(d) certificate of immunization, and
(e) at least three recommendation forms which have been completed by former or current supervisors, a professor, or professional colleagues. These forms must be sent directly to Southern College of Technology's Admissions Office.

International Students

International applicants who do not possess a bachelor's degree from a college within the United States must submit the following additional information to the Admissions Office:

(a) an official transcript (translated into English) of college-level education,
(b) score on the Test of English as a Foreign Language (TOEFL), and
(c) an affidavit indicating financial security.

International students are expected to purchase medical insurance made available through Southern College of Technology or to otherwise show proof that they already have adequate major medical insurance coverage.

Transfer Credit

Students may wish to transfer credit from other graduate programs in which they have been enrolled. Transfer credit is limited to ten hours subject to the discretion of the head of the academic department where the program resides. Students may apply for transfer credit if:

(a) the student was enrolled as a graduate student in a technical or scientific program,
(b) the course is completed with a grade of "B" or better,
(c) the course is equivalent to one offered in the Master of Science program in Engineering Technology at Southern College of Technology, and
(d) the course credit was earned within the last five years.

Admission Requirements for the Master's Program in Technical and Professional Communication

The Master of Science program with a major in Technical and Professional Communication is designed for both experienced and beginning technical communicators. Applicants must have a baccalaureate degree from an accredited school. Because professionals in this field come from many different fields, no specific undergraduate major is required. Preferred (but NOT required) for admission is some relevant work experience.

The admission procedure is competitive in this respect: students will be admitted only if their academic accomplishments, work experience, and/or writing ability demonstrate that they can successfully complete the program.

Admission Procedure

The Humanities and Technical Communication Department accepts master's students for fall, winter, and spring - but usually not for summer quarter. Applicants for admission to the Master of Science program with a major in Technical and Professional Communication must submit the following to the Humanities and Technical Communication Department:

(a) three letters of recommendation (NOT the reference forms in the application packet) from supervisors, clients, professors, or professional colleagues,
(b) an essay written on campus, and
(c) an essay written off campus.

Item (b) above must be written on campus in a specified length of time, in response to an assignment given at that time. See the department concerning exceptions. Item (c) must discuss the manner in which the master's program will satisfy the applicant's career goals.

Applicants must submit the following to the Admissions Office:

(a) an application for admission to the program,
(b) an official transcript from each college attended, and
(c) a certificate of immunization.

Ideally, applicants should have above-average grades in undergraduate communication courses. The department believes that the applicant's overall undergraduate performance can correlate with success in the master's program.

All materials should be submitted no later than 30 working days before the beginning of the quarter in which the applicant plans to enroll.

International Students

International applicants who do not possess a bachelor's degree from a college within the United States must submit the following additional information to the Admissions Office:

(a) an official transcript (translated into English) of college-level education,
(b) score on the Test of English as a Foreign Language (TOEFL), and
(c) an affidavit indicating financial security.

International students are expected to purchase medical insurance made available through Southern College of Technology or to otherwise show proof that they already have adequate major medical insurance coverage.

Transfer Credit

Students can receive a maximum of ten hours credit for any combination of the following:

(a) transfer credit (if a graduate course equivalent to a Southern College of Technology Technical and Professional Communication course was taken in the last five years, and was completed with a grade of "B" or better), and
(b) retaking at the graduate level of any Southern College of Technology Technical and Professional Communication course that was previously taken at the undergraduate level.

Post-Baccalaureate Students

Persons holding a recognized bachelor's degree may be admitted as post-baccalaureate students if they are interested in taking additional classes for per-

sonal growth or professional development but not involving a new degree objective. Such students must have departmental approval where prerequisites are involved or if enrollment is desired in a graduate-credit class. To apply as a post-baccalaureate student, the student must submit to the Admissions office (1) an application form, (2) an official transcript showing completion of a bachelor's degree or above from a recognized institution of higher education, and (3) the certificate of immunization. If a student in this category chooses to later apply for degree-seeking status, the student must follow the regular Master's program admission procedure. Following regular program admission, graduate credit earned in the non-degree-seeking category may be counted only with the permission of the department where the degree is housed.

At the discretion of the department where a given Master's program is housed, a student who has supplied the above-stated materials for admission may be admitted as a post-baccalaureate student with the indicated major while full admission is being sought. Ordinarily, no more than 15 hours of graduate coursework completed in this provisional status may be applied to the degree.

International Students

International applicants who do not possess a bachelor degree from a college within the United States must submit the following additional information:

(a) an official transcript (translated into English) of college-level education,
(b) score on the Test of English as a Foreign Language (TOEFL), and
(c) an affidavit indicating financial security.

International students are expected to purchase medical insurance made available through Southern Tech or to otherwise show proof that they already have adequate major medical insurance coverage. A score of 50 in each area of the TOEFL is required.

Other Admission Requirements

Reserved to every institution of the University System of Georgia is the right to require any applicant for admission to take appropriate intelligence and aptitude tests in order that the institution may have information bearing on the applicant's ability to pursue successfully the program of study for which the applicant wishes to enroll and to reject any applicant who fails to meet such tests satisfactorily.

Special Students

Special students and all other students of classifications not covered in these policies shall be expected to meet all admission requirements prescribed by Southern College of Technology.

Students Sixty-two Years of Age or Older

Citizens of the State of Georgia who are 62 years of age or older may attend Southern College of Technology without payment of fees, except for supplies and laboratory or shop fees, when space is available in a course scheduled for resident credit.

To be eligible for participation under this amendment to the Georgia Constitution, such persons:

(a) must present a birth certificate or other comparable written documentation of age to the Registrar at the time of registration,
(b) must meet all University System and Southern College of Technology admission requirements,
(c) will have all usual student and institutional records maintained, and

(d) must meet all University System, Southern College of Technology, and legislated degree requirements if they are degree-seeking students.

Readmission

Students who have an absence of three or more consecutive quarters of matriculation at Southern College of Technology and who are not academically dismissed must be approved by the Admissions Office for readmission before being eligible for registration. An application for readmission, together with any pertinent supporting information, must be submitted to the Admissions Office at least 20 working days before the registration date of the quarter in which the student plans to enroll. A student who has been academically dismissed must seek reinstatement before being eligible for registration. Please refer to Reinstatement under Academic Regulations. Students granted readmission must re-enter the same academic department in which they were last enrolled.

In addition, students who were granted admission for only one quarter as transients must be approved for readmission by the Admissions Office and submit an updated transient letter indicating continued good standing at the home institution before they will be permitted to register for a subsequent quarter or a future quarter.

Registration Procedures

Eligibility

Registration for classes is held on the first day of the quarter. Students who have received an official letter of acceptance to Southern College of Technology and returning students not on dismissal may register. Classes begin the day following registration.

Drop/Add and Late Registration

Students may amend their class schedules and/or late register during the drop/add period. Changes to the class schedule made during the Registration-Drop/Add period remove or add courses to the student's schedule with no academic penalty.

Student Course Schedule

Upon completion of registration or a change of registration, students can print a copy of their quarterly schedule of courses. This schedule serves as the student's proof of course registration should questions arise. Students should keep the schedule as part of their permanent records.

Quarterly Course Schedule

Detailed information and instructions concerning registration may be found in the quarterly registration bulletin. Students are urged to become knowledgeable of, and to follow, these instructions explicitly. It should be understood that any deviation from the prescribed procedure may result in unnecessary delays in registration or errors in the resulting schedule.

An applicant will not be approved for academic advisement and/or registration until formally accepted by the Director of Admissions nor will he or she be permitted to attend classes until registration has been completed.

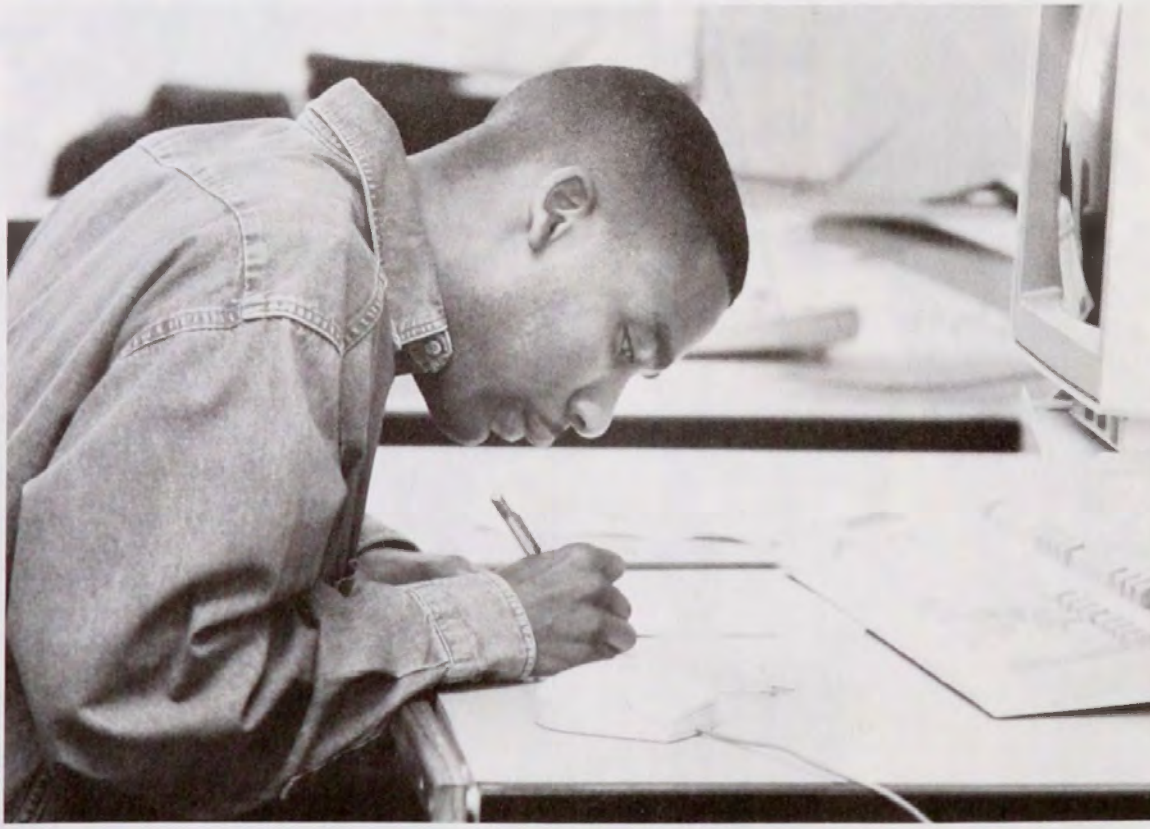
Registration Errors

It is the student's responsibility to follow the proper procedures for registration or changes to registration and to verify that his or her schedule of classes is cor-

rect. The Office of the Registrar cannot be held responsible for errors resulting from the student's failure to execute the proper procedure or verify his or her own schedule. Any problems experienced at registration or as a result of registration should be reported immediately to the Registrar.

Matriculation

Enrollment for the quarter is not complete until the student has properly completed registration and paid all fees. Registration for students not paying fees by the date specified in the quarterly course schedule will be cancelled for non-payment.



Financial Information

Important Note: The fees indicated in this section are applicable to year 1996-97 only. Fees are expected to change for year 1997-98. Actual fees for 1997-98 will be available in May, 1997.

Student Fees

Matriculation and Non-Resident Tuition fees are established annually by the Board of Regents of the University System of Georgia. All undergraduate students enrolled at the college are required to pay a matriculation fee of $44 per credit hour up to a maximum of $528 for 12 or more credit hours. Matriculation fee for graduate students is $47 per credit hour up to a maximum of $554 for 12 or more credit hours. Undergraduate students who are not legal residents of Georgia are also required to pay non-resident tuition at the rate of $108 per credit hour up to a maximum of $1,293 for 12 or more credit hours. Tuition fee for graduate students who are not legal residents of Georgia is $114 per credit hour up to a maximum of $1,358 for 12 or more credit hours.

The Student Activity, Athletic, and Health fees are recommended annually by the College and must be approved by the Board of Regents. All students enrolled for six or more credit hours, regardless of residency status, are required to pay a student activity fee of $57 per quarter, an athletic fee of $17 per quarter, and a health service fee of $15 per quarter. Students enrolled for less than six credit hours, who wish to benefit from these services, may choose to pay any or all of these optional fees. This option may only be exercised at the time other student fees are paid. A full description of the programs and services funded by these fees is included in the *Student Handbook*, which is available from the Student Activities Office.

Other non-mandatory fees such as vehicle parking, laboratory and special course fees, etc., are established by the College and approved by the President. All fees and other charges are subject to change without prior notice; however, the College will make every effort to communicate changes as they occur.

Undergraduate Students:

Credit Hours	1	2	3	4	5	6*	7*	8*	9*	10*	11*	12 or more*
Georgia Residents	44	88	132	176	220	353	397	441	485	529	573	617
Out-of-State Residents	152	304	456	608	760	1001	1153	1305	1457	1609	1761	1910

*The following required fees are included for students registering for 6 or more credit hours: $57 Activity, $17 Athletic, and $15 Health Service

Graduate Students:

Credit Hours	1	2	3	4	5	6*	7*	8*	9*	10*	11*	12 or more*
Georgia Residents	47	94	141	188	235	371	418	465	512	559	606	643
Out-of-State Residents	161	322	483	644	805	1055	1216	1377	1538	1699	1860	2001

*The following required fees are included for students registering for 6 or more credit hours: $57 Activity, $17 Athletic, and $15 Health Service

Fee Payment

Registration and fee payment dates are published in the quarterly registration bulletin. Payment of fees and other charges may be made with cash, checks, approved financial aid, and credit cards. Visa, MasterCard, and American Express are accepted on campus in the Business Office and the Campus Bookstore. Debit cards issued under the *HONOR* system (ATM) are also accepted.

Students who register for courses and pay appropriate fees using any acceptable method of payment shall be considered enrolled and space shall be reserved in the class(es) for the duration of the quarter. If a payment is cancelled or otherwise withdrawn, the students course schedule remains intact, as does the obligation to the State of Georgia. The student schedule cannot be withdrawn except by a properly approved withdrawal form.

Payment of matriculation and non-resident fees shall not be accepted after the close of business at the end of the official drop/add period. Students are encouraged to register and pay fees as early as possible to avoid potential problems. Students who pay residence hall fees after the official drop/add period will be assessed a non-refundable late payment fee of $30.

Southern College of Technology is an educational institution and, therefore, does not have the resources to perform extensive debt collection activities. For this reason, past due and delinquent accounts may be assigned to the district attorney or a collection agent.

Refund of Fees and Charges

Refunds of fees and charges will be made only upon official withdrawal from all classes through the Registrar's Office. **A student who partially withdraws after the official drop/add period does not receive a refund.**

The refund schedule is established by the Policies of the Board of Regents of the University System of Georgia. Currently the amount to be refunded is calculated according to the following percentage schedule, based on the various conditions below:

Date of Total Withdrawal*	Refund
After the drop/add period, but on or before the fifth day	90%
After the fifth class day, but on or before the thirteenth day	50%
After the thirteenth day, but on or before the twenty-fifth day	25%
After the twenty-fifth class day	No refund

*Please note that the "Date of Total Withdrawal" is determined and approved by the Registrar's Office.

Residence hall charges are refunded on a pro-rata basis, only by separate application to the Director of Housing and Residence Life. Refunds are subject to the rules and regulations regarding student responsibilities in the residence halls, as outlined in the *Student Handbook*.

Where applicable, any refunds made to financial aid and scholarship recipients will first be applied to the financial aid program.

Vehicle Parking

Students who are currently enrolled may purchase a parking permit each quarter at a cost of $10. Permits valid for the academic year (fall, winter, and spring quarters) are available at a cost of $30. A limit of one vehicle per student is allowed on campus at any given time. To avoid traffic fines, parking permits must be purchased prior to the end of the first week of classes. For additional information and a copy of College parking regulations, contact the Public Safety department.

Academic Credit by Examination

Students who wish to attempt academic credit by examination shall be charged a testing fee of $50.00. An official receipt from the Business Office must be presented prior to taking the examination.

Graduation Fee

Every student receiving a degree must pay a graduation fee of $25.00. The final due date for payment of this fee is published in the quarterly bulletin.

Estimated Summary of Expenses

	Resident	Nonresident
Matriculation, tuition, other fees	$1,851	$5,730
Room	1,725	1,725
Meals	2,205	2,205
Books and supplies	500	500
Other expenses	1,600	1,600
Total	$7,881	$11,760

The preceding estimates are based on an academic year of three quarters in attendance with 12 or more quarter hours of scholastic work per quarter.

Regents' Requirement for Georgia Residence Classification

A person's legal residence is his or her permanent dwelling place. It is the place where he or she is generally understood to reside with the intent of remaining there indefinitely and returning there when absent. There must be a concurrence of actual residence and of interest to acquire a legal residence.

Because the overwhelming proportion of financial support for the operation of the public institutions of higher education in Georgia comes from the citizens through the payment of taxes, the determination of whether a student is classified as a resident or a nonresident of the state is a significant matter. The fees paid by resident students cover only about one-fourth of the total cost of their education in the University System. Therefore, Georgia taxpayers are contributing three-fourths of the necessary funds to provide quality education for the citizens of the state.

Students are responsible for registering under the proper residency classification. Any student classified as a nonresident who believes that he or she is entitled to be reclassified as a legal resident may petition to the Registrar for a change of status.

To insure timely completion of required processing, prior to registration, a student/applicant requesting a change of residence classification for specific quarter should file the "Petition for Georgia Residence Classification" and all supporting documentation no less than 20 working days prior to registration for that quarter. Final determination of Georgia residence classification prior to the final date for fee payment cannot be guaranteed for petitions received after the deadline date. If the petition is not filed by the deadline date, it must be filed no later than 60 days after the quarter begins in order for the student to be considered for reclassification for that quarter. If the petition is granted, reclassification will not be retroactive to prior quarters.

Legal residents of Georgia as well as certain categories of nonresidents may be enrolled upon payment of resident fees in accordance with the following Regents' regulations:

1. (a) If a person is 18 years of age or older, he or she may register as an in-state student only upon showing that he or she has been a legal resident of Georgia for a period of at least twelve months immediately preceding the date of registration.
   (b) No emancipated minor or person 18 years of age or older shall be deemed to have gained or acquired in-state status for tuition purposes while attending any educational institution in this state, in the absence of a clear demonstration that he or she has in fact established legal residence in this state.
2. If a person is under 18 years of age, he or she may register as an in-state student only upon showing that his or her supporting parent or guardian has been a legal resident of Georgia for a period of at least twelve months immediately preceding the date of registration.
3. If a parent or legal guardian of a minor changes his or her legal residence to another state following a period of legal residence in Georgia, the minor may continue to take courses for a period of twelve consecutive months on the payment of in-state tuition. After the expiration of the twelve month period, the student may continue his or her registration only upon the payment of fees at the out-of-state rate.
4. In the event that a legal resident of Georgia is appointed as guardian of a nonresident minor, such minor will not be permitted to register as an in-state student until the expiration of one year from the date of court appointment, and then only upon a proper showing that such appointment was not made to avoid payment of the out-of-state fees.
5. Aliens shall be classified as nonresident students; provided, however, that an alien who is living in this country under an immigration document permitting indefinite or permanent residence shall have the same privilege of qualifying for in-state tuition as a citizen of the United States.
6. Waivers: An institution may waive out-of-state tuition for:
   (a) nonresident students who are financially dependent upon a parent, parents or spouse who has been a legal resident of Georgia for at least twelve consecutive months immediately preceding the date of registration; provided, however, that such financial dependence shall have existed for at least twelve consecutive months immediately preceding the date of registration;
   (b) international students, selected by the institutional president or his authorized representative, provided, however, that the number of such waivers in effect at any time does not exceed one percent of the equivalent full-time students enrolled at the institution in the fall quarter immediately preceding the quarter for which the out-of-state tuition is to be waived;
   (c) full-time employees of the University System, their spouses, and their dependent children;
   (d) full-time teachers in the public schools of Georgia or in the programs of the State Board of Technical and Adult Education and their dependent children. Teachers employed full-time on military bases in Georgia shall also qualify for this waiver;
   (e) career consular officers and their dependents who are citizens of the foreign nation which their consular office represents, and who are stationed and living in Georgia under orders of their respective governments. This waiver shall apply only to those consular officers whose nations operate on the principle of educational reciprocity with the United States;
   (f) military personnel and their dependents stationed in Georgia and on active duty unless such military personnel are assigned as students to System institutions for educational purposes.

Financial Aid

Purpose and Philosophy

Southern College of Technology subscribes to the principle that the primary purpose of a financial assistance program is to provide aid to students who without such assistance would be unable to attend or remain in school. The financial aid program is intended to assist students in meeting normal college expenses and to help as many students as possible. An applicant should realize, however, that the amount of financial aid which may be granted seldom meets all the student's educational expenses.

The primary responsibility for financing an education rests with the student and his or her family. The family of the applicant is expected to make a maximum effort to assist the student with college expenses. The student also has a responsibility to contribute to his or her college expenses through such sources as savings and summer earnings.

Eligible students receive financial aid from funds provided to the institution by the federal and state governments, community organizations, and local industries. In most cases, the aid package is a combination of a grant, scholarship, loan and/or employment.

The Student Financial Aid Office serves more than 3000 students each year. Over five million dollars is awarded to these students to assist them in meeting educational costs and in furthering their education.

Steps to Apply for Financial Aid

To be considered for any need-based financial aid awarded by the Student Financial Aid Office, a student must be accepted for enrollment. However, freshmen or transfer students should not wait to be admitted to the college before applying for financial aid.

Transfer and readmitted undergraduate students, and incoming and transfer graduate students must have financial aid transcripts sent to the Student Financial Aid Office from each college they previously attended.

All applicants for aid (new and returning students) must complete the Free Application for Federal Student Aid (FAFSA), which is available at the Student Financial Aid Office.

Although applications are processed until all federal funds are expended, students who apply by the March 15 deadline have a greater chance of receiving financial aid than those who apply late. Aid awarded to a student one year does not mean that he or she is eligible to receive aid in a subsequent year, unless the student continues to demonstrate need as defined by the U.S. Office of Education. An application, each year, is required to continue to receive financial aid.

Information and applications concerning financial aid may be obtained by writing to:

Director of Financial Aid
Southern College of Technology
1100 South Marietta Parkway
Marietta, Georgia 30060-2896

or by calling the Office of Scholarships and Financial Aid from 8 a.m. to 7 p.m., Monday thru Thursday, and 8 a.m. to 4 p.m. Friday, at 770/528-7290 or 800/869-1102.

Types of Financial Aid

The Federal Pell Grant

The Federal PELL Grant is the "foundation" of the total financial aid program. All undergraduate aid applicants must apply for a PELL Grant. Pell Grants are awarded to students who show a financial need and do not require repayment. Students desiring the PELL Grant should submit a Free Application for Federal Student Aid (FAFSA) and a Southern College of Technology (SCT) Application for Financial Aid no later than March 15 preceding the academic year in which they would like to receive funds.

Campus Based Aid

Campus based aid includes the following programs:

The Federal Supplemental Educational Opportunity Grant (FSEOG) is a grant assistance; therefore, repayment is not required. Only undergraduate students with financial need qualify. The number of Supplemental Grants available each year is limited. The Southern College of Technology Application for Financial Aid and the Free Application for Federal Student Aid should be submitted as early as possible, and no later than March 15 preceding the academic year in which funds are desired.

The Federal Work Study Program (FWSP) provides part-time employment to those students who show a financial need. The FWS positions are always on campus; and, work schedules are arranged around the student's class schedule. The FAFSA and SCT Application for Financial Aid should be submitted no later than March 15 prior to the academic year in which funds are desired.

The Federal Perkins Loan, formerly the National Direct Student Loan (NDSL) is a loan program which allows eligible students to borrow funds for educational expenditures. The amount a student may borrow depends on their financial need (as determined by the Office of Education). The funds are repaid at an annual interest rate of five percent upon graduation or withdrawal from school. The loan amount may not exceed $3,000 per year of college and an aggregate of $15,000 as an undergraduate student. Graduate students may borrow $5,000 per year and a total of $30,000, including undergraduate loans. The FAFSA and SCT Application for Financial Aid should be filed no later than March 15 preceding the academic year in which funds are desired.

State Aid

The Regents' Scholarship is awarded to Georgia residents who have a financial need. The recipients of this award must be in the top ten percent (10%) of their class academically and maintain full-time enrollment. The Regents Scholarship is a state **scholarship** with a service repayment if the student works in the state for one year for every $1,000 of aid received. The Regents Scholarship becomes a **loan** should the student work outside of the state. The normal amount awarded is $250 per quarter. The FAFSA and the SCT Application for Financial Aid should be submitted no later than March 15.

Georgia Incentive Student Grants (State Student Grants) are awarded to those students who are residents of Georgia and who show a financial need. Recipients must be enrolled full-time. The SCT Application for Financial Aid and the FAFSA should be submitted no later than March 15.

The William D. Ford Federal Direct Loan Program, of which the U.S. Department of Education is the lender, includes the Direct Stafford Loan (Subsidized and Unsubsidized) and the Direct Loan Programs for Parents (PLUS).

The Federal Direct Stafford Loan Program is unique in that it offers loan assistance to students who demonstrate financial need (*Subsidized*) as well as loan assistance to students with no demonstrated financial need (*Unsubsidized*). When a student qualifies for the *Direct Subsidized Stafford Loan,* the federal government pays the interest while (s)he is enrolled at least half-time. Students who qualify for the *Direct Unsubsidized Stafford Loan* are responsible for interest that accumulates while (s)he is enrolled.

Depending on financial need, the maximum that a student may borrow form the combined Subsidized and Unsubsidized Stafford Loan Program is:

Class	Dependent	Independent
Freshman	$2,625	$6,625
Sophomore	$3,500	$7,500
Junior/Senior	$5,500	$10,500
Graduate	$8,500	$18,500

The total undergraduate loan amount is $23,000. The total graduate or professional student amount is $138,500, including undergraduate loans.

New borrowers who receive the first loan on or after July 1, 1994, may expect a variable interest rate capping at 8.25%. Students who currently have a 7%, 8%, 9%, or 8/10% Stafford Loan may expect the interest rate on additional Stafford student loans to be variable.

Applicants for a Direct Stafford student loan must submit a Free Application for Student Aid (FAFSA) and SCT application for Financial Aid approximately three months prior to the period they expect to use the loan funds.

The Federal Direct PLUS Loan Program enables parents with good credit histories to borrow funds for each child who is enrolled at least half-time and is a dependent student. The *yearly loan limit* is the student's cost of education minus any estimated financial aid (s)he is eligible to receive. The *interest rate,* for PLUS loans first disbursed on or after July 1, 1994, will be variable, but will not exceed nine (9%) percent. PLUS borrowers must begin repaying the loan within 60 days after the last loan disbursement, unless the lender agrees to allow the borrower to defer the loan payment.

Applications for the PLUS loan programs are available in the Office of Scholarships and Financial Aid.

The Hope Scholarship Program provides financial assistance to students attending Georgia post-secondary institutions who achieve academic excellence throughout their high school studies. Hope scholarships are used to pay tuition and a book allowance at public and private colleges and universities in Georgia, as well as technical institutes. Hope scholarships at public colleges may only be applied to any tuition amounts not covered by federal grants such as the Federal Pell Grant and the Federal Supplemental Education Opportunity Grant.

To be eligible for Hope, a student must be a Georgia resident, (a) graduated from a Georgia High School in 1993 or later and earned at least a "B" average (80 in the college preparatory track and 85 in all other tracks), or (b) must have a cumulative 3.0 grade point average at the time he/she attempts/attempted 90 hours in college.

Normally, the applicant will be required to complete a Free Application for Federal Student Aid (FAFSA), and the Southern College of Technology Financial Aid Application.

Institutional Loan Programs

Emergency Loan Funds

The Marietta Rotary Club, the Marietta Lions Club, the Marietta Civitan Club, the Kiwanis International Club, and other generous friends of the college have established funds of varying amounts which are used for emergency loans only. Loans may be granted to any enrolled student and will bear no interest. Except in very unusual circumstances, loans will not exceed $50 and must be repaid within ten working days.

Short-Term Loans

Approved short-term loan applications are assigned to funds which have been established through generous contributions of friends and patrons of the college and will be considered for the following purposes:

(a tuition, fees, room rent, board, books, supplies;
(b) plant trips;
(c) emergency expenses.

A student's repayment record of previous loans of any type is given prime consideration. Late repayments seriously endanger the chances for a new loan. Students with overdue loans will not be permitted to register for the next quarter until the obligation is cleared.

Except in very unusual circumstances, loans will not exceed the cost of full-time, in-state tuition and must be repaid no later than ten days before the end of the academic quarter in which the loan was obtained. Applications are available from the Office of Scholarships and Financial Aid.

Outside Sources of Aid

The Ty Cobb Scholarship was established by the late Tyrus R. Cobb for the purpose of assisting capable, deserving and needy residents of Georgia in completing their college education. Scholarships are granted to undergraduate students beyond the freshman year. Ty Cobb recipients must maintain full time enrollment and may apply for renewal of the scholarship annually. The application and supportive documentation deadline is June 1.

The Georgia Wine & Spirits Wholesalers of Georgia Foundation Scholarship is designed to recognize Georgia residents who attend a postsecondary institution in the University System of Georgia. Selection is based on academic achievement and financial need as established by the Department of Education. Consequently, the Free Application for Federal Student Aid and Southern College of Technology Application for Financial Aid should be submitted. Contact scholarship coordinator between July 1 and July 15 for deadline.

The Georgia Engineering Foundation Scholarship/Loan Program provides financial assistance to undergraduate and graduate students who are enrolled in an engineering or engineering technology degree program. The scholarships are awarded competitively to worthy students, and the loans are awarded to students who have a financial need. Applicants must be U.S. Citizens and legal residents of the State of Georgia. The application deadline is September 1, and applications may be obtained from the Office of Scholarships and Financial Aid. Other supporting data (letters of recommendation, transcripts) must also be submitted by the September 1 deadline.

The Industrial Distribution Scholarships are available to students enrolled in the Technical Sales and Distribution Option of the Industrial Engineering Technology degree program and who maintain a cumulative GPA of at least 2.50. One of these scholarships was established specifically for Florida residents, while the others are open to all state residents. Selection is made by the Industrial Engineering Technology Department, and the application deadline is July 31. Recipi-

ents must maintain full time enrollment, and the maximum award amount is $500 per year.

Textile Scholarships are awarded to students enrolled in the Apparel/Textile Engineering Technology program and who maintain a cumulative GPA of at least 2.00. Applications should be made in the ATET Department no later than July 31. Recipients must maintain full time enrollment for an award amount of $400 per quarter. Textile scholarships are funded by corporations within the Georgia Textile Manufacturers Association.

ATET Scholarships are available to students enrolled in the Apparel/Textile degree programs. Selection is based on academic achievement, and application must be made through the ATET Department. Yearly award amounts normally vary from $250 to $2,500.

The Fred and Drucilla Beck Kiwanis Scholarship is available to full-time undergraduates who are deserving of recognition for their academic achievements and their strong commitment to service in the community. Students may contact the Marietta Kiwanis Club or the Office of Scholarships and Financial Aid at Southern College of Technology for further information.

The Gilbert Scholarship is established to assist needy and worthy students beyond the freshman year who are enrolled in the Construction or Civil Engineering Technology degree program. Recipients of the Gilbert Scholarship must demonstrate financial need and show academic achievement. Applicants must complete and submit the Financial Aid Form (FAF) to the College Scholarship Service in Princeton. Recipients must maintain a minimum grade point average of 2.50. Other variables considered include activity in professional societies, social organizations, and other student activities. The award amount is $500.

The Harry P. Leu Foundation Grant is awarded to worthy students pursuing a degree in Industrial Distribution. Recipients must be residents of the state of Florida and maintain a minimum grade point average of 2.00. The minimum award is $500. For further information, please contact the IET Department at (770) 528-7243.

The PCEA Golden Hammer Scholarship is established by the Atlanta Chapter of the Professional Construction Estimators Association. This scholarship is awarded to students in good standing at the sophomore or junior level and enrolled in the Construction degree program. Preference will be given to above average students. Applications and additional information are available in the Construction Department.

The Regents Opportunity Grant is awarded to graduate students attending a University or College within the University System. This program is designed to attract the most talented students from targeted groups, such as minorities and females, to programs within the university system. Recipients must maintain good academic standing and full-time graduate enrollment. Grant awards are a maximum of $5,000 per academic year. Interested applicants should complete the Free Application for Federal Student Aid and contact the Dean of their respective graduate school.

Maintaining Eligibility for Financial Aid

As of October 6, 1983, federal regulations required the college to establish policies to measure whether students applying for financial aid are in good academic standing and making satisfactory academic progress toward completion of their degree programs.

A more detailed description of the policy is available in the Office of Scholarships and Financial Aid.

Payment for Noncredit Courses

For a student to receive financial aid funds for remedial work, the coursework must be necessary for the student to pursue the eligible post secondary program. Students may not receive financial aid funds to pay for courses which they audit.

Student Affairs

Division of Student Affairs

An important goal of the student affairs program is student participation and student leadership development. Responsible student participation contributes to the positive environment of the campus and facilitates the accomplishment of the stated purposes of Southern College of Technology. The student affairs areas at Southern College of Technology include student housing, student activities, the student center, student health services, recreational sports, student counseling, minority student affairs, placement, career services, and cooperative education. The Vice President for Student Affairs, assisted by a professional staff, is responsible for providing these services and activities for students.

Emergency Locator Service

Emergency assistance in locating a student is provided by the Office of the Vice President for Student Affairs (528-7225) during normal school hours, from 8:00 a.m. until 5:00 p.m., Monday through Friday. The Public Safety Department will provide emergency assistance in locating students on weekends and after 5:00 p.m. on weekdays (528-7348).

Student Housing

Southern College of Technology has two air-conditioned residence halls that provide space for approximately 450 students - 80 women and 370 men. All rooms are occupied by two students. Single room contracts are not usually available during the Fall, Winter, and Spring quarters, unless medically-required, and then only as space permits.

In addition to providing a convenient and economical "home" on the campus, the residence halls also meet the student's physical needs of shelter, comfort and attractive surroundings. Living in the residence halls contributes to the educational development of each student through exposure to other students of varied backgrounds, experiences, and personal philosophies. Harmonious living, broadened horizons, and increased human understanding are all desired results of the residence experience.

The housing program is supervised by the Director of Housing and Residence Life who is assisted by a staff of two resident directors and resident assistants. The primary function of the residence staff is to create and maintain a desirable environment for all residents.

Application

All new students who have applied for admission to Southern College of Technology and who have requested information about on campus housing will be sent a Residence Hall application. As space in the residence hall is limited, it is important to make requests for on-campus housing early. The completion and return of the Residence Hall application with a $75 deposit, sent to the Business Office, indicates a request for housing. **It does not guarantee housing.** When the completed form and deposit have been received, a notification of housing status will be sent by Housing and Residence Life.

All new student assignments are made from a "waiting list." The waiting list is comprised of the Residence Hall applications once they have been received and

dated by the Business Office and forwarded to Housing and Residence Life. The latest dated form is placed at the bottom of the waiting list, thereby ensuring that the student with the oldest request for housing is assigned the next available space in the halls.

New Student Assignments

When housing space is available to those on the waiting list, the Housing and Residence Life Office will send a residence hall contract for completion. This contract must be returned by the date specified at the top of the contract to ensure a reservation of space.

The Director of Housing and Residence Life is responsible for all room assignments. Preferences for a specific residence hall will be honored whenever possible. Mutual roommate requests should be so marked on the application forms of both students. Consideration of a roommate request will be given providing the request is mutual and space is available.

Deposit Refund

Students may request a refund of their security deposit up to the time a contract has been offered for the academic quarter for which they are requesting housing. Deposits are refunded once a contract is fulfilled and if on-campus housing is no longer desired. The deposit is forfeited if the contract is broken.

Student Health Services

Limited out-patient services for minor illnesses are provided by the school nurse who is on duty Monday through Friday in the clinic located adjacent to the T.V. lounge of Norton Hall. If the nurse cannot provide sufficient medical treatment, she may refer the student to a medical facility located near the campus. Due to the limits on the health services provided by Southern College of Technology, each student is encouraged to have adequate sickness and accident insurance through either a personal or family insurance policy. International students are expected to have health insurance protection. Southern College of Technology is not responsible for any medical expenses incurred by international students beyond those which are covered for any student paying the Student Health Fee.

Student Counseling Services

The Counseling Office, located in the Student Center, offers a variety of services to students, including help with personal/emotional, career, and academic concerns.

Personal concerns such as anxiety, depression, relationship problems, low self-esteem, low self-confidence, and communication issues can make it very difficult for students to gain the most from the College environment and from their classes. Professional counselors provide individual sessions for students seeking confidential assistance with these and other personal and emotional issues.

Part of the career development process involves increasing our self-understanding in such areas as our values, life goals, interests, and skills. The Counseling Office helps students increase their self-understanding and learn how to match their personal characteristics with the work environments that a college education makes possible for them.

Many students find college work more difficult than they expected and find that it strains their abilities. The Counseling Office assists students with academic skills in the following areas: stress management, overcoming test anxiety, test-taking strategies, academic motivation, and enhancing memory by understanding learning style.

The Counseling Office makes available to students a variety of tests that are adjunctive to counseling services. With the student's consent, these instruments are used by counselors when they feel that the data provided will facilitate the student's use of the service.

Counselors provide outreach programs on many topics, including stress management, assertiveness training, dealing with the blues, relationship building, and special student concerns.

All counseling services are free of charge, confidential, and are available on an appointment or a walk-in basis.

Specific Learning Disability

The Counseling Office is also responsible for providing special assistance for students diagnosed as having specific learning disabilities. To become eligible for special services at Southern College of Technology, a student must verify the specific learning disability by having a psychological evaluation on file in the Counseling Office. This evaluation must:

- be conducted by a qualified psychological examiner;
- be recent (within three years);
- include, at minimum, a full-scale intelligence test, a standardized individual achievement test, and psychoeducational tests relevant to the problem area;
- be approved by the Counseling staff and/or the Regents Center for Learning Disorders; and,
- bear evidence that the student is not achieving commensurate with his/her age and ability level in one or more of the areas listed below:
  - Oral expression
  - Listening comprehension
  - Written expression
  - Basic reading skill
  - Reading comprehension
  - Mathematics calculation
  - Mathematics reasoning

The individual student will be responsible for all related examination fees. A student who suspects a learning disability, but who does not have proper documentation, is **strongly** advised to contact the Counseling Office for appropriate referrals.

Special services and considerations are available, under the Americans with Disabilities Act (ADA) and through the Counseling Office, to any learning disabled student at Southern College of Technology. All such services are implemented on an individual basis. Resource programs and aids also include the Learning Resources Center, the central Computer Labs, the math help sessions, and the general faculty.

Disability Services

The Office of Disability Services provides and coordinates physical and academic support services for students who have the need because of a permanent or temporary disability. Individuals eligible for services include but are not limited to those with mobility, hearing, visual, speech, or specific learning disabilities. Services are available free of charge on a self-referral basis.

Student Responsibility

A student at Southern College of Technology who has a disabling condition has a responsibility to voluntarily identify him/herself as having a disability. The stu-

dent should contact the Office of Disability Services as soon as possible to schedule an appointment with the Director who coordinates services for students with disabilities.

Campus Accessibility/Accommodations

Southern College of Technology makes its programs and activities accessible to disabled students. However, many Southern College of Technology buildings are not barrier-free; it may be necessary to relocate classes and other activities. Any mobility-limited student wishing to participate in a program in an inaccessible building should contact the person responsible for the activity to request that appropriate arrangements be made.

Affirmative Action

The Rehabilitation Act of 1973, Section 504, provides that "no otherwise qualified handicapped individual in the United States, as defined in Section 7(6), shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

The Americans with Disabilities Act (ADA)

The Americans with Disabilities Act of 1990 gives civil rights protection to individuals with disabilities that are like those provided to individuals on the basis of race, sex, national origin, and religion. It guarantees equal opportunity for individuals with disabilities. Southern College of Technology strives for compliance with ADA.

Campus Life

Housing

Accessible on-campus housing is available for students with disabilities. Contact the Director of Housing as early as possible to discuss the nature of the disability and the type of accommodation needed.

Medical

The school nurse is on duty daily in the clinic in Norton Hall. Students with a physical disability are urged to introduce themselves to the nurse at the beginning of their first quarter at Southern College of Technology.

Orientation

Special orientation or campus tours for mobility-limited, visual-, and hearing-impaired students are offered on an individualized basis, as needed. Contact the Director of Disability Services.

Parking

Special parking permits are issued through the Campus Safety Office. Documentation of the disability is needed to qualify for these permits. Parking places for the disabled are available throughout the campus.

Student Center

The upper level of the Student Center is accessible to mobility-limited students. An elevator connects the upper level with the lower level, which houses the cafeteria, bookstore, lockers, and post office.

Registration

On a case by case basis, students with a disability may advance-register on a first-priority basis with the assistance of the Director of Disability Services. Early registration enables students with a disability to schedule their classes with consideration for items such as class location or transit time between buildings.

Library

The librarians will work individually with mobility-limited students to make the services of the library available. Students with a disability wishing to use the library should contact the Director of Library. Services needed by visual- or hearing-impaired students may be requested from the Southern College of Technology librarian.

International Student Services

The Office of International Student Services provides programs, services, and information to the College's international student body. The Office conducts an international student orientation and publishes an International Student Handbook. The Director serves as the liaison with immigration services and provides advisement on immigration matters, health insurance, employment, practical training, travel regulations, and community involvement. The Director serves as advisor to the International Student Association. Phi Beta Delta, National Honor Society for International Scholars is also coordinated through the Office. The Director serves as liaison with international student exchange programs.

Career Services

Placement

The Southern College of Technology Career Services Office provides a centralized placement service for graduates and also assists students seeking full-time or part-time employment. The Office provides assistance to students in preparing for the job search and obtaining employment suited to their career goals and aspirations. Services offered by the Career Services Office include assisting in resume preparation, and interview skills development. In addition, the Office maintains a library of employer and occupational information as well as a part-time and temporary job opportunities reference files.

Some of the employers who recruit at Southern College of Technology are Scientific-Atlanta, Bell South, Hewlett Packard, Georgia Department of Transportation, Lockheed Martin, Coca-Cola, IBM, AT&T, TDK, Milliken and Company, Shaw Industries, Johnson Controls, Southwire Company, Lockwood-Greene, Springs Industries, Weyerhauser, and Westinghouse.

To ensure productive career decision making, students are encouraged to make use of the Career Services Office as early as possible during their stay at Southern College of Technology. Degree candidates should begin the job placement process **three quarters prior to their graduation**.

Students interested in part-time or temporary employment should visit the Career Services Office and survey the jobs listed. Some of the jobs require technical expertise; however, many require no experience. Most students seeking part-time employment are able to find suitable work in the metro area.

Alumni placement is also offered through the Career Services Office. Employment opportunities are posted in the Office and through the college home page. Resumes of alumni seeking employment can be maintained by the Career Services office for employer referral.

Cooperative Education

Southern College of Technology offers its students the opportunity to gain valuable work experience related to their academic majors through a college-work sponsored cooperative education program. The co-op plan is provided on an optional alternating-quarter basis in most bachelor degree programs. Co-op is founded on the principle that learning takes place through practical experience as well as through academic achievement. In addition, co-op programs help students in their career decision making process and provide substantial support for education expenses.

Students wishing to apply for the co-op program must have completed at least 24 quarter hours of academic credit toward their degree, be in good academic standing with the institution, have and maintain a minimum 2.00 scholastic average (many industries require higher scholastic averages) while in the co-op program and be willing to participate in no less than four alternating co-op work assignments. Co-op students are required to follow all guidelines set forth by the Career Services Office as well as rules and regulations of the college. In addition to college requirements, students must meet any additional company co-op requirements. Students unable to maintain college or company co-op requirements are usually given one probationary quarter to correct deficiencies before being withdrawn from the co-op program.

A co-op program can be started with industry in a number of ways: student contact, college referral, or industry initiation. The college Career Services Office refers students to employers after they have been accepted as a co-op applicant, however, acceptance as a co-op applicant does not guarantee a student's employment in a co-op position. The employer has the final decision regarding offering co-op employment. Upon acceptance of a co-op position, the student is expected to remain with that company for a minimum of four co-op work quarters.

Co-op salaries are determined by the employer and normally increase with job responsibilities. Board and lodging during work quarters are the responsibility of the student, but in most cases co-op employers can provide assistance in locating suitable accommodations. Students with metro-Atlanta co-op assignments may live in Southern College of Technology residence halls. In addition, students with local co-op work assignments are eligible to participate in all extracurricular, intramural, and health service activities on campus with the payment of the regular student athletic, activity, and health fees. Although no credit is awarded, co-op students are viewed by the college as active, continuing full-time students during their periods of approved work experience for insurance and financial aid purposes.

Although no commitment is made by either the student or employer for full-time employment upon completion of the co-op program, many Southern College of Technology co-op students are offered career employment with their co-op employers. Satisfactory completion of both requirements for graduation and co-op guidelines make an undergraduate student eligible to receive recognition for participation in the co-op program on his or her Southern College of Technology diploma and academic record. Students interested in the co-op program should contact the Career Services Office.

Cooperative Education is available for graduate students on a limited basis. Graduate co-op students must have and maintain a 3.00 scholastic average, have completed a minimum of 10 hours in the graduate program at Southern College of Technology and must be able to complete at least two co-op work periods. Graduate co-op students are responsible for developing their own work positions, which must be approved by the student's academic department as well as the Career Services Office.

The Student Center

Southern College of Technology's Student Center includes food service and dining areas, a 500 seat theater for films, concerts, lectures, and entertainment productions, and bookstore and post office operations. Also provided are offices for the Department of Student Activities, Student Support Services, a large recreation room, and additional meeting rooms, lounges, and TV/video viewing areas.

The student center is the focal point for the majority of entertainment activities provided by the Campus Activities Board including concerts, dances, and videos. Also, the student government, newspaper, yearbook, radio station, and fraternity/sorority offices are located here. The Student Center is where the Southern College of Technology community comes together to eat, meet, relax, and be entertained.

Recreational Sports

The Department of Recreational Sports maintains a comprehensive program of activities that appeal to the leisure time interests and needs of the campus community.

Activities available through the intramural sports program include competitive team sports leagues such as flag football, volleyball, basketball, and softball. There are also individual competitive tournaments such as billiards, golf, tennis and a freethrow contest. In addition to the intramural sports program, the department offers a club sport program, a fitness program that includes aerobic classes, special events, and an outdoor recreation program. The outdoor recreation program sponsors various adventure trips throughout the year and a camping equipment rental program.

Athletic Facilities

The Ahtletic Gymnasium is home to the Southern Tech Runnin' Hornets Basketball Team. The gymnasium is open for student use throughout the year. A locker room and showers are available. The Athletic Department offices can be found in the Athletic Gymnasium.

The Walter Kelly, Jr. Field is home to the Southern Tech Baseball Team. The baseball season runs from winter quarter through spring quarter.

General Information

Evening Classes

The scholastic work at Southern College of Technology is offered in a continuous program from 7 a.m. to 11 p.m. daily. Once granted admission to the college, students may schedule courses at any time of the day or evening. There is no difference in entrance criteria, curricula, or degrees awarded to evening school students. All subjects, day and evening, are organized, taught, and supervised by the Southern College of Technology staff, faculty, and administration.

Prospective students who desire to study in the evening should be guided by the academic requirements as stated in the catalog. All correspondence, admission papers, and other requirements should be sent to the Admissions Office.

Many of the curricula offered at Southern College of Technology in the daytime may be studied and completed in the evening. These curricula include Civil Engineering Technology, Computer Engineering Technology, Computer Science, Construction, Electrical Engineering Technology, Industrial Engineering Technology, Mechanical Engineering Technology, and Management of Technology.

A schedule of courses offered each quarter is available upon request about two weeks prior to the beginning of the quarter. A copy may be obtained from the Registrar's office or major department.

The Office of Admissions/Registrar is open Monday through Thursday until 7 p.m. during the quarter.

Continuing Education

The Office of Continuing Education is responsible for all non-credit instruction sponsored by the college. The primary mission of Continuing Education is to sponsor professional development programs which extend and complement the college's curriculum. Professional development seminars and workshops encompass each of the disciplines represented on campus, while additional programs and workshops are custom designed for business, industry, and government. In addition, Continuing Education also offers a number of personal enrichment and computer training programs to the general public.

Cross Registration

Southern College of Technology as a member of the University Center in Georgia participates in the cross registration program among University Center member institutions. The purpose of cross registration is to provide opportunities for enriched educational programs by permitting students at any University Center institution to take courses at any other member institution. Cross registration may be pursued only for courses for which the student has met the prerequisites and not offered at the home institution for the given quarter. Applications and additional information about cross registration can be obtained from the Registrar's office.

R.O.T.C.

Air Force and Navy Reserve Officers Training Corps

Southern College of Technology students interested in participating in Air Force or Navy Reserve Officers Training Corps programs should contact Commandant,

A.F.R.O.T.C. or N.R.O.T.C., Georgia Institute of Technology, Atlanta, Georgia 30332. A cooperative arrangement exists between Southern College of Technology and the Georgia Institute of Technology for students desiring to participate in either of these programs.

Army Reserve Officers Training Corps

Army ROTC is offered through cooperation with Georgia Institute of Technology to provide students with career options that lead to commissions as second lieutenants in the Active Army, Army National Guard, or Army Reserve. Students are required to take all classes at Kennesaw State College.

The ROTC program is divided into the Basic Course (freshman and sophomore) and the Advanced Course (junior and senior). There is no military obligation incurred for enrollment in the Basic Course. After successfully completing the Basic Course, students who have demonstrated leadership potential, passed qualifying exams, and are academic juniors are then eligible for the Advanced Course. Selected individuals can qualify for advanced placement directly into the Advanced Course by being a Veteran or successfully completing three years of High School ROTC. Students in the Advanced Course receive a tax-free subsistence allowance of $100 per month, up to $1,000 per year. For additional information contact Georgia Tech Army ROTC Department at (770) 894-4760.

Each year the Army offers a variety of scholarship programs to those young men and women who have demonstrated outstanding academic achievement and leadership potential. Three-year and two-year scholarships are available by applying through the Army ROTC Department. Scholarships provide full tuition to both resident and out-of-state students, a stipend for textbooks and supplies, and laboratory fees in addition to a $100 a month tax free allowance. Scholarship students will serve either on active duty or in the reserves.

Computer Resources

Southern College of Technology maintains several computing facilities located in the Academic Building and the Crawford Laboratory Building. These facilities provide computing resources for most of the computer related courses at SCT.

There are several resources available: an IBM RS6000 model 550 minicomputer, a DOS PC-based microcomputer lab, a projects lab, and an Apple Macintosh word processing lab.

To use the microcomputers, all students need to have a validated Student ID and check in at the monitor's desk. The open hours for the microcomputer labs vary based on quarter courseload, number of students, and demand. Permanent hours for each quarter are posted at the lab entrance and the current schedule or other information may be obtained by calling 528-7493.

Access to the academic computer is provided in a large user area containing over 20 text-based terminals, a number of graphics-based terminals and workstations, two 600 line per minute printers and a laser printer. Via the RS6000 users can also connect to the PeachNet, the University System of Georgia regional network, which provides students of Southern Tech full access to the Internet or "Information Superhighway".

The lab is available seven days a week from 6:00 a.m. to 2:00 a.m. 24 hour dial-up access is available as well. For more information call 528-7333.

The Library

The Southern College of Technology Library makes available to the student a collection of some 105,000 catalogued volumes and some 60,000 nonbook items, including various microforms, a circulating collection of recordings, and

U.S. Geological Survey maps for the State of Georgia, for which the Library is a depository. More than 2,000 periodical and serial titles are received currently. Most library materials are immediately accessible to the student who needs them, shelved in open stacks where they may be examined at leisure. The Library's collection is accessed through PALS, the automated system with a union catalog of 43 libraries in the State of Georgia. Interlibrary loan (ILL) service is accessible through OCLC. Reference services include CD-ROMs and access to the numerous databases available through Galileo (Georgia Library Learning Online).

The 58,000 square foot composite building complements the existing campus design while creating an exciting departure from the basic one-level buildings that exist on campus. Following the topography, a series of step-down "trays" separate stack areas and provide handicap access to the library resources. A spacious second floor features small study rooms, open reading and stack areas.

The Library owns a developing art collection containing representative works of 19th and 20th Century American artists and the Alan and Louise Sellars Collection of Antique Tools. A collection of 19th Century architectural artifacts has been incorporated into the building, which also features a bell tower rising sixty feet above the Library, supporting a set of Swiss-made custom-cast bells.

The Bookstore

The Southern College of Technology bookstore is located on the lower level of the Student Center. Textbooks, used books, reference books, school supplies, engineering supplies, calculators, clothes, greeting cards, health and beauty aids, and many other items are available there. The bookstore is open from 8:30 a.m. to 6:00 p.m. Monday and Thursday, 8:30 a.m. to 7:00 p.m. on Tuesday and Wednesday, and 8:30 a.m. to 4:00 p.m. on Friday.

On the last day of registration and the first week of classes, the bookstore is open for extended hours.

The Post Office

The Southern College of Technology Post Office is located next to the Bookstore and is open 9:00 a.m. to 5:00 p.m. Monday through Friday. Post Office boxes are available for rental by the quarter.

Development and College Relations

Southern College of Technology's efforts to solicit support from business, industry, graduates, and community leaders are organized and coordinated through the Development and College Relations Office.

Southern Tech National Alumni Association, Inc.

The Southern Tech National Alumni Association, Inc. is a nonprofit organization dedicated to organizing graduates and former students in order to promote the interest and welfare of Southern College of Technology. The association publishes Tech Today, provides alumni services, conducts the Call-A-Thon, organizes special alumni events, and serves as the focal point to develop alumni contributions of time and money to assist Southern College of Technology.

Southern Tech Athletic Association, Inc.

The association is active in promoting Southern College of Technology intercollegiate activities through fund raising, advertising efforts, and special events. As a nonprofit organization, the corporation's membership is open to all individuals who donate to the annual fund campaign for the benefit of Southern College of Technology.

Southern Tech Foundation, Inc.

In September of 1976, the Board of Directors of the Alumni Association established the Southern Tech Foundation, Inc., whereby funds, property, and other types of financial assistance — primarily from business, industry, corporations, other foundations, and individuals — could be channeled to Southern College of Technology for support and development of educational, cultural, social, civic, and professional endeavors.

The purposes of the Southern Tech Foundation are to provide academic and institutional support, provide scholarships, endowments, research grants, and in various ways to promote the cause of higher education at Southern College of Technology.

The officers and board of trustees, who are empowered to administer donations to the foundation, are distinguished business and civic leaders from the community and the state at large.

Public Relations

The Public Relations Office is responsible for internal and external communications such as publicity, media relations, publications, advertising, and special events. Activities are geared to enhancing awareness and support of the college among many audiences, including the public, students and families, alumni, community leaders, and business and industry. Public Relations also serves the institution—its faculty, staff, and students—in planning and implementing programs and in disseminating information about activities and accomplishments of faculty, staff, and students.

Honor Society

Superior scholastic achievement is recognized by membership in the Tau Alpha Pi National Honor Society. The original chapter of this society was founded on the Southern College of Technology campus, and its members have not only demonstrated high academic achievements, but have also maintained various leadership positions in campus organizations.

Veterans Programs

The veteran or reservist planning to further his or her education using veterans benefits at Southern College of Technology should apply for admission as any other student. Then, prior to enrollment (preferably at least one month before entering the college) he or she should complete the Veterans Application for Program of Education or Training (VA Form 22-1990) and submit the form to the Southern College of Technology Office of Veteran Affairs. At the same time, the prospective student is also required to furnish copies of the following: proof of discharge (DD Form 214) or NOBE (DD Form 2384), marriage license, dependent children's birth certificates, and other documents needed to define an individual's eligibility.

Eligibility for Veterans Administration benefits has no direct relationship to the institution. All financial transactions are directly between the student and the Veterans Administration. The institution serves only as a source of certification and information to the Veterans Administration.

Southern College of Technology has established the Office of Veteran Affairs to serve veterans and dependents of deceased or disabled veterans by certification, counseling, information and referral, outreach, and recruitment. It is the responsibility of the veteran to keep the Veteran Affairs Office informed of their enrollment status quarterly.

Registration for Professional Engineer

To protect public safety each state establishes laws to license engineers involved in projects affecting public health, safety, and life. The registration process involves written examination, professional work experience, and professional recommendations.

Although it is not the goal of Southern College of Technology to offer programs to prepare an individual to become a registered engineer, it is possible for an engineering technology graduate to become registered in Georgia and some other states. The requirements for registration as a professional engineer vary from state to state with some states not allowing engineering technology graduates to become registered. Students considering registration as a professional engineer should contact the faculty advisor for further information.

Retention Data

Demographic data regarding student retention at Southern College of Technology and the number and percentage of students completing each program of study is available upon request from the Office of the Assistant Vice President for Academic Affairs.

Georgia Youth Science and Technology Center

The goal of GYSTC is to promote interest and enthusiasm in the science and technology disciplines, particularly among elementary and middle school students and teachers in Georgia. The center encourages and supports students to prepare for advanced education and careers in science and technology. GYSTC is headquartered on the campus of Southern College of Technology, with guidance from the University System of Georgia, the Georgia Department of Education, the Georgia Department of Adult and Technical Education, and representatives from private industry and government. The center is charged with providing support services to regional GYSTC laboratories established across the state, which provide hands-on exhibits, demonstrations, science and technology camps and courses for students and teachers.

GYSTC operates the only NASA Teacher Resource Center in the state, which also houses FAA Aviation Education Resources. These multi-media materials in science, math, and technology are made available to all educators free of charge and cover a wide area of disciplines from pre-K through post-secondary. GYSTC disseminates these resources to the educational community through the Resource Center on the Southern College of Technology campus as well as the regional GYSTC laboratories.

Center for Quality Excellence

The Center for Quality Excellence (CQE) has been created to help local and regional businesses become more effective competitors in the global marketplace. With the participation of the business community, the CQE assists organizations (private and public) with implementing Total Quality Management concepts, principles, methodologies, and statistical tools.

The CQE is a full-service information, training, and development resource center offering public seminars, satellite downlinks, customized on-site training programs, and technical assistance services. The CQE offers a "Membership" program through which "members" have access to unique resources and special discounts on workshops. Call (770) 528-7417 for additional information.

Academic Regulations

Attendance Regulations

There are no formal institutional regulations regarding class attendance. The resources of the school are provided for the intellectual growth and development of the students who attend. The fact that classes and laboratory periods are scheduled is evidence that attendance is important and students should maintain regular attendance if they are to attain maximum success in the pursuit of their studies.

The degree of class attendance required may vary with the course or the instructor. Each classroom/laboratory instructor will set his or her attendance policy. Within the first calendar week or the first laboratory meeting of the quarter, the instructor will inform the students, in writing, of the attendance policy for that class. It is the prerogative of the instructor to determine grade penalties for absences. The instructor may reduce the course grade of any student who fails to meet the attendance requirements as set forth in the instructor's attendance policy. Students should understand they are responsible for all course material covered and that they are responsible for the academic consequences of their absences.

Students who are absent because of participation in approved college activities such as field trips, athletic events, etc., will be permitted to make up the work missed during their absences. Approval of such absences will be granted by the instructor only if advance notice in writing is given to the instructor.

Should the instructor be late in meeting a class or a laboratory period, students will wait a minimum of fifteen minutes. If during the fifteen minutes waiting period no notification to remain is given, students may leave without penalty.

Auditing Classes

Students can audit courses. Such course count at full value in determining the number of credit hours for which the student is enrolled. No academic credit is granted for courses scheduled on an audit basis, and students are not permitted to change to or from an auditing status except through the regular procedure for schedule changes. The grade for auditing is "V" (visited) and this grade should at no time be changed to a "W" on the basis of the auditor's attendance in the course. The grade of "V" will have no effect upon the student's scholastic average and students will not be permitted to receive credit at any future date for their participation in a course as an auditor.

Maximum Credit Hour Schedule

Undergraduate

Students may register for a maximum of 21 credit hours in any particular quarter. Students on probation or continued probation may register for a maximum of 15 credit hours.

Students limited to 15 credit hours who desire to schedule additional hours (to a maximum of 21) must secure permission from their major department head. Students desiring to schedule over 21 credit hours must receive permission of the faculty.

Graduate

Graduate students may register for up to 15 credit hours in any particular quarter. Students who desire to schedule additional hours (to a maximum of 20) must secure permission from their major department head. Students desiring to schedule over 20 credit hours must receive permission of the faculty.

Petition to the Faculty

Requests to the faculty for credit hour overloads are made on a Petition to the Faculty form available at the Office of the Registrar. To receive consideration, petitions must be signed by the student's major department head and be submitted to the Office of the Registrar in time to be considered by the Ungergraduate Student Status Committee or the Graduate Programs Committee.

Withdrawal From Classes

Students desiring to withdraw from one or more classes before the end of the midpoint of the quarter secure a Request to Withdraw form from the Office of the Registrar. After completing the form, and returning the completed form to the Office of the Registrar, the student will be given a grade of "W" in the course(s). In cases where the student is no longer on campus, a written request from the student received by the Registrar on or before the prescribed date for official withdrawal will be honored.

Students who withdraw after the midpoint of the quarter are not eligible for a grade of "W" except in cases of hardship as approved by the faculty. Normally, students withdrawing after the withdrawal deadline date receive a grade of "WF" for the course(s).

A request for a grade of "W" past the deadline date is properly made on a Petition to the Faculty form available at the Office of the Registrar. The petitions must be completed, signed by the student's instructors and major department head, and bear sufficient documentation to support the hardship. The petition is reviewed by the Undergraduate Student Status Committee and students are advised in writing by the Registrar as to the action taken on the petition. Students should not assume that petitions requesting a grade of "W" will be approved until notification of the committee action has been received.

Incomplete petitions and/or failure to follow the prescribed procedures may result in the student not being approved for a grade of "W". The date that the completed withdrawal form or Petition to the Faculty (if later approved) is received by the Office of the Registrar is the official date of withdrawal.

No student will be allowed to withdraw from a course after the final class day of the quarter.

Students withdrawing from all classes during the refund period are entitled to a refund of a portion of the fees paid for the course(s). Students should consult the quarterly Academic Calendar to determine the date and amounts of refunds (if any) available. **No refund will be given to a student who partially withdraws from the college.**

Deficiency Reports

Prior to the end of the fifth week of each quarter instructors will notify students of any deficiencies. Such notice shall be given in time to allow the student to withdraw from the class without penalty.

Final Examinations

The faculty of a department will determine which courses in their department will include a final exam. In addition to course objectives and standards for evalu-

ting students, the final-exam requirements will be distributed to students for ach course.

The departmental faculty will determine whether students who have an average of "A" in the course may be exempted from final examinations. The departnental faculty also will decide to which courses this exemption applies and tudents in each course will be notified.

Disruptive Behavior and Academic Dishonesty

A faculty member reserves the right to remove any student from his or her ourse if the student's behavior is of a disruptive nature or where there is evience of academic dishonesty. In instances of disruptive behavior and/or academic dishonesty, the faculty member will discuss the circumstances with the tudent(s) before taking final action. In the event the student cannot be reached, e/she will be given the grade of "Incomplete" until such time as he/she can be eached. The student shall have the right of appeal of the faculty member's decision first to the faculty member's department head and then to the appropriate chool dean, and, if necessary, to the Vice President for Academic Affairs. Removal of a student from a course under this provision will result in the faculty nember's issuing a grade of "F". A grade of "F" issued under these circumtances shall not be superseded by a voluntary withdrawal and will be included in he student's cumulative grade point average calculated for graduation purposes.

Change of Major

Students who desire to change their major degree program may do so by completing the required form available at the Office of the Registrar. Completed forms equire the signature of the proposed department head and are submitted to the Office of the Registrar for processing.

A request for deletion of previous major courses for graduation scholastic average and hours purposes must be submitted on a Petition to the Faculty form and pproved by the faculty.

Grading System

The following are used to specify the level of performance in academic courses nd are computed into the quarterly and cumulative grade point averages.

A Excellent

B Good

C Satisfactory

D Passing

F Failure

This grade ("F") is assigned for a student whose scholastic performance is unsatisfactory. If the course is a required course or if the student desires credit for the course, the course must be repeated at Southern College of Technology with a passing grade before credit can be allowed.

For subjects including both class and laboratory work, both portions are considered essential and the grades on each will be combined at the end of the quarter and reported as one. Failure in either class or lab may result in failure of the entire course.

A grade of "F" is assigned also if a student is removed from class under the provisions of the section on Academic Dishonesty.

WF Withdrawal After Deadline

Withdrawn officially after the midpoint of the quarter. A grade of "WF" in a course is counted in the student's scholastic average as a failing grade.

The following symbols are approved for use in the cases indicated, but are not included in the calculation of the quarterly or cumulative grade point averages.

I Incomplete
This symbol indicates that a student was doing satisfactory work but, for nonacademic reasons beyond his or her control, was unable to meet the full requirements of the course. An incomplete must be removed during the next quarter in which the student is in residence. Otherwise, the Registrar shall convert the "I" into an "F". The subject will then have to be repeated. If at the end of the third quarter of non-attendance following the quarter the "I" has not been removed then the course must be repeated if a required subject. The "I" grade remains on the student's record, but is not reflected in the student's scholastic average.

IP In Progress
This symbol indicates that credit has not been given in courses that require a continuation of work beyond the quarter for which the student signed up for the course. The use of this symbol is approved for selected institutional credit only courses, dissertation and thesis courses, and project courses. This symbol cannot be substituted for an "I" (incomplete).

K Credit by Examination
This symbol indicates that a student received course credit based upon successful performance on an approved examination or work experience approved by the appropriate department head.

S Satisfactory
This symbol may be used for graduate courses such as master's thesis and internship.

U Unsatisfactory
This symbol may be used for graduate courses such as master's thesis and internship.

V Audit
Assigned when a course has been audited. No credit is given. This grade may not be used at any future date as a basis for receiving course credit.

W Withdrawal
Withdrawn officially before the midpoint of the quarter. Courses carrying the "W" grade will not be counted in the student's scholastic average.

NR Not Reported
Used only in extreme emergencies when a professor fails to turn in grades on time and should be removed from the transcript when the actual grades are reported.

Cumulative Grade Point Average

The cumulative grade point average generally determines the student's scholastic standing. The cumulative grade point average is computed by dividing the total quality points earned by the total number of credit hours for which the student has received a final grade of "A", "B", "C", "D", "F", or "WF". Only courses scheduled at Southern College of Technology are considered in the cumulative grade point average. Credits earned at other institutions, credit by examination,

credits for which quality points are not assigned, institutional credit courses, and courses otherwise excluded by institutional policy are not considered when calculating the cumulative grade point average for graduation purposes.

The cumulative grade point average may not include courses for which a grade of "C" or better has been earned previously at Southern College of Technology.

Quality Points are assigned as follows:

For each quarter credit hour with a grade of

A	four points
B	three points
C	two points
D	one point
F	zero points
WF	zero points

Grade Changes

Grades which have been assigned to a student by an instructor may be changed no later than the end of the third quarter following the quarter in which the grade was awarded. Grade changes must be initiated by the instructor. Grades included in this provision are "A", "B", "C", "D", "IP", "S", "U", and "F".

Repeat Courses

A student may not repeat, for cumulative grade point purposes, at Southern College of Technology any courses (except on an audit basis or as approved by the Undergraduate Student Status Committee) in which a grade of "C" or better has been earned. A student may not use the same course more than once in satisfying graduation requirements.

Credit by Examination

Student evaluation by standardized and/or departmental examinations may be used as a basis for awarding credit for certain courses. These examinations are available only to currently enrolled students. A fee will be assessed before the examination(s) will be permitted.

The student must first check with the appropriate department head about the applicability of the credit by examination for the course and then submit a request for credit by examination form to the department. The business office must validate the form before it is submitted to the department. After the examination, the department head will make his or her recommendation for credit to the registrar. The student is notified in writing by the Office of the Registrar of the action taken.

For further information on credit by examination, contact the appropriate department head, dean or the Registrar.

Credit for R.O.T.C. Courses

In degree programs that do not exclude R.O.T.C. credit, a student completing the basic course may use a maximum of six hours of credit for R.O.T.C. courses as free electives and an additional nine hours of credit for R.O.T.C. courses as free electives when the advanced course is completed.

Credit for Courses Completed More than Ten Years Prior to Graduation

Work completed more than ten years prior to the date of graduation in Areas I, II (except MATH 109 and MATH 111), and III may be credited toward the degree.

For all other courses, work completed more than ten years prior to the date of graduation may be credited toward the degree only (1) with the approval of the student's major department head and the head of the department in which the course is taught and subject to the approval of the faculty, or (2) if the student's enrollment at Southern College of Technology has been continuous since the initial date of matriculation.

Classification of Students

Credit Hour

One credit hour corresponds to one hour per week of classroom work for a quarter or to three clock hours or its equivalent of laboratory work per week for a quarter.

A student is classified at the end of each quarter by the Office of the Registrar on the basis of the number of credit hours earned toward graduation. The credit hours include all coursework for which the student has earned college level credits at Southern College of Technology plus any transfer credits accepted by Southern College of Technology.

Classification	Credit Hours Earned
Freshman	0-49
Sophomore	50-99
Junior	100-149
Senior	150 and above

Full-time Students

Undergraduate students enrolled for 12 or more credit hours and graduate students enrolled for 10 or more credit hours are considered as full-time students.

Continuous Enrollment

To remain continuously enrolled, a student must not have an absence of three or more consecutive quarters of matriculation at Southern College of Technology.

Academic Standing (Undergraduate Students)

Minimum Scholarship Requirements

The following minimum scholarship requirements are currently in effect.

Classification	Credit Hours Earned	Cumulative Grade Point Average Required
Freshman	0-49	1.80
Sophomore	50-99	1.90
Junior	100-149	2.00
Senior	150 and above	2.00

Dean's List

Students that have earned 12 or more hours with a scholastic average of 3.50 or better for the current quarter and who are not subject to any disciplinary action shall be on the Dean's List, which is published each quarter.

Good Standing

A student eligible to enroll at Southern College of Technology is in good standing.

Academic Warning

A student whose cumulative grade point average does not meet minimum scholarship requirements for any quarter shall be placed on academic warning.

Academic Probation

A student whose cumulative grade point average remains below the minimum scholarship requirement for two successive quarters of enrollment shall be placed on academic probation.

A student on probation may register for a maximum of 15 credit hours unless approval of the student's major department head is granted to schedule additional hours (to a maximum of 21).

Continued Probation

A student whose cumulative grade point average remains below the minimum scholarship requirement for three or more successive quarters of enrollment, but whose quarterly average is 2.00 or higher, may continue enrollment on probation. A student on continued probation may register for a maximum of 15 credit hours unless approval of the student's major department head is granted to schedule additional hours (to a maximum of 21).

Academic Dismissal

A student whose quarterly grade point average is below 2.00 and whose cumulative grade point average is below the minimum scholarship requirement for at least three consecutive quarters of enrollment shall be academically dismissed for unsatisfactory scholarship and removed from the institutional rolls.

Transfer students admitted on "academic probation" and who do not attain the minimum scholarship requirement during their first quarter of attendance at Southern College of Technology shall be academically dismissed for unsatisfactory scholarship and removed from the institutional rolls.

Academic Standing (Graduate Students)

It is required that each graduate student maintain a cumulative grade point average of 3.00 in order to graduate.

A student whose cumulative grade point average falls below 3.00 will be placed on "academic warning."

A student whose cumulative grade point average remains below 3.00 for two successive quarters of enrollment shall be placed on "academic probation."

A student whose cumulative grade point average remains below 3.00 for three or more successive quarters of enrollment, but whose quarterly average is 3.00 or higher, may continue enrollment on probation.

A student whose quarterly grade point average is below 3.00 and whose cumulative grade point average remains below 3.00 for at least three consecutive quarters of enrollment shall be academically dismissed for unsatisfactory scholarship.

Reinstatement

A student who has been academically dismissed and has not enrolled at Southern College of Technology for at least one academic quarter may seek reinstatement. Reinstatement will be granted if the student has an approved Petition to the Faculty granting reinstatement. Completed petitions must be filed with the Office of the Registrar no later than 20 working days prior to the beginning of the second quarter following dismissal.

Regents' Testing Program

The Board of Regents approved the following policy governing the Regents' Testing Program:

An examination to assess the competency level in reading and writing of all students enrolled in undergraduate degree programs leading to the baccalaureate degree in University System institutions shall be administered. The following statement shall be the policy of the Board of Regents of the University System of Georgia on this examination:

The formulation and administration of the Regents' Test shall be as determined by the Chancellor.

Each institution of the University System of Georgia shall assure the other institutions, and the System as a whole, that students obtaining a degree from that institution possess literacy competence, that is, certain minimum skills of reading and writing. The Regents' Testing Program has been developed to help in the attainment of this goal. The objectives of the Testing Program are: (1) to provide systemwide information on the status of student competence in the areas of reading and writing; and (2) to provide a uniform means of identifying those students who fail to attain the minimum levels of competence in the areas of reading and writing.

Students enrolled in undergraduate degree programs leading to the baccalaureate degree shall pass the Regents' Test as a requirement for graduation. Students **must** take the Test in the quarter after they have completed 60 quarter credit hours if they have not taken it previously. Each institution shall provide an appropriate program of remediation and shall require students who have earned 75 quarter credit hours and have not passed the Test to enroll in the appropriate remedial course or courses until they pass the Test. Students with 60 or more college-level credit hours transferring from System programs that do not require the Regents' Test or from institutions outside the System shall take the Test no later than the second quarter of enrollment in a program leading to the baccalaureate degree and in subsequent quarters shall be subject to all provisions of this policy.

The Regents' Test is not a requirement for an Associate of Applied Science degree or an Associate of Science degree in an allied health field, although institutions may choose to require the Test for these degrees.

A student holding a baccalaureate or higher degree from a regionally accredited institution of higher education will not be required to complete the Regents' Test in order to receive a degree from a University System institution.

The Chancellor will issue administrative procedures for the operation of the Regents' Testing Program.

The following procedures will be followed by Southern College of Technology to implement the Regents' Policy on the Regents' Testing Program.

General Rule

0-59 Hours Earned

Students who have earned 59 or fewer hours may attempt both sections of the Regents' Test. Students are encouraged to complete English 110 and 112 early in their college curriculum and to attempt the Regents' Test as soon as possible after the completion of these courses.

60-74 Hours Earned

Unless the requirement has been met previously, it is **mandatory** for students to attempt the section(s) of the test not completed the next time it is offered.

75 or More Hours Earned

Unless the requirement has been met previously, students who have not passed both sections of the test are required to schedule remediation each quar-

er for the section(s) not passed. It is **mandatory** for students to attempt the section(s) of the test not completed the next time it is offered. When either the essay or reading section is passed, the students' records are updated accordingly and remediation for that section is no longer required. (Students who have not completed the Essay section of the Test are required to enroll in English 093. Students who have not completed the Reading section of the Test are required to enroll in English 083.)

Transfer Students

Unless the requirement has been met previously, students transferring into Southern College of Technology with credit for English 110 and 112 should take the Regents' Test during their first quarter of attendance.

Students transferring from within the University System of Georgia are required to follow the Regents' Testing Program Policies as stated above.

Students transferring from outside the University System of Georgia or from programs that do not require the Georgia Regents' Testing Program and have received or hope to receive 60 or more hours of transfer credit are required to attempt the Regents' Test during their first quarter of attendance.

Students holding a baccalaureate or higher degree from a regionally accredited institution are exempt from the Regents' Testing Program.

Schedule Changes

Prior to registration the most recent Regents' Test results are reported. Students who advance registered for remediation and pass a section of the test may alter their schedules accordingly at the first available registration period after the results are posted.

Frozen Status

Students enroll for required remediation and then other courses may be scheduled as desired. Once enrolled in ENGL 083 and/or ENGL 093, students may not withdraw from ENGL 083 and/or ENGL 093 as long as other courses are scheduled.

Transient Authority

Permission to attend another institution as a transient student will neither be authorized nor recognized if the transient quarter does not include the remediation that normally would be required by Southern College of Technology. Any exception to this procedure must be approved by the Regents' Testing Program Coordinator prior to the transient quarter and students must obtain written permission from SCT's Coordinator prior to attempting the Regents' Test on another campus.

Non-native Speakers of English

Regents' Testing Program procedures apply to all students; however, students who have been classified as non-native speakers of the English language by the Regents' Testing Program Coordinator are required to pass the alternate version of the Regents' Test.

Graduation Requirements

Catalog for Graduation Evaluation

A student may select to be evaluated for graduation from the catalog in effect during the time of enrollment provided the enrollment has been continuous.

Students readmitted or reinstated will be evaluated for graduation from the catalog in effect at the time of readmission or reinstatement or any catalog in effect during subsequent periods of continuous enrollment.

Each student is responsible for determining the appropriate catalog to be used for academic advisement and for evaluation of graduation requirements. Catalog selection applies only to the course requirements of that catalog. All other academic procedures and graduation requirements must be satisfied according to regulations in effect at the time of graduation. Students desiring further information on the selection of an appropriate catalog may contact their major department head or the Registrar.

General Requirements

A student is eligible for graduation when he or she (1) has satisfactorily completed the required number of hours specified by the curriculum of the program of study in which he or she is specializing, (2) has achieved the necessary scholastic average, (3) has paid all required fees, fines, and other financial obligations owed the college, and (4) has filed with the Registrar the official "Petition of Admission to Candidacy for a Degree." In addition, to receive an associate or bachelor degree the student must be certified as competent in reading and writing the English language-through the University System Regents' Testing Program and must satisfactorily pass an examination on the history of the United States and the history of Georgia, and upon the provisions and principles of the United States Constitution and the Constitution of Georgia, as required by the State of Georgia and the Board of Regents of the University System of Georgia. (Credit for History 210 or History 211 satisfies this constitution requirement). In addition to the above requirements, students in some departments who seek the baccalaureate degree also must satisfy the requirements of the comprehensive evaluation.

Graduation Petitions

A student must submit a formal petition for "Admission to Candidacy for a Degree" to the Registrar no later than the end of the fourth week of the quarter preceding the expected final quarter in residence. (This is interpreted to mean the previous quarter in residence, preceding the final quarter in residence. All fall-quarter petitions for students not in school summer quarter should be made in the spring quarter of that year; and, all co-op students should petition the quarter before the work quarter. Students are encouraged to petition early if they feel they have reached eligibility to petition).

To be a candidate for either an associate or baccalaureate degree, a student must have passed all courses required for the degree, have a cumulative scholastic average of at least 2.00, and have merited the recommendation for the degree by the faculty and the President of Southern College of Technology.

To be a candidate for a master's degree, a student must have passed all courses required for the degree, have a cumulative scholastic average of at least 3.00 and have merited the recommendation for the degree by the faculty and the President of Southern College of Technology.

Residency Requirement

To receive either an associate or bachelor degree from Southern College of Technology, a student must earn at Southern College of Technology a minimum of 50 percent of the credit hours received in the degree major. The exception is that no bachelor degree candidate will be required to complete more major hours beyond the associate degree level than is required in the last two years of the catalog under which the student is graduating. (Example: A student receiving a

degree in Electrical Engineering Technology is required to complete in residence at least 50 percent of all required courses prefixed with ECET).

No student may be considered as a candidate for a degree unless the final 30 credit hours required for an associate degree, the final 45 credit hours required for a BS degree, and the final 90 credit hours required for the B.Arch. degree are earned in residence at Southern College of Technology. To obtain a second associate degree, a student must complete all major required courses for the degree and earn credit for a total of at least 30 credit hours in excess of the requirements for any previous Southern College of Technology degrees earned. The additional 30 hours earned for a second Associate degree cannot be applied toward any other Southern College of Technology degree. To obtain a second bachelor degree, a student must complete all major required courses for the degree and earn credit for a total of at least 45 hours in excess of the requirements for any previous Southern College of Technology degrees earned.

No academic course work completed as a transient student at Southern College of Technology may be applied as a part of the residency requirement for obtaining a degree.

Honors

For graduation "with highest honor," the minimum scholastic average is 3.90. For graduation "with high honor," the minimum scholastic average is 3.70. For graduation "with honor," the minimum scholastic average is 3.50. For graduation with honor, with high honor, or with highest honor, a candidate must have a minimum of 60 hours in residence for the associate degree and a minimum of 90 hours in residence for the bachelor's degree.

Transfer Credit for Courses in a Minor

No more than ten hours of transfer credit may be used by a student toward a minor at Southern College of Technology.

Transcript Request

Students desiring transcripts must direct their request in writing to the Office of the Registrar. There is no fee for transcripts. All transcripts will include the entire academic record, and no partial or incomplete record will be issued as a transcript. Though transcripts are normally issued promptly, requests should be made several days before the document is required, particularly at the beginning or end of a quarter. A transcript will not be issued when the record shows financial indebtedness to the institution.

Transient Authorization

Southern College of Technology students planning to attend another institution for one quarter and then return to Southern College of Technology should complete a transient letter authorization form available in the Registrar's Office. Students may not attend Southern College of Technology and another institution concurrently for transfer purposes without prior authorization from the Registrar.

Exceptions to Academic Regulations

Exceptions to the Academic Regulations of Southern College of Technology may be made by the faculty whenever a consideration of the student's complete record indicates that the application of a specific regulation will result in injustice.

Fulfillment of CPC Deficiencies

All students who graduated from high school in Spring of 1988 or later who have not satisfied the College Preparatory Curriculum (CPC) in English and/or Math must take the Collegiate Placement Exam and score a minimum score of 75 on all required areas of the exam before being admitted. Students who are admitted and have College Preparatory deficiencies in Natural Science, Social Science, and Foreign Language must complete one additional course in each area of deficiency. These requirements also apply to transfer students who have not completed 45 or more hours of college level core curriculum credit with a 2.0 or better average.

The following courses can be used to satisfy CPC requirements:

Natural Science	BIOL 201, CHEM 201 (Math 111 is a prerequisite), or PHYS 201 (Math 112 is a prerequisite) with a grade of "C" or better.
Social Science	Any Social Science course listed in Area III of SCT's core curriculum with a grade of "C" or better.
Foreign Language	FREN 121 (or 122, depending on background) or SPAN 121 (or 122, depending on background) with a grade of "C" or better.

If students have CPC requirements, they must enroll in course(s) to satisfy the requirements immediately upon entering Southern Tech. The only exemptions are: The student is taking one or more prerequisites for the CPC requirement or the needed course is not offered. Students must complete all CPC deficiencies before they earn 30 quarter hours in the University System. Otherwise, students may not register at Southern Tech for other courses, unless they also register for the appropriate deficiency course(s). Credit is awarded for CPC courses and counted in total hours earned for the purpose of student classification and reporting but CPC credits cannot be used to satisfy core curriculum or degree requirements. Grades for CPC courses are included in quarter and cumulative grade point averages.

Appeals Procedure

Students requesting exceptions and/or appeals to academic policies and procedures should adhere to the following guidelines:

1. Matters not requiring Petitions to the Faculty include academic advisement, scheduling, etc., where only clarifications are required. Students should discuss such matters first with the instructor, academic advisor, and/or department head who may refer them to someone else.
2. Matters requiring Petitions to the Faculty include requests for exceptions to policies published in the catalog or operating procedures. Examples include requests for reinstatement, credit hour overloads, ten-year credit, receiving a grade of "W" past the last withdrawal date, etc.

   Students should complete a Petition to the Faculty form when they feel the academic policies and procedures have not been applied fairly or appropriately to them.
3. When it is determined that a Petition to the Faculty is in order, the student should complete the form and secure the proper signatures as required by the department head and/or appropriate faculty.
4. If the petition is approved, the matter should be resolved. If the petition is refused, and the student feels that he or she has grounds for appeal, the following steps are followed:

(a) The student should discuss the petition with the Registrar to determine the basis for refusal and to be informed of the appeals procedures and additional information that may be desirable and/or required.
(b) Upon written request for appeal to the Registrar, all related information is forwarded to the Vice President for Academic Affairs for review. The Vice President may approve or refuse the appeal.
(c) If the Vice President refuses the appeal, upon written request to the Vice President, the student may appeal to the President.
(d) The President may approve or refuse the appeal. If the President refuses the appeal, upon written request to the President, the student may appeal to the Board of Regents.

5. To appeal a grade, a student must present clear evidence that a grade was assigned by some criteria other than an evaluation of academic performance. Check with the Registrar's Office for the procedure to follow.

Student Records

In accordance with the policy of the Board of Regents of the State of Georgia and under the provisions of the Family Education Rights and Privacy Act of 1974, Southern College of Technology maintains various educational records for each matriculating student. These records are considered confidential and will not be released for use outside the institution without the written consent of the student. Exceptions as authorized by the Act are noted.

Student records will be considered under the categories academic or nonacademic. The following indicates the types of records maintained, the official responsible for maintenance, and the person(s) with access to those records.

I. Academic: Those educational records which specifically pertain or reflect the student's academic program, admission to, and progress within that program.
   A. Academic Department Office:
      1. Maintenance-academic department head
      2. Access-departmental faculty and staff
      3. Record Types
         (a) Departmental academic record card (unofficial)
         (b) Departmental copies of quarter class rolls
         (c) Advisement copies of transcripts of previous college work
         (d) Instructor's daily class record
         (e) Co-op records and report
         (f) Credit by examination results
         (g) Scholarship records and correspondence
         (h) Correspondence pertaining to the student's academic program and academic standing
         (i) Recommendation correspondence submitted to an employer or agency on behalf of the student
   B. Registrar's Office:
      1. Maintenance-Registrar
      2. Access-Director of Admissions, Registrar, President, Vice President for Academic Affairs, Deans, Vice President for Student Affairs and related staffs
      3. Record Types
         (a) Admission records including high school and college transcripts, SAT or ACT scores, and any other information submitted by or on behalf of the students for admission purposes
         (b) Official permanent academic record
         (c) Official quarterly class rolls

(d) Correspondence between the student and the institution pertaining to the student's academic program and academic standing

II. Nonacademic: Those educational records which do not pertain to the student's academic program or academic standing

A. Business Office:
1. Maintenance-Vice President for Business and Finance and staff
2. Access-Vice President for Business and Finance and staff, Registrar, President, Vice President for Academic Affairs, Deans
3. Record Types
(a) Statement of student current quarterly fee accounts with the institution
(b) Record of student financial indebtedness to the institution
(c) Correspondence with the student regarding financial status
(d) Correspondence with institutions and agencies which financially sponsor students (See exceptions).

B. Office of the Vice President for Student Affairs
1. Maintenance -Vice President for Student Affairs
2. Access-Vice President for Student Affairs and staff, President, Vice President for Academic Affairs, and Deans
3. Record Types
(a) Student current address information
(b) Student current academic schedule
(c) Disciplinary action files
(d) Correspondence with the student concerning disciplinary action

C. Financial Aid Office:
1. Maintenance-Director of Financial Aid
2. Access-Director of Financial Aid and staff, Vice President for Student Affairs, President, Vice President for Academic Affairs
3. Record Types
(a) Parents/Students Confidential Statement (See exceptions)
(b) Records of awards of financial assistance to students
(c) Financial assistance record of student indebtedness to the institution
(d) Correspondence with the student

D. Office of Veteran Affairs Coordinator
1. Maintenance-Veteran Affairs Coordinator
2. Access-Veterans Affairs Coordinator, Registrar and staff, President, Vice President for Academic Affairs
3. Record Types
(a) Records filed verifying veteran or veteran-dependency status
(b) Record of student quarterly VA certification

E. Career Center
1. Maintenance-Director of Career Services
2. Access-As authorized by student
3. Record Types
(a) Resumes filed by students
(b) Copies of student authorization to release grade statement to co-op employers

F. Campus Safety Department:
1. Maintenance-Director of Campus Safety
2. Access-Director of Campus Safety and staff, President, Vice President for Academic Affairs, Vice President for Student Affairs
3. Record Types
(a) Official police reports

III. General: Except as precluded in the Rights and Privacy Act, each student's records as listed above are open for inspection and review by that particular student. The student also has the right to request an interpretation and explanation of material included in the record, and will be given copies of the material upon request. Access to these records will be granted to the student within a reasonable period of time, but in no case will that period of time exceed 45 days after the request for access has been made.

IV. Challenges: Should the student believe that the record contains inaccurate, misleading, or otherwise inappropriate information, he or she may desire to challenge the content of the record. In that event the following procedure shall be followed

A. Challenges to student records should be initiated by the student concerned and directed in writing to the Office of the Registrar.

B. The challenge should contain a description of the specific record in question, the official responsible for maintaining the record, and the reason for challenging the contents of the particular record.

C. Challenges will be submitted to the Vice President for Academic Affairs for review. The student initiating the challenge may request to appear before the Vice President when the challenge is considered.

D. The decision of the Vice President will be made within a reasonable period of time and forwarded to the student in writing. The decision of the vice president will also be transmitted to the president.

V. Exceptions: The following are exceptions within the Rights and Privacy Act which should be noted by students.

A. Access:

1. Students do not have access to the financial records of parents of students.
2. Students do not have access to letters of recommendation placed in the records prior to January 1, 1975.
3. The personal records of instructional, supervisory, and administrative personnel which are not accessible or revealed to any other person except a substitute are not open for review and inspection by students.
4. The professional records of the institution's medical staff are not open for review and inspection by students; however, these records can be personally reviewed by a physician or other appropriate professional of the student's choice.

B. Release of Information: Certain information may be released without the prior written consent of the student and includes information to

1. School officials within the institution who are not specifically listed with standard access but who have been determined by the institution to have a legitimate educational need
2. Authorized federal and state authorities including state educational agencies
3. Accrediting organizations who need information for their accrediting functions
4. Parents of a dependent student as defined by the Internal Revenue Code of 1954 after presentation of proper evidence of that dependency
5. Officials with a lawful judicial order or subpoena provided the institution notifies the student of the order or subpoena prior to the institution's compliance
6. Appropriate persons in connection with an emergency when the information is necessary to protect the health or safety of a student or other persons

7. Agencies, sponsoring agencies, and institutions in connection with a student's application for or receipt of financial aid

VI. Destruction of Records: The complete academic record of all matriculating students will become permanent records of the institution. Following the fourth continuous quarter of nonenrollment by a student, the nonacademic records will be placed in an inactive, but accessible status. Following the end of the ninth year of inactive status, the nonacademic records will be purged and destroyed by the official responsible for their maintenance.

VII. Directory Information: Southern Tech maintains student information in various forms. Students who desire that "directory information" not be releases without consent should so notify the Office of the Registrar in writing. The following may be included as "directory information" unless notification is received to the contrary:

Student's name, address, telephone listing, date and place of birth, major field of study, class schedule, current enrollment status, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student.

VIII. Policies and procedures: Specific policies and procedures for the maintenance of student records according to the Board of Regents of the State of Georgia and the test of the Family Educational Rights and Privacy Act of 1974 are available for review in the Office of the Registrar.

Students also have the right to file complaints with the FERPA Office of the Department of Education, Washington, D.C. 20201, regarding alleged violations of the Act.

Student Life Regulations

I. Student Conduct Code

A student enrolling at the Southern College of Technology assumes an obligation to conduct himself or herself in a manner compatible with the college's function as an educational institution.

Actions considered unacceptable to the institution and subject to discipline fall into the categories of academic dishonesty and non-academic misconduct.

A. Academic Dishonesty:

Academic dishonesty is an act or acts on the part of or in behalf of any student, which does or could improperly distort students' grades or other student academic records.

1. No student shall receive or attempt to receive unauthorized assistance in the preparation of any laboratory reports, examinations, essays, themes, term papers, or similar requirements to be submitted for credit as part of a course or to be submitted in fulfillment of a college requirement.
2. No student shall knowingly give, or attempt to give, unauthorized assistance to another in such preparation.
3. No student shall sell, give, lend, or otherwise furnish to any unauthorized person any material which can be shown to contain questions or answers to any examination scheduled to be given at any future date or time in any course of study offered by the college, excluding questions and answers from tests previously administered.
4. No student shall take or attempt to take, steal, or otherwise procure in an unauthorized manner any material pertaining to the conduct of a class, including tests, examinations, grade change forms, grade rolls, roll books, laboratory equipment, etc.
5. No student shall submit any material which is wholly or substantially identical to that created or published by another person without giving appropriate credit (plagiarism). When direct quotations are used, they should be indicated, and when the ideas of another are incorporated into a paper, they must be appropriately acknowledged.
6. No student shall submit false claims of credit for work which has not been submitted by the claimant.
7. No student shall willfully falsify a written or verbal statement of fact to a member of the faculty so as to obtain unearned academic credit.
8. No student shall forge, alter, or misuse any college document relating to the academic status of the student.
9. No student shall willfully disrupt the normal classroom activity.

B. Non-academic Misconduct:

Non-academic misconduct includes the following specifically prohibited acts whenever, unless otherwise stated, such acts occur on college-owned or controlled property:

1. Alcoholic Beverages:

(a) Consumption or possession of alcoholic beverages unless authorized by the Vice President for Student Affairs.
(b) Intoxication made manifest by disorderly conduct, including fighting, boisterousness, rowdiness, obscene or indecent conduct or appearance, or vulgar, profane, lewd or unbecoming language.

2. Drugs: Use, possession (without valid medical or dental prescriptions), manufacture, furnishing, sales, or any distribution of any narcotic or dangerous drug controlled by law. (This provision is not intended to regulate alcoholic beverages, which are covered by Section I-B-1.)
3. Disorderly Conduct:
   (a) Breach of the peace or obstruction or disruption of teaching, administration, disciplinary procedures, or other coice President for Student Affairs. In addition, there are other services available in the Marietta area including:
   (b) Physical assault, or the threat of physical assault including sexual assault, on or in college property, or at functions sponsored by the college or any recognized college organization.
   (c) Intentionally harassing another person. Harassing behavior includes, but is not limited to, threatening, intimidating, verbally abusing, impeding, telephoning, following, or persistently bothering or annoying or any other behavior which has the purpose or effect of interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive work or academic environment. Harassment may represent, but is not limited to, acts based on sex, race, religion, national origin, disability or sexual orientation.
   (d) Refusal to vacate a building, street, sidewalk, driveway, or other facility when directed to do so by any properly identified faculty, administrator, or staff personnel while they are in the performance of their duties.
   (e) Failure to comply with instructions, directions or requests of any properly identified faculty, administrator, or staff personnel acting in the performance of their duties.
   (f) Lewd, indecent or obscene conduct or expression.
   (g) The abuse or unauthorized use of sound amplification equipment indoors or outdoors. (Use of sound amplification equipment must be approved in advance by the Vice President for Student Affairs or his authorized representative.)
   (h) Attempting to enter any event sponsored or supervised by the college or any recognized college organization without proper credentials for admission, i.e., ticket, identification card, invitation, or other reasonable qualifications for admission.
   (i) Rollerblading activity within twenty feet of any roofed structure and skateboard activity occurring outside restricted areas (see the Student Handbook for the designated areas set aside for skateboard activity).
4. Hazing: Any act which tends to occasion or allow physical or mental suffering in connection with rites or ceremonies of induction, initiation, or orientation into college life or into the life of any college group or organization.
5. Damage to Property: Malicious or unwarranted damage or destruction of items of college property, items rented, leased or placed on the campus at the request of the institution, or items be-

longing to students, faculty, staff, guests of the college or of student groups.

6. Entry or Use of College Facilities:
   (a) Unauthorized entry into any college building, office or other facility.
   (b) Unauthorized use of any college telephone facility or of any other college facilities.
   (c) Possessing, using, making or causing to be made any key or keys for any college facility without proper authorization.
   (d) Unauthorized use of the password or account number of another student or faculty member to gain access to the computer or computer output. (This includes but is not limited to, any knowing and willing use of fraudulent means to process computer programs and obtain access to computer files.)

   Under the terms of the Georgia Computer Systems Protection Act, anyone accessing, attempting to access or abetting the access of a computer, computer system, or computer network for any scheme to defraud or for the purposes of obtaining money, property, or services by false or fraudulent pretenses, representations, or promises is guilty of a crime. Upon conviction, these persons may face a fine of not more than two and one-half times the amount of the fraud or theft, a prison term of not more than 15 years, or both.

   The act also outlaws certain accesses, alteration, damage, or destruction of any computer, computer system, computer network, computer software program or data. Convicted offenders will be fined not more than $50,000, face a prison term of not more than 15 years, or both.

   Under the terms of this law, it is the responsibility of the Office of Information Technology or Microcomputer Support to report any violations involving computer systems for which they are responsible.
7. False Information and Record Falsification:
   (a) Furnishing false information to any college official, or on any college document (including the Application for Admission), or offering a false statement in any college disciplinary hearing.
   (b) Forgery, alteration, or misuse of any college document, record, or identification.
8. Student Delinquencies - Financial Records, Property: Failure to remit, return, or submit financial obligations, property, or records of the college, within the time prescribed by the college.
9. Theft:
   (a) Taking, attempting to take, or keeping in his/her possession, items of college property, items rented, leased, or placed on the campus at the request of the institution, or items belonging to students, faculty, staff, guests of the college, or student groups.
   (b) Selling a textbook not his/her own without the permission of the owner. The sale, or attempted sale, of a textbook not one's own will be regarded as prima facie evidence of theft. Textbooks found should be turned in to lost and found at the Public Safety/Police Department.
10. Gambling: Playing of cards or any other games of skill or chance for money.
11. Safety:

(a) Intentionally false reporting of a fire or that a bomb or other explosive has been placed in any college building or elsewhere on the college property.
(b) Tampering with fire-fighting equipment, safety devices or other emergency or safety equipment.
(c) Setting an unauthorized fire.
(d) Possession of unauthorized fireworks, firearms or other projective propelling devices, ammunition, or dangerous weapons or materials. (Fireworks are defined as any substance prepared for the purpose of producing visible or audible effect by combustion, explosion, or detonation.)
(e) Unauthorized sale, possession, furnishing, or use of any incendiary device or bomb.

12. Any form of unauthorized solicitation in the residence halls, student center, parking lot, or elsewhere on campus.
13. Residence: Violation of rules governing residence in college-owned or controlled property.
14. Violations of the Student Motor Vehicle Regulations (Violations fall within the jurisdiction of the Southern College of Technology Public Safety Department.)
15. Complicity (Shared Responsibility for Infractions):
    (a) Knowingly acting in concert with any other person to perform an unlawful act or violate a college regulation or policy.
    (b) Students are responsible for the conduct of their guests on or in college property and at functions sponsored by the college or any recognized college organization.
16. Repeated violations of the published rules or regulations of the college, which cumulatively indicate an unwillingness or inability to conform to the standards of the college for student life.
17. Off-campus violations of the Student Conduct Code where there is a clear and present danger of interference with the normal operations of the college or where there is evidence of substantial embarrassment to the college or where there is substantial evidence of either violent behavior toward another person or persons or the illicit sale or distribution of any dangerous drug controlled by law.

II. Disciplinary Administration

A. Disciplinary Procedures:

1. All alleged acts of **student misconduct** (except violations of motor vehicle regulations) may be reported to the Vice President for Student Affairs who is the principal administrator to enforce college disciplinary measures pertaining to student conduct violations. Cases involving charges of alleged misconduct must be carefully documented in writing and substantial evidence must be presented to help prove the alleged offense. In matters of alleged **academic dishonesty** or classroom disruption, a faculty member either:
    (a) Reserves the right and judgment to privately handle individual student cases. The corrective action to be taken may include a grade penalty or removal from the course with the assigned grade of "F". The faculty member will review the facts and circumstances and then discuss the circumstances with the student before taking final action. In the event the student cannot be reached, he/she will be given the grade of "Incomplete" until

such time as he/she can be reached. The student shall have the right of appeal of the faculty member's decision, first to the faculty member's department head, and then to the appropriate school dean, and, if necessary, to the Vice President for Academic Affairs.

When an appeal for academic dishonesty violation reaches the office of the Vice President for Academic Affairs, the Vice President may choose to refer the appeal to the Academic Dishonesty Appeal Committee for its review and recommendation before making a final decision. Such a referral to this committee is not required.

The Academic Dishonesty Appeal Committee shall be composed of four faculty members and four students. One faculty member from each of the four schools shall be recommended by the Dean of each school and appointed by the Vice President for Academic Affairs. The four student representatives shall be recommended by the President of the Tau Alpha Pi Honor Society and appointed by the Vice President for Academic Affairs.

A faculty member of the appeals committee shall be appointed as chairperson by the Vice President for Academic Affairs. A quorum for committee meetings shall be five and the chairperson shall vote only in the event of a tie. All normal hearing and due process procedures will be followed in all cases referred to the Academic Dishonesty Appeal Committee.

Removal of a student from a course for academic dishonesty or disruptive behavior will result in a grade of "F". This grade of "F" shall not be superseded by a voluntary withdrawal from the course and will be included in the student's cumulative grade point average calculated for graduation purposes; or

(b) The alleged academic dishonesty or classroom disruption violation may be referred to the Vice President for Student Affairs (with documentation) to be handled the same as any other alleged misconduct violation. If an academic dishonesty or classroom disruption case is referred to the Vice President for Student Affairs, the faculty member must reserve judgment on any grade penalty until there is a determination of guilt or innocence.

2. The Vice President for Student Affairs shall cause to be investigated alleged acts of student misconduct and may appoint a staff member to conduct an inquiry into alleged misconduct and recommend what further action, if any, might be initiated. When additional action is justified, the Vice President for Student Affairs shall notify the accused student(s) in writing.
3. When the Vice President for Student Affairs gives written notification to a student(s) for alleged misconduct, it shall contain a statement of the nature of the alleged or suspected misconduct and state the section(s) of the conduct code allegedly violated.
4. The Vice President for Student Affairs or his designee will normally confer with the accused student(s) and at the conference the student(s) may (1) admit or deny the alleged violation, (2) waive further hearing and request that the Vice President for Student Affairs take appropriate action, or (3) request a hearing as specified in Section 5 or 6 below.
5. Cases of misconduct which may result in suspension or expulsion normally will be referred to the Judicial Committee, which shall hear them. (This does not preclude possible legal actions by ap-

propriate law enforcement agencies in those cases of non-academic misconduct in violation of federal, state, or local law.)

6. If the case does not involve possible suspension or expulsion, the Vice President for Student Affairs may make full disposition of the case except that he may, at the request of the accused or for good cause, refer any case of misconduct to the Judicial Committee.
7. A student accused of an act of misconduct is encouraged to notify his or her parents or guardian of the charge(s). Parents or guardians may schedule a conference with the Vice President for Student Affairs if they so request.
8. An accused student may continue to attend classes and other school functions until a decision is rendered. Exceptions to this will be when a student's presence may create a clear and present danger of materially interfering with the normal operations of the school or when a material threat exists to members of the campus community. In such cases, the Vice President for Student Affairs may impose temporary protective measures, including interim suspension, pending a hearing. A student is not entitled to continue in class while a suspension decision is under appeal.
9. After a disciplinary decision has been made, the Vice President for Student Affairs shall give written notice of the action taken to party or parties who initiated the original misconduct complaint.

B. Student/Faculty Judicial Committee:

The Judicial Committee shall consist of three members of the faculty, one of whom shall be selected by the committee as chairperson, and three students selected by the Student Government Association. The three members of the faculty are appointed for two-year terms by the President of the College. They may succeed themselves, but must be reappointed by the President.

C. Procedural Rights of the Accused:

1. A student accused of misconduct and summoned to a hearing before the Judicial Committee shall have the right to
   (a) Be accompanied by an advisor of his or her choice. The chosen advisor, however, may not actively participate in the dialog of the hearing but will be restricted to consulting and advising his or her client.
   (b) Remain silent with no interference of guilt drawn therefrom.
   (c) Question the complainant and all witnesses.
   (d) Present evidence in his or her behalf.
   (e) Call pertinent witnesses in his or her behalf.
   (f) Appeal the final disciplinary decision of the Vice President for Student Affairs.

D. Hearing Procedures:

1. The Vice President for Student Affairs shall set the date, time, and place of the hearing, shall notify the members of the hearing body, and shall summon all principals in the case (defendants and witnesses).
2. The Vice President for Student Affairs shall notify the accused student(s) in writing at least three days before the scheduled hearing. The written notification should be by certified, return receipt mail or personal service delivery. The written notification should specify:
   (a) The date, time and place of the hearing.

(b) A statement of the nature of the suspected misconduct of which the person is being accused, with sufficient detail to ensure opportunity to prepare for the hearing.
(c) Names of witnesses scheduled to appear.

3. If the accused student is properly notified of a hearing but refuses to accept the certified letter or otherwise does not appear at the hearing, the Judicial Committee may proceed with the hearing in the absence of the accused student. The student may request a rescheduled hearing in the event of a verifiable conflict with the original hearing date.
4. Decisions of the committee shall be by majority vote. A quorum for the Judicial Committee shall consist of four members (two faculty and two students).
5. Any member of the Judicial Committee shall disqualify himself or herself if his or her personal involvement in the hearing is of such a nature as to prejudice the case.
6. The hearings of the Judicial Committee shall be open for cases of **student misconduct** but shall be closed for cases of **academic dishonesty**. The Judicial Committee may exclude any person who interferes with the hearing.
7. The Judicial Committee shall have the option of making a tape recording of the proceedings or maintaining a written summary outline of the proceedings. This information, when completed, shall become part of the student's disciplinary file which is maintained by the Vice President for Student Affairs.
8. The chairperson of the Judicial Committee shall, within three working days, submit a written summary of the case along with the committee's recommended disciplinary actions to the Vice President for Student Affairs, who will make the final decision and notify the accused in writing. The Vice President for Student Affairs shall also provide written notification of the action taken to the party or parties who initiated the original misconduct complaint. Further distribution of this information shall be restricted because of the confidentiality requirements for student records.

E. Disciplinary Measures:

1. Expulsion-a permanent severance of the student's relationship with the college.
2. Disciplinary suspension-a temporary severance of the student's relationship with the college. Normally, a disciplinary suspension action shall take effect immediately following notification to the student of the disciplinary action. Disciplinary suspension usually will continue for a specified period of time (not less than one quarter duration not including the quarter when the suspension action is initiated). A student who has been suspended shall receive a letter grade of "WF" in all courses for that quarter.

   Once the period of suspension has been completed, the student shall be eligible to register for classes following consultation with the Vice President for Student Affairs. The student will return to school on automatic disciplinary probation until graduation. If a student is suspended for a period of time of more than one calendar year, that individual must follow normal procedures for readmission outlined in the college catalog.
3. Disciplinary Probation-formal written notice to the student that any further major disciplinary problems may result in suspension. Disci-

plinary probations may also include community service, fines, restrictions and/or restitution for the damage or destruction of property or for personal injury (medical expenses).

4. Reprimand/Warning:
   (a) Oral reprimand/warning-an oral disapproval issued to the student
   (b) Written reprimand/warning-a written statement of disapproval to the student
5. Restrictions-exclusion from participating in:
   (a) Social activities
   (b) Identification card privileges
6. Fines
7. Restitution-a reimbursement for damage to or misappropriation of property; this may take the form of appropriate service or other compensation.
8. In cases where a student has been found guilty of academic dishonesty in a particular course, the faculty member may assess an additional academic penalty. Grade penalties are a faculty prerogative only and not part of the disciplinary measures to be administered by the Vice President for Student Affairs.

F. Appeal Procedures:

1. An accused or an accuser who is dissatisfied with the action taken by the Vice President for Student Affairs (or the Vice President for Academic Affairs, in academic dishonesty cases) may appeal the case in writing to the President of the College within five school days after notification of the action. Such appeal shall recite all reasons for dissatisfaction with the previous decision and shall normally require some evidence that procedural due process rights have been violated or that significant new evidence exists that was not considered during the original hearing. A student is not entitled to continue in class while a suspension decision is under appeal. The President, within five school days, may refer the appeal to the Faculty Council and simultaneously notify the Vice President for Student Affairs (or Vice President for Academic Affairs). The appropriate Vice President shall be responsible for notifying the party or parties who initiated the original complaint that an appeal is in process. If requested, the Faculty Council shall review all facts and circumstances connected with the case and ensure that all sides of the case are adequately reviewed. Within five school days the Faculty Council shall make its findings and forward its recommendation to the President. After consideration of the committee's report, the President shall within five school days make a decision and notify the appellant in writing.
2. The accused or an accuser who is dissatisfied with the action taken by the President may appeal the case in writing to the Executive Secretary of the Board of Regents of the University System of Georgia within a period of 20 days following the decision of the President. This application for review shall state the decision complained of and the redress desired. A review by the board is not a matter of right, but is within the sound discretion of the board. If the application for review is granted, the Board, or a committee of the Board, shall investigate the matter thoroughly and render its decision thereon within 60 days from the filing date of application for review or from the date of any hearing which may be held thereon. The decision of the Board shall be final and binding for all purposes.

III. Regents' Statement of Disruptive Behavior

The following is the policy of the Board of Regents in regarding disruptive behavior in any institution of the University System. The rights, responsibilities, and prohibitions contained in this statement are incorporated as a part of these regulations.

"Any student, faculty member, administrator, or employee, acting individually or in concert with others, who clearly obstructs, disrupts, or attempts to disrupt any teaching, research, administrative, disciplinary, public service activity, or any other activity authorized to be discharged or held on any campus of the University System of Georgia is considered by the Board to have committed an act of gross irresponsibility and shall be subject to disciplinary procedures, possibly resulting in dismissal or termination of employment."

IV. Student Rights and Responsibilities

A. Student Responsibility:

Southern College of Technology students bear a general responsibility to support the institution's effort to maintain a spirit of free inquiry and respect for the rights of others. This responsibility imposes a duty on students to refrain from conduct which is not consistent with the Southern College of Technology Student Conduct Code and also to support the enforcement of civil laws where such enforcement is reasonably deemed necessary by responsible officials to the safety and well being of the members of the college community as well as the continued operation of the institution.

B. Right of Freedom of Association:

Students at Southern College of Technology are free to organize and join associations to promote their common interests. This organization is done according to the rules constituted and set forth regarding establishing student organizations. The regulations are complete and very explicit, and place cooperative responsibility for the established organization and the protection of the rights of all students.

C. Right to Listen:

Students or properly established organizations (note regulations for establishing student organizations) are allowed to invite and to hear any person of their choosing for the purpose of hearing his or her ideas and opinions.

If the President of Southern College of Technology, the Board of Regents, or an authorized designee thereof, after proper inquiry, determines that the proposed speech constitutes a clear and present danger to the ordinary operation of the college, he or she can ban the speaker.

Regulations require clearing such invitations through the Office of Student Activities for the purpose of arranging for security through the campus safety department, publicity through the public relations office, notification of campus organizations, and information to the President.

D. Right to Freedom of Expression:

Students at Southern College of Technology have the right to express their opinions freely as a part of the educational process of the college. This includes the right to make complaints to college officials

about unfair or abusive treatment, poor service or any other unacceptable behavior on the part of any college office, department or agency.

They must, however, respect the rights of others and allow them to be heard as they express their opinions. The students are expected to tell the truth and be mindful of the liability involved should what they express prove not to be fact. This freedom and right to expression is only a right as long as the expressions do not disrupt or interfere with the orderly operation of the campus.

E. Residence Halls:

Should it become necessary to inspect or have access to private quarters, the procedures listed in the Residence Hall Guidebook will be followed.

V. Sexual Assault Victim's Bill of Rights

The following rights shall be accorded, by all campus officers, administrators, and employees of Southern College of Technology, to victims of campus-related sexual assaults:

1. The right to have any and all sexual assaults against them treated with seriousness; the right, as victims, to be treated with dignity; and the right for campus organizations which assist such victims to be accorded recognition.
2. The right to have sexual assaults committed against them investigated and adjudicated by the duly constituted criminal and civil authorities of the governmental entity in which the crimes occurred; and the right to the full and prompt cooperation and assistance of campus personnel in notifying the proper authorities. The foregoing shall be in addition to any campus disciplinary proceedings.
3. The right to be free from any kind of pressure from campus personnel that victims not report crimes committed against them to civil and criminal authorities or to campus enforcement and disciplinary officials; or report crimes as lesser offenses than the victims perceive them to be.
4. The right to be free from any kind of suggestion that campus sexual assault victims not report, or under-report, crimes because:
   (a) victims are somehow responsible for the commission of crimes against them;
   (b) victims were contributorily negligent or assumed the risk of being assaulted; or
   (c) by reporting crimes they would incur unwanted personal publicity.
5. The same right to legal assistance, or ability to have others present, in any campus disciplinary proceeding that the institution permits to the accused; and the right to be notified of the outcome of such proceeding.
6. The right to full and prompt cooperation from campus personnel in obtaining, securing, and maintaining evidence (including a medical examination) as may be necessary to the proof of criminal sexual assault in subsequent legal proceedings.
7. The right to be made aware of, and assisted in exercising any options, as provided by State and Federal laws or regulations, with regard to mandatory testing of sexual assault suspects for communicable diseases and with regard to notification to victims of the results of such testing.

8. The right to counseling from any mental health services previously established by the institution, or by other victim-service entities, or by victims themselves.
9. After campus sexual assaults have been reported, the victims of such crimes shall have the right to require that campus personnel take the necessary steps or actions reasonably feasible to prevent any unnecessary or unwanted contact or proximity with alleged assailants, including immediate relocation of the victim to safe and secure alternative housing, and transfer of classes if requested by the victims.
10. In addition to the above rights, students, whether sexual assault victims or not, have a right to habitability in campus housing and in campus accommodations for which the college receives any compensation, direct or indirect.

    Definition: For purposes of this subparagraph, "habitability" shall mean an environment free from sexual or physical intimidation, or any other continuing disruptive behavior by persons sharing rooms or their guests, that is of such a serious nature as would prevent a reasonable person from attaining their educational goals. Substantiated violations of the above-listed habitability provisions shall be corrected by campus personnel by relocation of the complainant to acceptable, safe, and secure alternative housing as soon as practicable, unless the conditions of nonhabitability demonstrate the necessity of immediate action by campus personnel.

Victims of sexual assault can obtain assistance from Public Safety, the Counseling Office, Campus Nurse, Housing Office, or the Vons are used, they should be indicated, and when the ideas of another are incorporated into a paper, they must be appropriately acknowledged.

Rape Crisis Center—428-2666
24-hour Hotline for information, counseling, and crisis intervention sponsored by the Cobb County YWCA.

VI. Acquired Immune Deficiency Syndrome (AIDS) Policy

It is the policy of the Southern College of Technology to provide academic programs, support services, and social/recreational activities to all eligible individuals. In the event that a student, faculty member, or staff member is diagnosed as having Acquired Immune Deficiency Syndrome (AIDS), or there is clinical evidence of infection with the Human Immunodeficiency Virus (HIV), they shall retain their right to these programs, services, and activities. Students and employees of the college who may become infected with the AIDS virus will not be excluded from enrollment or employment, or otherwise restricted, unless medically-based judgments in individual cases establish that exclusion or restriction is necessary to the welfare of the individual or other members of the college community.

No admissions restrictions will be applied and no effort will be made to identify a person with AIDS during the admission process.

Students with AIDS will not be denied assignment to a campus residence hall but specific decisions regarding housing assignments and

roommates will be made on an individual basis utilizing medical personnel as necessary.

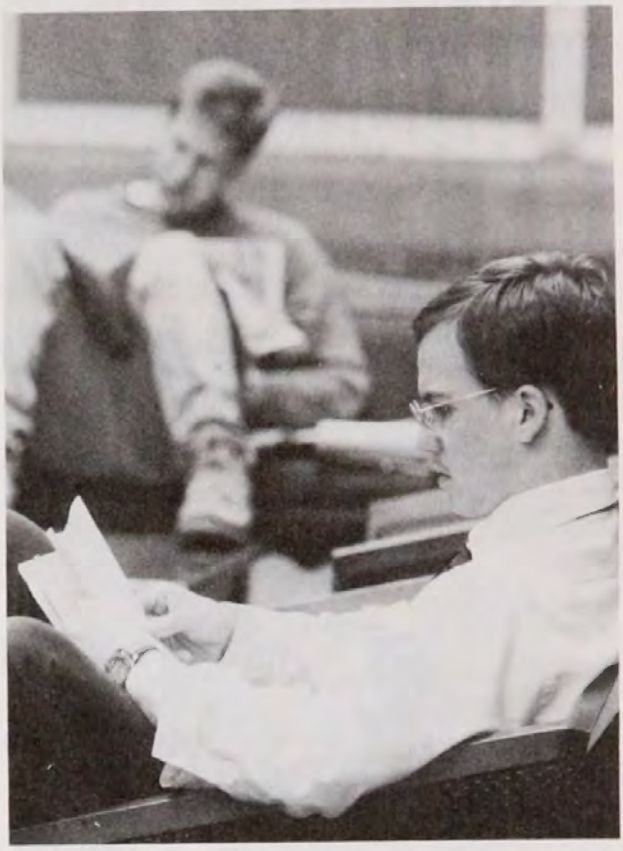
Individuals who have AIDS are expected to seek expert medical advice about their health condition and are obligated to conduct themselves responsibly in the interest of protecting others.

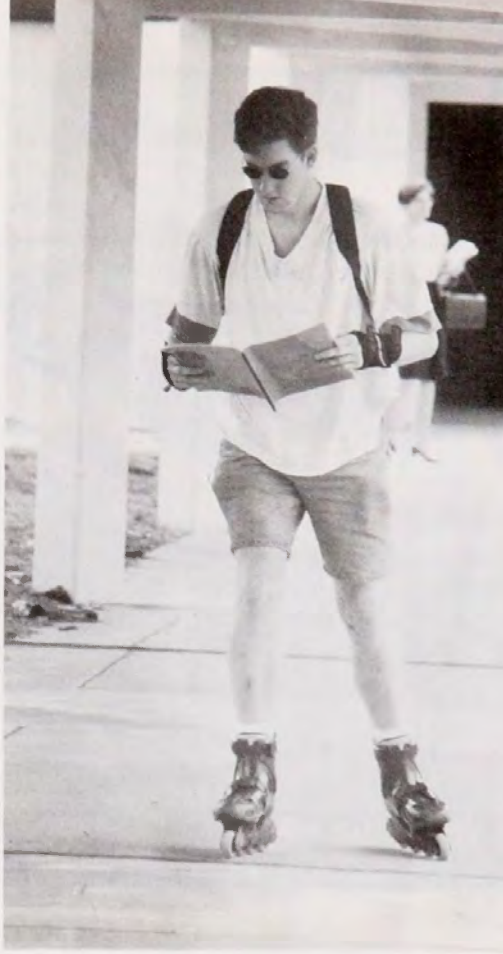
The College will conduct an ongoing education program for students, faculty, and staff regarding the transmission and prevention of AIDS in order to promote rational decision-making and to minimize confusion and fear about this disease.

The College does not have an AIDS Testing Service on campus. Individuals interested in AIDS testing can talk with the campus nurse or contact one of the following for assistance:

AID Atlanta
1438 W. Peachtree St.
Atlanta, GA
Phone: (404) 872-0600
Free service including pre- and post- test counseling
Tuesdays, 2:00 - 5:00 pm

Cobb County Health Department
1650 County Farm Road
Marietta, GA
Phone: (770) 514-2300
$20.00 charge including pre- and post-test counseling
Mon-Fri, 8:30 - 11:00 am and 1:00 - 6:00 pm





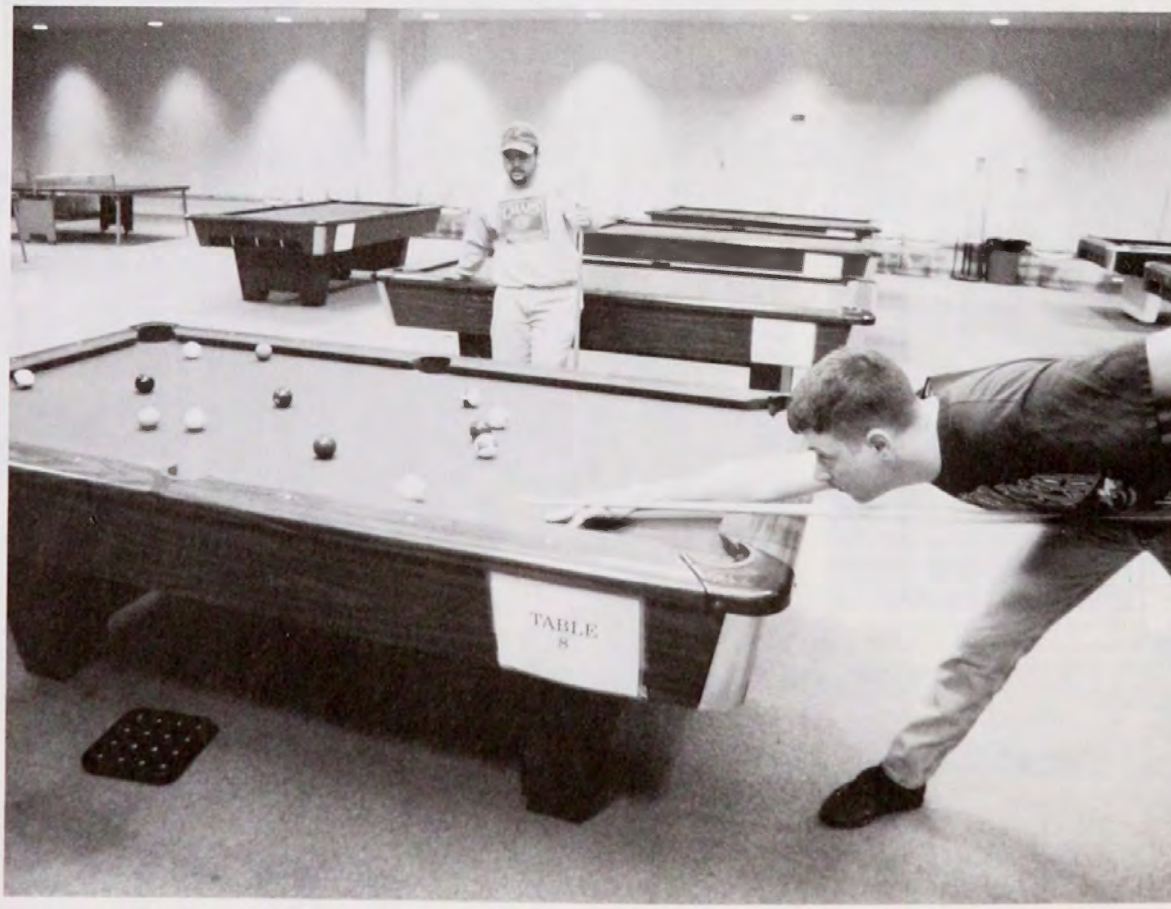


TABLE
8

Curricula

Programs of Study

Southern College of Technology offers the following programs of study:

Associate of Science Degree Transfer Programs

Engineering Technology
- Apparel option
- Textile option

General Studies

Bachelor of Applied Science Degree Program

Bachelor of Architecture Degree Program

Bachelor of Science Degree Programs

Apparel/Textile Engineering Technology
- Apparel option
- Textile option

Civil Engineering Technology
Computer Engineering Technology
- Control Systems option
- Digital Systems option

Computer Science
Construction
Electrical Engineering Technology
- Communications option
- General option
- Power Generation and Distribution option

Environmental Development
Industrial Distribution
- Engineering Sales option
- Logistics option

Industrial Engineering Technology
- General option
- Quality Assurance option
- Technical Sales option

Management of Technology
Manufacturing
- International Manufacturing option
- Pulp and Paper Technology option

Mathematics
Mechanical Engineering Technology
- General option
- Manufacturing option

Physics
Technical and Professional Communication

Master of Science Degree Programs

Computer Science
Construction
Engineering Technology
  Electrical concentration
Management of Technology
Quality Assurance
  Engineering and Technology concentration
  Quality Systems concentration
Technical and Professional Communication

In the following pages, each program of study is described, and course requirements are outlined. Detailed course descriptions are given in the next section of the catalog.

pplied Science (Asci)

achelor of Applied Science Degree Offered)

This program is designed to cap appropriate associate degree programs with a marily upper-level, broadly-based component at Southern College of Technol-y. Admission to the program requires the completion of an associate of applied ence or associate of applied technology degree. This program provides a gen-al coverage of management and systems together with written and oral com-unications coursework to lead a candidate into a supervisory role in business or lustry.

Included below are the complete requirements for the program.

ore Curriculum

ea I Humanities (20 hours)		Hours
oup 1	ENGL 110 and 112	8
oup 2	One of the following: LIT 220, 221, 222, or 223	4
oup 3	One of the following: ARTS 230, 231, or 232 PHIL 230	4
oup 4	One of the following **(or an additional course from Group 2 or 3):** FREN 240 LIT 244 SPAN 240 SPCH 240	4

ea II Mathematics and Natural Sciences (20 hours)		
	MATH 109 and 111	10
	One of the following: BIOL 201 and 202 CHEM 201 and 202 PHYS 201 and 202 or 203 PHYS 221 and 222 or 223	10

ea III Social Sciences (20 hours)		
oup 1	HIST 210 or 211	4
oup 2	One of the following: HIST 220, 221, or 222	4
oup 3	One of the following: ECON 230 PSYC 230	4
oup 4	One of the following and **an additional course from Group 1, 2, 3, or 4:** ANTH 240 GEOG 240 HIST 241 or 242 POLS 240, 241, or 242 RELG 240 SIS 240	8

Specialty Block (60 hours)

Transfer credit for courses from approved associate degree programs

Required courses

NOTE: This part of the curriculum will include at least 60 hours of upper division work and is not finalized at the time of the publication of this catalog. Please call the Admissions Office for this information.

chool of Architecture

The mission of the School of Architecture at Southern College of Technology is expand and extend the college mission into the realm of architecture, develop-ent, and environmental education through the five year Bachelor of Architecture ogram and the four year Bachelor of Science program with a major in Environ-ental Development. These programs prepare students for professional practice the design, planning, development, and stewardship of the built environment.

ne Design Foundation

The Design Foundation sequence is an introduction to the issues and ocesses used by professional designers of the built environment. Students emonstrate their understanding of course material through exercises and simu-ted design projects. A basic understanding of these factors is provided in the esign Foundation, which constitutes the first year of the Bachelor of Architec-re degree program and the Bachelor of Science program with a major in Envi-nmental Development. The Foundation program is a combination of visual ommunication and design with a core of humanities and mathematics.

Architecture (ARCH)

(Bachelor of Architecture Degree Offered)

The Bachelor of Architecture program is a fully accredited program by the National Architectural Accrediting Board. It is a 1 plus 4 program consisting of the Design Foundation, the first year, and the Professional Program for the last four years. Future professionals are provided the opportunity to develop progressively within the built environment. The preparation of students involves the widest span of experiences and possibilities. Course work and practice simulation are combined in an open and accessible baccalaureate experience. This superior education leads directly to the ability of the graduate to participate knowledgeably in the process of the making of architecture.

The Professional Program is comprehensive and rigorous. It includes students who have successfully completed the Design Foundation year or equivalent. These students demonstrate exceptional professional promise.

To be admitted to the Professional Program from the Design Foundation, a student should have a minimum grade point average (GPA) of 2.25 in all course work. Additionally, students are required to have a lap top computer for their use by the beginning of the second year. Published requirements for the computer and software are available in the office of the School of Architecture.

Transfer students who are presently enrolled in the design-related programs at other institutions may apply for admission to Qualifying Architectural Workshops. The Workshops prepare students for admission to the professional program with advanced standing. To be admitted to the Workshop, a student should have a minimum grade point average (GPA) of 2.25. All transfer students must submit a portfolio for approval of the School of Architecture Admissions Committee no later than 5:00 PM on the second Friday of May. Placement in the Architecture program and Workshops will be determined by the Committee. A personal interview may also be required at the discretion of the Dean.

Special Grading Standard

All Design Foundation (I through III) and Architecture (I through IX) courses must be taken in sequence. Students in the Architecture program must achieve a minimum of 2.00 grade point average (GPA) in studio course sequence before proceeding into the next sequence of studios. Any student who fails to achieve a minimum GPA of 2.00 in a sequence must repeat all courses in which the student received a grade of "D" until his/her GPA is 2.00 or above.

Student Work

All student work executed in the School of Architecture becomes the property of the School and will be returned at the discretion of the faculty. The faculty also reserves the right to refuse credit for any work that was executed outside the precincts of the School or otherwise executed without coordination with the faculty.

nvironmental Development (ED)

3achelor of Science Degree Offered)

The mission of the Environmental Development program is to prepare gradu-
:es to assume responsible roles in the private sector of the real estate develop-
ıent industry or in public agencies dealing with land development and planning.
he program is a blend of the study of nature, human behavior, planning, design,
echnology, construction and real estate. Students explore development in di-
erse cultural settings. They are challenged with balancing the desire to protect
eritage while utilizing new technologies with ever-changing economies and pop-
lations. Regard for ethical practice will be developed with an understanding of
ıe regulatory business procedures.

Graduates will be prepared with an attitude and approach to development op-
ortunities that is both creative and exemplary. They will assume the natural envi-
onment and cultural setting as assets and opportunities.

The program is housed in the School of Architecture where full advantage is
ıken of the basic design course work of the freshman year that develops the
kills essential to creative problem solving.

Students should present a minimum grade point average of 2.25 after comple-
on of the DFN 101-102-103 classes, with an overall grade point average of
.00. An acceptance of a graphics portfolio may be required by the School of Ar-
hitecture Admissions Committee.

tudent Work

All student work executed in the School of Architecture becomes the property
f the School and will be returned at the discretion of the faculty. The faculty also
eserves the right to refuse credit for any work that was executed outside the
recincts of the School or otherwise executed without coordination with the fac-
lty.

Design Foundation

First Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
DFN	101	Design Foundation I	2	9	5
DFN	110	Introduction to Environmental Design	2	0	2
HIST	21X	United States History	4	0	4
MATH	111*	Precalculus I	5	0	5
		Total	13	9	16
Second Quarter					
DFN	102	Design Foundation II	2	9	5
ENGL	110	Introductory Composition I	3	2	4
MATH	112	Precalculus II	5	0	5
		Total	10	11	14
Third Quarter					
DFN	103	Design Foundation III	2	9	5
ENGL	112	Introductory Composition II	3	3	4
MATH	253	Calculus I	5	0	5
		Total	10	12	14

*MATH 109-College Algebra (5-0-5) is a prerequisite for MATH 111 and can be exempted by showing proficiency through the Math Advisory Test (MAT).

Architecture
Professional Program

Second Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ARCH	201	Architecture I	2	9	5
ARCH	221	History of Architecture I	3	0	3
ARCH	271	Building Technology I	3	0	3
ARCH	281	Architecture Practicum I	0	3	1
PHYS	201	Mechanics	4	3	5
		Total	12	15	17
Second Quarter					
ARCH	202	Architecture II	2	9	5
ARCH	222	History of Architecture II	3	0	3
ARCH	272	Building Technology II	3	0	3
ARCH	281	Architecture Practicum II	0	3	1
PHYS	203	Heat, Sound, and Light	4	2	5
		Total	12	14	17
Third Quarter					
ARCH	203	Architecture III	2	9	5
ARCH	223	History of Architecture III	3	0	3
ARCH	250	Introduction to Structures	4	0	4
ARCH	273	Building Technology III	3	0	3
ARCH	281	Architecture Practicum III	0	3	1
		Total	12	12	16

Architecture
Professional Program

Third Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ARCH	301	Architecture IV	2	9	5
ARCH	341	Building Technology IV	3	0	3
ARCH	351	Architectural Structures I	3	0	3
ARCH	381	Architecture Practicum IV	0	3	1
		Architecture Theory Elective*	4	0	4
		Total	12	12	16
Second Quarter					
ARCH	302	Architecture V	2	9	5
ARCH	342	Building Technology V	3	0	3
ARCH	352	Architectural Structures II	3	0	3
ARCH	381	Architecture Practicum V	0	3	1
		Architecture Theory Elective*	4	0	4
		Total	12	12	16
Third Quarter					
ARCH	303	Architecture VI	2	9	5
ARCH	343	Building Technology VI	3	0	3
ARCH	353	Architectural Structures III	3	0	3
ARCH	381	Architecture Practicum VI	0	3	1
ARTS	23X	Arts Elective	4	0	4
		Total	12	12	16

*Students should consult with the School of Architecture for Architecture Elective Requirements.

Architecture
Professional Program

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
irst Quarter					
RCH	401	Architecture VII	2	12	6
RCH	471	Contract Documents I	2	0	2
T	22X	Literature Elective	4	0	4
		Architecture Elective*			4
		Total			16
econd Quarter					
RCH	402	Architecture VIII	2	12	6
RCH	472	Contract Documents II	2	0	2
IST	22X	World Civilization	4	0	4
		Architecture Elective*			4
		Total			16
hird Quarter					
RCH	403	Architecture IX	2	12	6
RCH	473	Architectural Office Practice and Ethics	3	0	3
SYC	230	Introduction to Psychology	4	0	4
		Architecture Elective*			4
		Total			17

Students should consult with the School of Architecture for Architecture Elective Requirements.

OTE: For more information about Area I and Area III courses see the Core Curriculum section under Admission Information.

Architecture
Professional Program

Fifth Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ARCH	497	Architectural X	2	12	6
Area III		Group 4	4	0	4
		Architecture Electives*			8
		Total			18
Second Quarter					
ARCH	498	Diploma Studio I	2	12	6
Area III		Group 1, 2, 3, or 4	4	0	4
		Architecture Electives*			8
		Total			18
Third Quarter					
ARCH	499	Diploma Studio II	2	12	6
Area I		Group 4	4	0	4
		Architecture Electives*			8
		Total			18
		Bachelor Degree Program Total			**250**

*Students should consult with the School of Architecture for Architecture Elective Requirements.

Environmental Development

Second Year

			Hours Per Week Class	Lab	Credit Hours
irst Quarter					
IOL	201	Biological Principles I	4	3	5
CON	230	Introduction to Economics	4	0	4
D	221	Survey of American Architecture and Building Design	3	0	3
D	271	Construction Systems and Materials I	3	3	4
		Total	14	6	16
econd Quarter					
IOL	202	Biological Principles II	4	3	5
D	211	Introduction to Urban Planning	4	0	4
D	222	History of Western Urbanization Prior to the Industrial Revolution	3	0	3
D	272	Construction Systems and Materials II	3	3	4
		Total	14	6	16
hird Quarter					
D	212	Development Process	4	0	4
D	223	History of American Cities as Social and Economic Institutions	3	0	3
D	261	Site Planning	3	3	4
MGT	240	Micro-Economics	5	0	5
		Total	15	3	16

Environmental Development

Third Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ED	301	Site Planning and Development	3	6	5
ED	311	Land Use Controls and Development	3	0	3
ENGL	221	Business Communication	3	3	4
TMGT	350	Managerial Statistics	5	0	5
		Total	14	9	17
Second Quarter					
Area I		Group 3	4	0	4
ED	312	Valuation and Assessment Techniques	3	3	4
ED	313	Housing	3	3	4
ED	331	Computer Applications for ED	2	6	4
		Total	12	12	16
Third Quarter					
CNST	321	Conceptual Cost Estimating	4	0	4
ED	314	Environmental Planning	3	3	4
ED	315	Real Estate Development Finance	4	0	4
HIST	22X	World Civilization	4	0	4
LIT	22X	Literature	4	0	4
		Total	19	3	20

NOTE: For more information about Area I and Area III courses see the Core Curriculum section under Admission Information.

Environmental Development

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
irst Quarter					
rea I		Group 4	4	0	4
NST	411	Law in the Construction Process	5	0	5
NST	415	Construction Scheduling	3	3	4
D	411	Real Estate Market Analysis	4	0	4
		Total	16	3	17
econd Quarter					
rea III		Group 4	4	0	4
NST	425	Construction Project Management	4	2	5
D	412	Environmental Impact Assessment	3	0	3
		Technical Elective			4
		Total			16
hird Quarter					
rea III		Group 1, 2, 3, or 4	4	0	4
D	420	Environmental Ethics	5	0	5
D	499	Senior Project	0	24	8
		Total	9	24	17
		Bachelor Degree Program Total			**200**

School of Arts and Sciences

Philosophy and Mission

The School of Arts and Sciences is responsible for the college's commitment to the broad range of knowledge beyond the specific missions of the technical programs within the college. In support of the overall mission of the college, the School of Arts and Sciences emphasizes the applied nature of the disciplines within its scope inside the framework of a liberal education. To support the mission of the college, the School of Arts and Sciences recognizes its responsibility to serve the needs of the whole student.

We recognize that serving the whole student means that the School of Arts and Sciences provides students with critical thinking skills and with a learning environment to help them appreciate the world in which they live. These needs can be met by offering students a balanced education with courses and programs in the natural sciences, social sciences, humanities, mathematics, computer science, and communication. In addition, the School of Arts and Sciences sponsors courses that foster openness to new ideas, inquisitiveness, problem-solving skills, and a desire for continued learning. Part of the broader mission of the school is to help students develop a critical perspective on themselves and their work by providing them with an understanding of their own culture as well as an exposure to other cultures and societies.

The School of Arts and Sciences offers a curriculum that intends to strengthen and enhance the broad educational development of all Southern College of Technology students. To this end, the school's various departments offer specific courses and also degree programs to meet student needs. In general, students are active participants rather than observers; they are regarded as citizens and guardians of the future as well as potential masters of their disciplines.

Among its specific objectives, the School of Arts and Sciences strives to:

- Ensure that all Southern College of Technology students attain substantive knowledge and methodological skills in each of its various departments.
- Cultivate throughout the curriculum well-developed skills in synthesis, analysis, problem-solving, and evaluation.
- Strengthen every student's communication skills so that graduates can speak and write effectively.
- Encourage students to engage in independent learning, to pursue intellectual excellence, and to formulate questions and possible solutions about individuals, society, and nature.
- Provide opportunities for students to develop a better understanding of the world's diverse cultural heritage.
- Encourage a careful examination of the effects of technological change on human behavior, society, value systems and ethics.

The School of Arts and Sciences offers an Associate of Science degree transfer program in General Studies, Bachelor of Science degree programs with majors in Computer Science, Mathematics, Physics, and Technical and Professional Communication and Master of Science degree programs with majors in Computer Science and Technical and Professional Communication.

hilosophy and Purpose of the A&S Requirement

In satisfying their Arts and Sciences BS degree requirements, all Arts and Sci-nces candidates will complete a 12 credit upper-division concentration. This re-uirement addresses two objectives in the mission statement of the School of rts and Sciences: (1) "Provide opportunities for students to develop a better un-erstanding of the world's diverse cultural heritage" and, (2) "Encourage a careful xamination of the effects of technological change on human behavior, society, alue systems, and ethics." Each A&S course provides Arts and Sciences majors ith a deeper understanding of one or both of these objectives.

More than ever before, today's graduates face a world in which science and echnology alone will not solve society's problems. Instead, many seemingly echnical problems are actually disguised multidimensional problems of social, thical, political or international origin. In response to this complexity, the A&S rogram seeks to foster thoughtfulness about the consequences of scientific and echnological work, to instill an appreciation of science and technology as a part f an intellectual, social, and cultural heritage, and to provide a broad foundation r professional growth in the careers that graduates choose.

Upon attaining Junior standing, all prospective graduates in Arts and Sciences achelors degree programs are required to:

1. Take two approved A&S courses at or above the 300-level that are taught outside of their department; and
2. Satisfactorily complete A&S 411 - Information and Research.

dvising for Pre-Health and Pre-Engineering Programs

The School of Arts and Sciences offers the courses needed by students seek-g to apply to:

1. Medical, Dental, Pharmacy, or Veterinary School; or
2. Engineering programs.

All of the above health oriented programs, except pharmacy, are predoctoral rograms. That is, normally a student earns a baccalaureate degree before ma-iculation into a doctoral program at the professional school. However, in the ase of pharmacy and engineering, students apply for admission to a profes-ional school after they have satisfied the prerequisite requirements for admis-ion. Students should note that within any one field, different professional schools ay vary slightly in their requirements, and thus, the student may want to consult particular school's admission office.

Students considering any of the aforementioned programs must, from the very eginning, face the reality that admissions are very competitive. In fact, a great ajority of students find, by their junior year, that they do not have the grades eeded to gain admission to a professional school. This reality leaves many stu-ents with the need to consider alternative careers.

Students interested in any of the above programs should note that there are no reprofessional majors per se; for example, a predental student may choose to ajor in any of the programs offered by the schools of Arts and Sciences, Man-gement, Architecture, or Technology. The choice of majors is wide open pro-ided the student satisfies all requirements of the professional school. In addition, the process of completing the requirements for the aforementioned programs, e student may also want to satisfy the requirements needed to earn an Associ-te of Science in General Studies. Students interested in one or more of the forementioned programs are encouraged to contact the Office of the Dean of rts and Sciences.

Associate of Science
General Studies Transfer Program

Area I Humanities (20 hours)		**Hours**
Group 1	ENGL 110 and 112	8
Group 2	One of the following: LIT 220, 221, 222, or 223	4
Group 3	One of the following: ARTS 230, 231, or 232 PHIL 230	4
Group 4	One of the following **(or an additional course from Group 2 or 3):** FREN 240 LIT 244 SPAN 240 SPCH 240	4

Area II Mathematics and Natural Sciences (20 hours)	
MATH 109 and 111	10
One of the following: BIOL 201 and 202 CHEM 201 and 202 PHYS 201 and 202 or 203 PHYS 221 and 222 or 223	10

Area III Social Sciences (20 hours)		
Group 1	HIST 210 or 211	4
Group 2	One of the following: HIST 220, 221, or 222	4
Group 3	One of the following: ECON 230 PSYC 230	4
Group 4	One of the following and **an additional course from Group 1, 2, 3, or 4:** ANTH 240 GEOG 240 HIST 241 or 242 POLS 240, 241, or 242 RELG 240 SIS 240	8

Area IV Major Field (30 hours)	
100- or 200-level electives in Arts and Sciences	15
100- or 200-level Free electives	15

or

Area IV of any of the B.S. degree programs in the School of Arts and Sciences

Additional Courses (6 hours)	
A&S 101 (Required during first quarter of enrollment)	1
MATH 112	5
Associate Degree Program Total	**96**

Computer Science (Csci)

(Bachelor of Science Degree Offered)

The Computer Science program is concerned with the science and practice of developing and using computer systems in industry and business. Computer systems are used in many application areas, such as information management, engineering and scientific support, and process control. They may be designed to support one user or many users and may consist of one computer or "networks" of many interconnected computers.

The bachelor degree program in Computer Science emphasizes the entire scope of computer science, ranging from basic hardware principles through the system and application software levels to the use and management of such systems.

Curriculum

The Computer Science curriculum is divided into blocks of courses. These blocks provide balanced coverage of all courses required for the Bachelor of Science degree with a major in Computer Science. The BS degree requires a total of 210 hours. A grade of "C" or better is required in all CS courses applied to degree requirements.

Core Curriculum

This block of 120 hours contains all state- and college-required courses, as well as any school- and department-required courses outside the major field. These courses provide the tools for developing basic skills in math, science, history, and communication; as well as encouraging personal inquisitiveness and generally providing for the non-technical aspects of a well-rounded education in this technically-oriented college. All courses in this block are required for all CSci majors.

Area I Humanities (20 hours)		**Hours**
Group 1	ENGL 110 and 112	8
Group 2	One of the following: LIT 220, 221, 222, or 223	4
Group 3	One of the following: ARTS 230, 231, or 232 PHIL 230	4
Group 4	SPCH 240	4
Area II Mathematics and Natural Sciences (20 hours)		
MATH 109 and 111		10
PHYS 221		5
PHYS 222 or 223		5
Area III Social Sciences (20 hours)		
Group 1	HIST 210 or 211	4
Group 2	One of the following: HIST 220, 221, or 222	4
Group 3	PSYC 230	4
Group 4	One of the following and **an additional course from Group 1, 2, or 4 or ECON 230:** ANTH 240 GEOG 240	8

HIST 241 or 242
POLS 240, 241, or 242
RELG 240
SIS 240

Other Required Courses (60 hours)

A&S	101	Orientation to the College (Required during first quarter of enrollment)	1
A&S	411	Information and Research	4
ENGL	232	Technical Writing	4
IET	403	Analysis of Technical Data	5
MATH	112	Precalculus II	5
MATH	253	Calculus I	5
MATH	254	Calculus II	5
MATH	260	Probability and Statistics	5
MATH	310	Matrix Algebra	3
MATH	345	Discrete Mathematics	5
Natural Science courses (with lab) at level taken by Science majors			10
Arts and Sciences Requirement			8

CS Core Courses (40 hours)

This block of 40 hours contains those CS courses considered fundamental to the computer science field, regardless of the area of specialization. These courses develop the foundations of the technical education. They generally teach proficiency in basic skills, terminology, and fundamental concepts of the profession. All courses in this block are required for all CSci majors.

CS	101	Introduction to Computer Science	5
CS	105	Programming Principles I	5
CS	205	Programming Principles II	5
CS	219	Computer Architecture	5
CS	305	Data Structures	5
CS	325	Assembler	5
CS	330	Files and Databases	5
CS	345	Programming Language Concepts	5

CS Advanced Core Courses (20 hours)

CS	350	Introduction to Software Engineering	5
CS	370	Operating Systems	5
Choose one of the following:			
CS	361	Applications Programming in C	5
CS	362	Applications Programming in C++	5
CS	363	Applications Programming in COBOL	5
CS	372	Applications Programming in Ada	5
Choose one of the following:			
CS	420	Real-Time Systems	5
CS	455	Software Engineering	5
CS	465	Expert Systems	5
CS	485	Senior Project	5

S Advanced Electives/Minor (30 hours)

0 additional hours from:

(1) upper-level courses used to complete a minor;
(2) any junior/senior courses in CS not counted in meeting a requirement above (but **at most** one additional applications programming course may be counted in this group);
(3) (with approval) an upper-level course taken in another department but not used to complete a minor

Mathematics (MATH)

(Bachelor of Science Degree Offered)

Freshman and Sophomore Years

Area I Humanities (20 hours)		**Hours**
Group 1	ENGL 110 and 112	8
Group 2	One of the following: LIT 220, 221, 222, or 223	4
Group 3	One of the following: ARTS 230, 231, or 232 PHIL 230	4
Group 4	One of the following **(or an additional course from Group 2 or 3):** FREN 240 LIT 244 SPAN 240 SPCH 240	4

Area II Mathematics and Natural Sciences (20 hours)	
MATH 109 and 111	10
PHYS 221 and 223	10

Area III Social Sciences (20 hours)		
Group 1	HIST 210 or 211	4
Group 2	One of the following: HIST 220, 221, or 222	4
Group 3	One of the following: ECON 230 PSYC 230	4
Group 4	One of the following and **an additional course from Group 1, 2, 3, or 4:** ANTH 240 GEOG 240 HIST 241 or 242 POLS 240, 241, or 242 RELG 240 SIS 240	8

Area IV Major field (30 hours)			
CS	105	Programming Principles I	5
MATH	253	Calculus I	5
MATH	254	Calculus II	5
MATH	255	Calculus III	5
MATH	268	Probability	5
PHYS	222	Electromagnetism and Relativity	5

Additional Courses (6 hours)			
A&S	101	Orientation to the College (Required during first quarter of enrollment)	1
MATH	112	Precalculus II	5

Mathematics

Junior and Senior Years

Requirements of the School of Arts and Sciences (12 hours)

A&S	411	Information and Research	4
		Arts and Sciences Requirement	8

Required Courses (45 hours)

MATH	306	Differential Equations I	3
MATH	307	Differential Equations II	3
MATH	310	Matrix Algebra	3
MATH	312	Linear Algebra	5
MATH	320	The Real Line	3
MATH	321	Advanced Calculus I	5
MATH	322	Advanced Calculus II	5
MATH	335	Numerical Methods I	5
MATH	356	Calculus IV	5
MATH	440	Modern Algebra	5
MATH	451	Applications of Mathematics I	3

Technical Electives (12 hours)

The technical electives must form a coherent sequence of study in a particular technical specialty. The sequence must be approved by the department.

Free Electives (15 hours)

Free electives must be at or above the 200-level.

Mathematics Electives (15 hours)

Mathematics electives must be Mathematics courses at or above the 300-level.

Bachelor Degree Program Total **195**

Students who complete all requirements for a major in another department at Southern College of Technology may also receive a major in Mathematics (a double major) by completing the 45 hours of required mathematics courses listed above.

Physics (PHYS)

(Bachelor of Science Degree Offered)

The Physics degree program is designed to prepare students for industrial employment or for graduate study in Physics or in a variety of other disciplines. Students should choose their electives in consultation with their advisor so as to meet their individual career objectives.

Students who are earning B.S. degrees in other fields at Southern College of Technology may also earn a second major in Physics. The double major will provide students with the understanding of the basic science that underlies all of engineering.

Freshman and Sophomore Years

Area I Humanities (20 hours)		**Hours**
Group 1	ENGL 110 and 112	8
Group 2	One of the following: LIT 220, 221, 222, or 223	4
Group 3	One of the following: ARTS 230, 231, or 232 PHIL 230	4
Group 4	One of the following **(or an additional course from Group 2 or 3):** FREN 240 LIT 244 SPAN 240 SPCH 240	4

Area II Mathematics and Natural Sciences (20 hours)	
MATH 109 and 111	10
PHYS 221 and 223	10

Area III Social Sciences (20 hours)		
Group 1	HIST 210 or 211	4
Group 2	One of the following: HIST 220, 221, or 222	4
Group 3	One of the following: ECON 230 PSYC 230	4
Group 4	One of the following and **an additional course from Group 1, 2, 3, or 4:** ANTH 240 GEOG 240 HIST 241 or 242 POLS 240, 241, or 242 RELG 240 SIS 240	8

Area IV Major Field (30 hours)

CHEM	201	General Chemistry I	5
CHEM	202	General Chemistry II	5
MATH	253	Calculus I	5
MATH	254	Calculus II	5
MATH	255	Calculus III	5
PHYS	222	Electromagnetism and Relativity	5

Additional Courses (6 hours)

A&S	101	Orientation to the College (Required during first quarter of enrollment)	1
MATH	112	Precalculus II	5

Physics

Junior Year

CHEM	203	General Chemistry III	5
MATH	306	Differential Equations I	3
MATH	307	Differential Equations II	3
MATH	356	Calculus IV	5
PHYS	321	Intermediate Mechanics	5
PHYS	322	Intermediate Electricity and Magnetism	5
PHYS	323	Fourier Optics	4
PHYS	341	Intermediate Laboratory I	2
PHYS	342	Intermediate Laboratory II	2
PHYS	343	Intermediate Laboratory III	2
PHYS	371	Modern Physics I	4
PHYS	372	Modern Physics II	4
		Arts and Sciences Requirement	8

Senior Year

A&S	411	Information and Research	4
PHYS	421	Quantum Physics	5
PHYS	423	Thermal Physics	5
PHYS	424	Solid State Physics	5
PHYS	441	Advanced Laboratory I	2
PHYS	442	Advanced Laboratory II	2
PHYS	443	Capstone Physics Project	2
		Major Field and Technical Electives	17
		Free Electives	6
		Bachelor Degree Program Total	**196**

NOTE: A student who meets all B.S. degree requirements in another department on campus may earn a second major in Physics by completing the following 35 hours of coursework in Physics:

PHYS 321, 322, 371, two of PHYS 341, 342, 343; two of PHYS 441, 442, 443; and an additional 13 hours of 300- and 400- level Physics courses to include at least one of the following: PHYS 372, 421, 424.

A student who has earned a B.S. degree from Southern College of Technology may earn a second B.S. degree with a major in Physics by completing the above 35 hours required for a second major and by completing a total of 45 hours of coursework beyond the first B.S. degree.

Technical and Professional Communication (TPC)

(Bachelor of Science Degree Offered)

The Bachelor's program in Technical and Professional Communication is designed to prepare students for a variety of communication careers. Possible positions include documentation and manual writer, technical editor, media specialist, proposal writer, speech writer, and communication training specialist. The program also can serve as a pre-professional background for students who plan to attend graduate school.

Students pursuing the degree must complete (1) the Core Curriculum, (2) required upper-division courses in technical and professional communication, (3) either a broad or in-depth group of technology courses, (4) Arts and Sciences courses, especially those in science, technology, and society and in information and research, and (5) free electives.

Included below are the complete requirements for the program.

Core Curriculum		**Hours**
Area I Humanities (20 hours)		
Group 1	ENGL 110 and 112	8
Group 2	One of the following: LIT 220, 221, 222, or 223	4
Group 3	One of the following: ARTS 230, 231, or 232 PHIL 230	4
Group 4	SPCH 240	4
Area II Mathematics and Natural Sciences (20 hours)		
MATH 109 and 111		10
One of the following: BIOL 201 and 202 CHEM 201 and 202 PHYS 201 and 202 or 203 PHYS 221 and 222 or 223		10

NOTE: Some technology electives in the curriculum have a PHYS 222 or 223 prerequisite and/or a Chemistry prerequisite. Students should consider what technology option they will select before deciding how to fulfill the Area II science requirement.

Area III Social Sciences (20 hours)		
Group 1	HIST 210 or 211	4
Group 2	One of the following: HIST 220, 221, or 222	4
Group 3	One of the following: ECON 230 PSYC 230	4
Group 4	One of the following and **an additional course from Group 1, 2, 3, or 4:** ANTH 240 GEOG 240 HIST 241 or 242 POLS 240, 241, or 242 RELG 240 SIS 240	8

Area IV Major field (32-33 hours)

CS 101 and 103 or 105 and 205	9-10
ENGL 221	4
ENGL 232	4
MATH 112	5
MATH 253	5
One additional 100-level or 200-level course, as advised by department	5

NOTE: The CS 105/205 option is suggested for a student who selects Computer Science for completion of his/her technology electives.

Required Courses (24-25 hours)

ENGL	310	Rhetoric: History and Theory	4
ENGL	311	Advanced Grammar and Composition	4
ENGL	421	Project Portfolio	2
ENGL	435	Communication Graphics	5
or			
ARTS	310	Visual Thinking	4
ENGL	450	Editing	5
ENGL	485	Small Group Communication	5

Electives (Minimum 30 hours)

ENGL	312	Research Methods in Technical Communication	4
ENGL	313	Instructional Design	4
ENGL	314	Legal and Ethical Issues in Technical Communication	4
ENGL	315	Writing in Scientific Fields	4
ENGL	391-395	Special Topics	1-5
ENGL	410	Issues in Science and Technology	5
ENGL	420	International Technical Communication	5
ENGL	422	Internship	4
ENGL	425	Online Communication	4
ENGL	440	Manuals	5
ENGL	445	Proposals	5
ENGL	460	Professional Oral Presentations	5
LIT	316	Literature and Technology	4

Technical Concentration (Minimum 20 hours)

This part of the curriculum offers the student two choices: Option 1 and Option 2. Option 1 provides breadth by requiring students to take one course from each of four major technical fields. Option 2 provides depth by requiring students to take 20 hours in one technical area.

NOTE: Some students may want to pursue an official minor in one of the fields that follow, in which case they need to check catalog requirements carefully. Requirements for minors will differ from those listed in Option 2.

Option 1 Broad View

This option provides students with an overview of technology. Students are required to take one course from each of four areas. However, a second course may be required in one of the areas in order to meet the 20-hour minimum in this part of the program.

1: Built Environment
Take one course from Construction (CNST), Civil Engineering Technology (CET), or Environmental Development (ED)
2: Industrial Processes
Take one course from Apparel/Textile Engineering Technology (ATET) or Industrial Engineering Technology (IET)
3: Electrical and Computer Engineering Technology
Take one course from Electrical and Computer Engineering Technology (ECET)
4: Mechanical
Take one course from Mechanical Engineering Technology (MET)

Option 2 In-Depth View

Twenty hours must be taken in one area. Students may choose courses from any department other than Humanities and Technical Communication or Social and International Studies. The specific options are described below. Note that some courses require prerequisites that are not included in the 20 hours. Also note that courses cannot be "double counted" for both this area and another part of the curriculum (such as Area IV of the Core Curriculum).

Civil Engineering Technology (CET)

Required Course: CET 200 (4)
The remaining hours must be selected from any CET or SURV courses for which the student has satisfied prerequisites. The following courses are recommended for consideration:
CET 100 (1), CET 321 (4), CET 343 (3), CET 344 (4), SURV 200 (5)

Computer Science (CS)

Required Courses: CS 205 (5)
One course from the following:
CS 103 (4), CS 200 (5), CS 211 (5), CS 215 (5)
The remaining courses must be selected from the following list:
CS 219 (5), CS 305 (5), CS 340 (5), CS 410 (5), CS 450 (5), CS 483 (5)

Construction (CNST)

Required Courses: CNST 325 (5), CNST 352 (4), CNST 411 (5), CNST 415 (4), CNST 488 (2)

Electrical and Computer Engineering Technology (ECET)

Students must choose 20 hours from the following list of courses:
ECET 100 (2), ECET 238 (4), ECET 305 (6), ECET 310 (4), ECET 384 (3), ECET 386 (4), ECET 406 (4), ECET 414 (4)

Environmental Development (ED)

Students must select 20 hours from any of the ED course offerings. Prerequisites will be waived except for ED 301 (prerequisite: a drawing, graphics or drafting course). The following courses are recommended as offering the best survey of the discipline: ED 212 (4), ED223 (3), ED 301 (5), ED 312 (4), ED 411 (4).

Industrial Engineering Technology(IET)

Required Courses: IET 305 (3), IET 335 (3)
The remaining hours must be selected from any IET course for which the student has satisfied prerequisites. The following courses are recommended for consideration:
IET 329 (3), IET 336 (3), IET 343 (4), IET 410 (5), IET 424 (5), IET 427 (4)

Mathematics (MATH)

Any 200-level or above courses beyond those taken in Areas II and IV of the Core Curriculum. The courses are to be taken at Southern College of Technology, with exceptions to be approved by the Mathematics Department.

Mechanical Engineering Technology (MET)

Required Course: MET 113 (4)
The remaining hours must be selected from any MET course for which the student has satisfied prerequisites. The following courses are recommended for consideration:
MET 111 (5), MET 314 (5), MET 322 (5), MET 323 (4)

Physics (PHYS)

Any courses beyond PHYS 222 or PHYS 223. Students choosing this option should take PHYS 221 and PHYS 222 or PHYS 223 in Area II of the Core Curriculum.

Technology Management (TMGT)

Required Courses: ECON 230 (4), TMGT 315 (5)
The remaining hours must be selected from any TMGT courses for which the student has satisfied prerequisites. The following courses are recommended for consideration:
TMGT 330 (5), TMGT 345 (5), TMGT 350 (5), TMGT 355 (5), TMGT 360 (5), TMGT 430 (5), TMGT 440 (5), TMGT 490(5)

Arts and Sciences Courses (13 hours)

A&S 101 1
This one-hour orientation course should be taken in the first quarter of enrollment.

Arts and Sciences Requirement 12

Technical and Professional Communication majors must satisfy the Arts and Sciences upper-division requirement. These courses can be taken after completing 100 hours toward the degree.

The first two courses must be selected from approved A&S courses in Arts and Sciences departments other than Humanities and Technical Communication. The third course must be A&S 411.

Free Electives **15**

Bachelor Degree Program Total **194**

Computer Science (CS)

(Master of Science Degree Offered)

The Master of Science program with a major in Computer Science is designed to enhance career options for a broad mix of students, from those with an academic background in computer science just beginning their careers to those who have worked for years as computer professionals who may have academic credentials in other fields. Students from undergraduate disciplines other than computer science who are willing to make a major commitment to an academic graduate program in computer science may be admitted to the program in "post-baccalaureate" status pending successful transition to the study of computer science at the graduate level.

Although no specific undergraduate major is required, applicants must have a baccalaureate degree from an accredited school. Preferred (but not required) for admission is some relevant work experience. Students will be admitted if their academic accomplishments, work experience, and motivation predict the ability to complete the program successfully. (See the admissions requirements section of this catalog for specific admissions information and transfer of credit policies). Students with baccalaureate degrees from Southern College of Technology should receive approval before taking graduate courses with content similar to that of undergraduate classes they have taken. Students may include a graduate course approved in advance that is taken in another department at Southern College of Technology or at another institution while admitted to this program. (Additional regulations about joint enrollment or transient status may apply).

The requirements are 60 hours of graduate work as designated below. A grade of "B" or better for each course is required. A maximum of 15 hours of work from foundations courses, transfer credit, or credit by experience may be counted toward the degree.

Foundation Courses* (if needed; at most 10 hours may be used to meet degree requirements)

			Hours
CS	501	Introduction to Computer Science: Programming	5
CS	502	Introduction to Computer Science: Architecture	5
CS	503	Introduction to Computer Science: Operating Systems	5
CS	504	Mathematical Structures for Computer Science	5
CS	506	Database Systems	5

*Some students may need to start with CS 101-Introduction to Computer Science and CS 105-Programming Principles I.

Core Courses (all required; 30 hours)

CS	601	Programming Languages	5
CS	602	Computer System Architecture	5
CS	604	Algorithmic Processes	5
CS	610	Research Methods	5
CS	615	Advanced Database Systems	5
CS	620	Introduction to Software Engineering	5

Required Elective (one required from each group; 15 hours)

a.	CS	630	Issues in Information Management	5
	CS	635	Human Factors	5

b.	CS	603	Advanced Concepts in Operating Systems	5
	CS	650	Data Communications and Networks	5
	CS	680	Real-Time Systems	5
c.	CS	640	Software Engineering	5
	CS	645	Software Metrics and Quality Management	5
	CS	648	Formal Methods in Software Engineering	5

Required: Project (5 hours) or Thesis (10 hours)

CS	771-775**	Master's Project	1 to 5
CS	781-785**	Master's Thesis	1 to 5

**May be repeated as needed. Usual enrollment is 5 hours at a time. Exactly 5 hours must be applied toward degree for project or 10 hours for thesis.

Electives (as needed to complete 60 hours; from these or additional course(s) from the Required Electives category above)

CS	625	Object-Oriented Analysis and Design	5
CS	655	Simulation and Modeling	5
CS	660	Computer Graphics	5
CS	670	Management Information Systems	5
CS	675	Data Center Organization	5
CS	682	Artificial Intelligence	5
CS	685	Knowledge Representation/Problem Solving	5
CS	688	Pattern Recognition	5

Technical and Professional Communication (TCOM)

(Master of Science Degree Offered)

The Master's program in Technical and Professional Communication was developed in response to a growing need for professionals in technical communication.

The basic objectives of the program are:

- To educate those persons, with diverse academic and work backgrounds, who seek to begin their careers in the relatively new field of technical communication;
- To provide a useful credential for current technical communicators who need advanced training to move ahead in their careers, either as employees or managers of a company or as independent consultants; and
- To prepare instructors at all levels to teach technical communication in their respective schools.

Technical and Professional Communication Master's Degree Program

The Technical and Professional Communication program offers students the choice of two program options, Plans A and B, both of which require completion of fifty hours.

Plan A: Students selecting this option must complete the five-hour Master's Project or the ten-hour Master's Internship. They must also finish classroom work totaling forty-five hours (Project option) or forty hours (Internship). Students must take ENGL 500, ENGL 550, and ENGL 600.

Plan B: Students selecting this option must complete the Master's Thesis (ten-hour minimum). They must also finish forty hours of classroom work that must include these two courses: ENGL 500, ENGL 550, and ENGL 600.

All Technical and Professional Communication courses are listed on the next page.

NOTE: ENGL 500 must be taken the first quarter of work in the master's program.

Required Courses for Plan A:			**Hours**
ENGL	500	Document Design	5
ENGL	550	Editing	5
ENGL	600	Research in Technical and Professional Communication	5
ENGL	761-765*	Master's Internship	10
	or		
ENGL	771-775	Master's Project	5

Required Courses for Plan B:			
ENGL	500	Document Design	5
ENGL	550	Editing	5
ENGL	600	Research in Technical and Professional Communication	5
ENGL	781-785*	Master's Thesis	10

Elective Courses for Plan A and Plan B:			
ENGL	515	Multimedia Communication	5
ENGL	520	International Technical Communication	5
ENGL	535	Communication Graphics	5
ENGL	540	Manuals	5
ENGL	545	Proposals	5
ENGL	555	Journalism	5
ENGL	560	Professional Oral Presentations	5
ENGL	575	Writing for Publication	5
ENGL	580	Writing for Special Purposes	5
ENGL	585	Small Group Communication	5
ENGL	590	Project Management for Technical Communicators	5
ENGL	591-595	Special Topics	1 to 5
ENGL	605	Teaching Technical and Professional Communication	5
ENGL	615	Usability Testing	5
ENGL	625	Online Communication	5

Maximum of two approved graduate courses from another department

NOTE: A grade of "C" or better is required in all Technical and Professional Communication courses in the Master's program.

*When taking the internship, students may enroll in a maximum of 10 hours per quarter (5 hours of internship plus one course or 10 hours of internship). When taking the thesis, students may enroll in a maximum of 10 hours per quarter—to include no more than 5 hours of thesis per quarter. For exceptions, petition the department head.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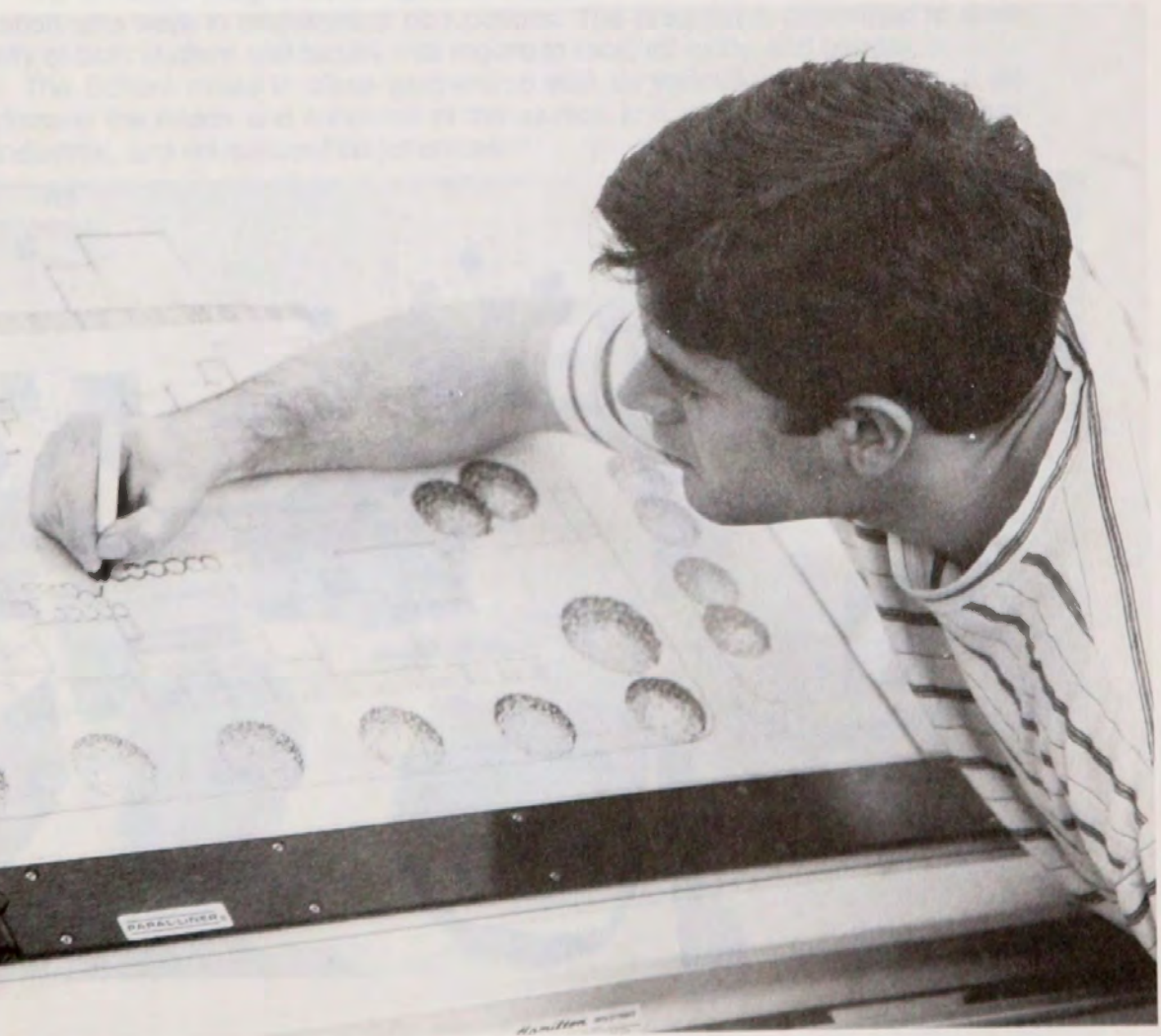
TLA TA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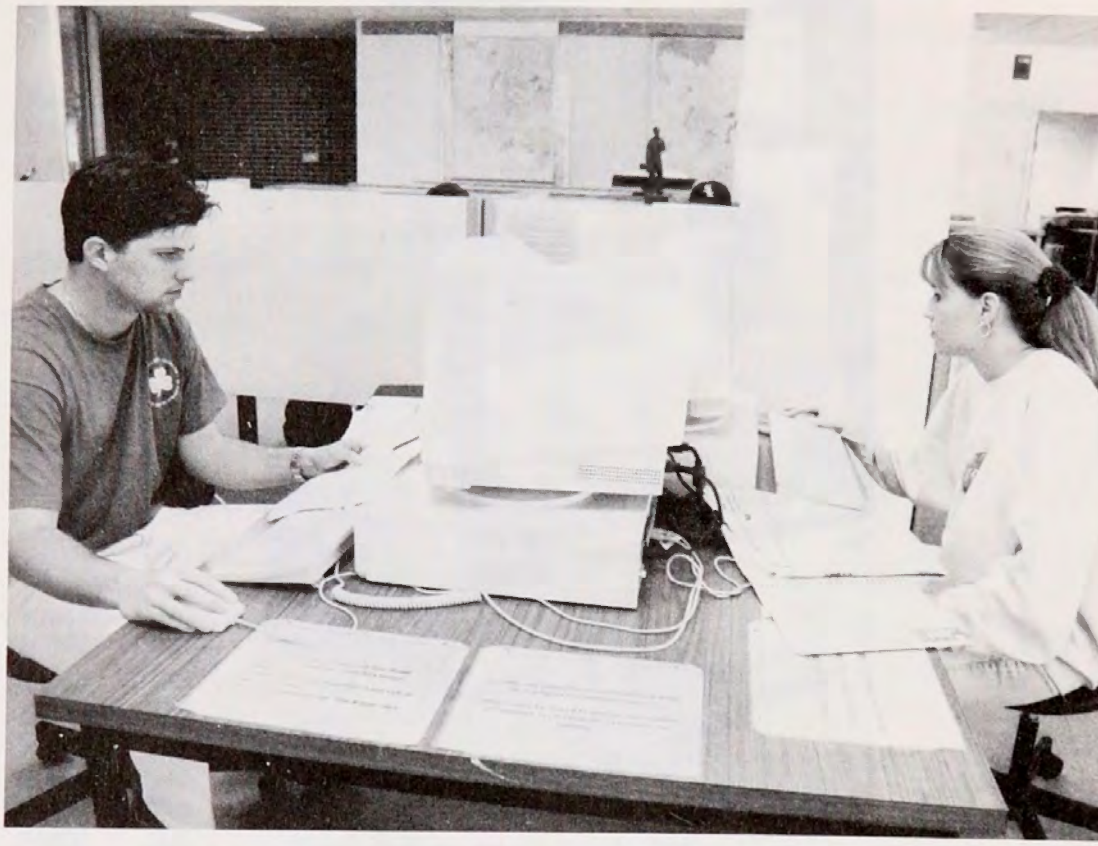


School of Management

The mission of the School of Management is to serve the needs of the students of Southern College of Technology, the citizens, and industry within the State of Georgia for instruction in the science and practice of management.

The School offers courses of instruction leading to the Master and Bachelor of Science degrees with a major in Management of Technology, undergraduate instruction leading to a minor in Management of Technology, and survey courses in Economic Principles.

Through excellent classroom teaching and other relevant educational experiences, the school seeks to enhance its students' understanding of the current and developing needs of technology-oriented enterprise, and to prepare them with theoretical knowledge, analytical techniques, and interpersonal skills adequate for increasingly responsible positions within the work environment.

It is the mutual goal of the administration, faculty, staff, and students to offer the highest quality academic programs. As a Senior College of the University System of Georgia, we value quality teaching in this field as an essential component of our mission.

The faculty and staff strive to promote an atmosphere in which open communication and free exchange of ideas can flourish in a tolerant and supportive environment. The school encourages and supports scholarship of various kinds by its faculty, including curriculum and course development, research, consulting, publication, case study development, student research advising, and active participation in relevant professional associations.

The graduate program is designed for a predominantly part-time student population who work in professional occupations. The program is committed to diversity of both student and faculty with regard to race, ethnicity, and gender.

The School exists in close partnership with its various constituencies. It addresses the needs and concerns of the alumni, and interacts with the business, industrial, and educational communities.

Management of Technology (MGT)

(Bachelor of Science Degree Offered)

This program will serve the needs of those students who desire undergraduate education in management. Emphasis will be upon productivity as it results from the application of technology and creativity to the process of work within industrial and service enterprises.

The objectives of the program are as follows:

1. To prepare Southern College of Technology graduates for successful and productive careers in the management of technology-based organizations and enterprises.
2. To develop graduates who possess the knowledge and ability to enhance the competitiveness of business and industry within the State of Georgia through the application of technology to production processes.
3. To make available a wide variety of undergraduate management courses at Southern College of Technology so that students in other fields may have the opportunity to take advantage of instruction in this field.
4. To increase the institution's value to business, industry, and the State of Georgia by increasing the scope of our technology-based instruction to include the field of management.

Area I Humanities (20 hours)		**Hours**
Group 1	ENGL 110 and 112	8
Group 2	One of the following: LIT 220, 221, 222, or 223	4
Group 3	One of the following: ARTS 230, 231, or 232 PHIL 230	4
Group 4	One of the following **(or an additional course from Group 2 or 3):** FREN 240 LIT 244 SPAN 240 SPCH 240	4

Area II Mathematics and Natural Sciences (20 hours)	
MATH 109 and 111	10
One of the following: PHYS 201 and 203 CHEM 201 and 202 BIOL 201 and 202	10

Area III Social Sciences (20 hours)		
Group 1	HIST 210 or 211	4
Group 2	One of the following: HIST 220, 221, or 222	4
Group 3	PSYC 230	4
Group 4	One of the following and **an additional course from Group 1, 2, or 4 or ECON 230:** ANTH 240 GEOG 240 HIST 241 or 242 POLS 240, 241, or 242 RELG 240 SIS 240	8

Area IV Major Field (30 hours)

MATH	112	Precalculus II	5
MATH	253	Calculus I	5
TMGT	101	Introduction to Management	5
TMGT	205	Introduction to Computer Business Applications	5
TMGT	235	Macro-Economics	5
TMGT	240	Micro-Economics	5

Common Professional Component (34 hours)

TMGT	315	Management and Organizational Behavior	5
TMGT	320	Basic Business Finance	3
TMGT	330	Marketing Principles	3
TMGT	345	Legal Environment	3
TMGT	418	Business Strategy	5
TMGT	420	Production, Operations, and Management Information Systems I	5
TMGT	470	Human Resources Management	5
TMGT	490	Technology and Public Issues	5

Major Required Courses (47 hours)

ENGL	221	Business Communication	4
TMGT	201	Financial Accounting	3
TMGT	202	Managerial Accounting	5
TMGT	350	Managerial Statistics	5
TMGT	355	Total Quality Management	5
TMGT	360	Management Science	5
TMGT	425	Production, Operations, and Management Information Systems II	5
TMGT	430	Project Management	5
TMGT	440	Issues in International Management	5
TMGT	480	Technology Management	5

Free Electives **25**

Total Hours **196**

NOTE: Management students entering after Spring 1994 are required to earn a grade of "C" or better in all TMGT courses prescribed for the four-year bachelor degree program.

Management of Technology (TMGT)

(Master of Science Degree Offered)

The Master's program in Management of Technology was developed to serve the needs of professionals desiring to move into the management echelons of their respective employment situations by providing the necessary instructional background. The program of study emphasizes an application-oriented curriculum.

The basic objectives of the program are:

- to develop a comprehensive understanding of the economic, political, and social environments within which our productive enterprises must operate.
- to explicate the roles and relationships of the various stakeholders of productive enterprises.
- to develop expertise in the application of analytical tools and fundamental concepts for problem-solving, conflict resolution, and decision-making.
- to develop skills and abilities in the efficient utilization of physical resources.
- to develop the leadership qualities and abilities necessary for the effective management of people.

Management of Technology
Master's Degree Program

Common Professional Component (CPC): Hours

Students must satisfy the Common Professional Component (CPC) by completing (or by transfer credit) the following graduate and/or undergraduate courses.

TMGT	315/500	Management and Organizational Behavior	5
TMGT	320/545	Basic Business Finance	3
TMGT	330/560	Marketing Principles	3
TMGT	345/555	Legal Environment	3
TMGT	350/510	Managerial Statistics	5
TMGT	420/575	Production, Operations, and Management Information Systems I	5
TMGT	540	Financial Accounting	3
TMGT	585	Micro-Macro Economics	5

Required Courses:

TMGT	601	Management Communications	5
TMGT	605	Managerial Economics	5
TMGT	615	Technology Management	5
TMGT	625	Human Relations Development	5
TMGT	635	Operations and Decision Management I	5
TMGT	645	Technology Policy	5
TMGT	650	Project Management	5
TMGT	700	Strategic Management	5

Elective Courses:

Students are required to take a minimum of ten hours.

TMGT	636	Operations and Decision Management II	5
TMGT	660	Entrepreneurship	5
TMGT	665	Issues in International Management	5
TMGT	670	Employment and Labor Relations	5
TMGT	691-695	Independent Research	1 to 5
TMGT	785	Master's Thesis	10

School of Technology

It is the goal of the School of Technology to serve its customers: students, employers of graduates, and those who pay for education (students, parents, employers, taxpayers, and state legislators); by providing high quality, current, relevant and applicable technical education. It accomplishes this goal by virtue of an experienced energetic faculty, modern laboratory facilities and a talented student population. As technology is enhanced at an ever increasing rate, supported by the computer, it is essential that the School continuously strive to develop its curriculum and laboratories accordingly. It is the goal of the School to contribute to the development of students into productive people, capable of making significant contributions to the creation of wealth and the betterment of society. The faculty of the School of Technology is committed to assisting students in achieving their maximum potential by instructing them in the classroom, by helping them assess career options, and by serving as role models for them - the nation's most valuable resource.

The School of Technology offers an Associate of Science degree transfer program in Engineering Technology, Bachelor of Science degree programs with majors in Apparel/Textile Engineering Technology, Civil Engineering Technology, Computer Engineering Technology, Construction, Electrical Engineering Technology, Industrial Distribution, Industrial Engineering Technology, Manufacturing, and Mechanical Engineering Technology, and Master of Science degree programs with majors in Construction, Engineering Technology and Quality Assurance.

Associate of Science
Engineering Technology Transfer Program

First Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ATET	101	Introduction to the Apparel/Textile Industry	3	0	3
ENGL	110	Introductory Composition I	3	3	4
MATH	111*	Precalculus I	5	0	5
PSYC	230	Introduction to Psychology	4	0	4
		Total	15	3	16
Second Quarter					
Area I		Group 2	4	0	4
Area III		Group 2	4	0	4
ENGL	112	Introductory Composition II	3	3	4
MATH	112	Precalculus II	5	0	5
		Total	16	3	17
Third Quarter					
Area III		Group 4	4	0	4
CHEM	201	General Chemistry I	4	2	5
CS	103	Applications Programming in BASIC	3	3	4
MATH	253	Calculus I	5	0	5
		Total	16	5	18

*MATH 109-College Algebra (5-0-5) is a prerequisite for MATH 111 and can be exempted by showing proficiency through the Math Advisory Test (MAT).

NOTE: For more information about Area I and Area III courses see the Core Curriculum section under Admission Information.

Associate of Science
Engineering Technology Transfer Program

Second Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ENGL	232	Technical Writing	3	3	4
MATH	260	Probability and Statistics	5	0	5
MET	113	Engineering Graphics I	3	3	4
PHYS	201	Mechanics	4	3	5
		Total	15	9	18
Second Quarter					
Area I		Group 3	4	0	4
HIST	21X	United States History	4	0	4
PHYS	202	Electricity, Magnetism, and Modern Physics	4	2	5
SPCH	240	Public Speaking	3	3	4
		Total	15	5	17
Third Quarter					
ATET	444	Testing and Quality Control	3	3	4
ECON	230	Introduction to Economics	4	0	4
IET	321	Work Analysis and Design	2	6	4
PHYS	203	Heat, Sound, and Light	4	2	5
		Total	13	11	17

Associate of Science
Engineering Technology Transfer Program
Apparel Option

Third Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ATET	281	Survey of Textile Processes	3	0	3
ATET	363	Pattern Analysis and Drafting	2	6	4
ATET	364	Machine Evaluation and Selection	4	3	5
IET	325	Work Measurement	2	6	4
		Total	11	15	16
Second Quarter					
ATET	262	Employee Selection and Training	3	0	3
ATET	466	Cutting-Room Analysis and Costing	3	6	5
ATET	467	Apparel Production Planning	4	3	5
IET	427	Methods Time Measurement-1	2	6	4
		Total	12	15	17
		Associate Degree Program Total			**141**

Associate of Science
Engineering Technology Transfer Program
Textile Option

Third Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ATET	111	Fibers and Fabrics	3	0	3
ATET	210*	Textile Laboratory I	0	3	1
ATET	215†	Introduction to Textile/Polymer Chemistry	3	0	3
ATET	230*	Textile Laboratory II	0	3	1
ATET	420	Advanced Production Planning and Time Study	3	4	5
TMGT	315	Management and Organizational Behavior	5	0	5
		Total	14	10	18
Second Quarter					
ATET	224	Yarn Manufacturing	5	0	5
ATET	353	Weaving	5	0	5
ATET	380*	Textile Laboratory III	0	3	1
ATET	390*	Textile Laboratory IV	0	3	1
ATET	432	Preparation, Coloration, and Finishing of Textile Materials	3	3	4
		Total	13	9	16
		Associate Degree Program Total			**142**

†CHEM 321 may be substituted for ATET 215.

*This course is taught on the Georgia Tech campus.

Apparel/Textile Engineering Technology (ATET)

(Bachelor of Science Degree Offered)

The apparel and textile industries are one of the largest and most basic industries in the United States. They provide essential products to all facets of modern life, including clothing, transportation, home furnishings, recreation, medical products, as well as many other high-tech specialty products.

From the sourcing and testing of raw materials to the shipment and sale of the finished product, these industries offer creative and challenging careers. Opportunities for qualified people to move eventually into executive-level positions are excellent.

First Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ATET	101	Introduction to the Apparel/Textile Industry	3	0	3
ENGL	110	Introductory Composition I	3	3	4
MATH	111*	Precalculus I	5	0	5
PSYC	230	Introduction to Psychology	4	0	4
		Total	15	3	16
Second Quarter					
Area III		Group 2	4	0	4
ATET	104	Introduction to Computers for Textile/Apparel Problem Solving	3	3	4
ENGL	112	Introductory Composition II	3	3	4
MATH	112	Precalculus II	5	0	5
		Total	15	6	17
Third Quarter					
Area III		Group 4	4	0	4
CHEM	201	General Chemistry I	4	2	5
CS	103	Applications Programming in BASIC	3	3	4
MATH	253	Calculus I	5	0	5
		Total	16	5	18

*MATH 109-College Algebra (5-0-5) is a prerequisite for MATH 111 and can be exempted by showing proficiency through the Math Advisory Test (MAT).

NOTE: For more information about Area I and Area III courses see the Core Curriculum section under Admission Information.

Apparel/Textile Engineering Technology

Second Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ATET	262	Employee Selection and Training	3	0	3
ENGL	232	Technical Writing	3	3	4
MATH	260	Probability and Statistics	5	0	5
MET	113	Engineering Graphics I	3	3	4
		Total	14	6	16
Second Quarter					
HIST	21X	United States History	4	0	4
IET	339	Statistical Quality Control	3	3	4
PHYS	201	Mechanics	4	3	5
SPCH	240	Public Speaking	3	3	4
		Total	14	9	17
Third Quarter					
ATET	368	International Sourcing of Apparel/Textile Products	2	3	3
ECON	230	Introduction to Economics	4	0	4
IET	321	Work Analysis and Design	2	6	4
PHYS	202	Electricity, Magnetism, and Modern Physics	4	2	5
		Total	12	11	16

Apparel/Textile Engineering Technology

Third Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
Area I		Group 2	4	0	4
ATET	370	Computer Applications in Textiles/Apparel	2	3	3
IET	424	Engineering Economy	5	0	5
PHYS	203	Heat, Sound, and Light	4	2	5
		Total	15	5	17
Second Quarter					
Area I		Group 3	4	0	4
ATET	410	Textile/Apparel Management Decision Making	2	3	3
IET	350	Loss Control Concepts of Industrial and Product Safety	3	3	4
IET	432	Engineering Cost Analysis I	3	3	4
		Free Electives			3
		Total			18
Third Quarter					
ATET	420	Advanced Production Planning and Time Study	3	4	5
ATET	444	Testing and Quality Control	3	3	4
IET	330	Materials Handling	2	3	3
IET	440	Facilities Design	2	6	4
		Free Electives			2
		Total			18

Apparel/Textile Engineering Technology
Apparel Option

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ATET	281	Survey of Textile Processes	3	0	3
ATET	363	Pattern Analysis and Drafting	2	6	4
ATET	364	Machine Evaluation and Selection	4	3	5
IET	325	Work Measurement	2	6	4
		Total	11	15	16
Second Quarter					
ATET	381	Fibers, Fabrics, and Finishes	5	0	5
ATET	466	Cutting-Room Analysis and Costing	3	6	5
IET	401	Project Planning and Control	2	3	3
IET	403	Analysis of Technical Data	4	3	5
		Total	14	12	18
Third Quarter					
ATET	455	Material Utilization	5	0	5
ATET	467	Apparel Production Planning	4	3	5
IET	427	Methods Time Measurement-1	2	6	4
		Free Electives			3
		Total			17
		Bachelor Degree Program Total			**209**

Apparel/Textile Engineering Technology
Textile Option

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ATET	111	Fibers and Fabrics	3	0	3
ATET	210*	Textile Laboratory I	0	3	1
ATET	215†	Introduction to Textile/Polymer Chemistry	3	0	3
ATET	230*	Textile Laboratory II	0	3	1
ATET	334	Basic Composites	3	3	4
MATH	254	Calculus II	5	0	5
		Total	14	9	17
Second Quarter					
ATET	224	Yarn Manufacturing	5	0	5
ATET	371	Carpet Manufacturing	3	0	3
ATET	380*	Textile Laboratory III	0	3	1
ATET	390*	Textile Laboratory IV	0	3	1
ATET	432	Preparation, Coloration, and Finishing of Textile Materials	3	3	4
IET	334	Production and Inventory Control	3	3	4
		Total	14	12	18
Third Quarter					
ATET	353	Weaving	5	0	5
ATET	464	Principles of Knitting	3	0	3
ATET	484	Textile Product Manufacturing Resources Design and Management	2	3	3
TMGT	315	Management and Organizational Behavior	5	0	5
		Total	15	3	16
		Bachelor Degree Program Total			209

†CHEM 321 may be substituted for ATET 215.

*This course is taught on the Georgia Tech campus.

Civil Engineering Technology (CET)

(Bachelor of Science Degree Offered)

Civil Engineering Technology is a broad field producing technologists with versatile backgrounds in a number of subject areas. Southern College of Technology graduates have the qualifications to enter careers in construction, structural design, surveying, transportation, hydraulics, site planning, and environmental technologies. A student may elect one of four specialty areas in Environmental Control, Structures, Surveying, Transportation or may choose to follow a broad, general path with no particular specialization.

A specialty in Environmental Control will enable a graduate to pursue a career in planning, analysis, and design of systems to correct or control the pollution of air, land, or water. Many opportunities exist with municipalities, industry, consulting firms, and government agencies.

Graduates specializing in Structures are prepared for positions involving the design, plan preparation, construction, and inspection of modern buildings and bridges. In their coursework, assisted by both mainframe and microcomputers, students analyze loads and stresses on structures, design foundations, and design structural members of steel, reinforced concrete, and timber.

Graduates selecting Surveying are taught the principles and techniques of boundary, topographic, geodetic, route, and construction surveys. Students apply classroom knowledge in laboratory exercises through use of state-of-the-art surveying equipment including theodolites, electronic distance meters, electronic laser total stations, field-to-plot systems, and optical alignment devices. In laboratories, students develop maps from field measurements, design and lay out construction projects, and plan subdivision developments. Microcomputers are used extensively in reducing data, planning field layouts, and plotting boundaries. Advanced surveying students will be exposed to Global positioning instruments that will enable them to position points on the ground from satellites.

The Transportation specialty provides an opportunity to develop an understanding of this broad field which deals with the design and maintenance of all types of transportation facilities including streets, highways, mass transit systems, railroads, airfields, ports, harbors, and pipelines for the transport of gas, oil, water, and various other commodities.

Non-Degree Surveying Students

The Civil Engineering Technology department offers coursework which is accepted by the Georgia Board of Registration for Engineers and Land Surveyors in satisfying the 20 quarter credit hour educational requirement for surveying licensure. Since the classes are all college credit work, students wishing to take only the surveying courses must

1. meet the general admission requirements for the college
2. obtain credit for all prerequisite courses by
   a. completing the courses at Southern College of Technology, or
   b. transferring the courses from another college, or
   c. obtaining credit by examination for the courses.

In order to complete 20 quarter credit hours of surveying coursework, a student must also have obtained credit for:

Course		Hours
CET 150	Civil Graphics	4
CS 103 or 215	Computer Programming	4 or 5
MATH 111	Precalculus I	5
MATH 112	Precalculus II	5
MATH 253	Calculus I	5
SURV 221*	Elementary Surveying	4
SURV 222*	Route Surveys	4
SURV 250**	Hydrology for Surveyors	5

*Although these two courses will count as part of the 20 credit hours, they must be completed before additional surveying courses can be taken.

**This course is required to be part of the 20 hours for individuals who have not taken the regular hydrology course series in the CET program.

Professional Registration

Professional Engineer: In Georgia and approximately 40 other states in the U.S., the BS-CET degree along with the appropriate number of years of experience, and the passage of two 8-hour examinations (FE and PE), qualifies one to become a licensed Professional Engineer (PE). CET students who have that as a goal are **strongly** urged to take some or all of the following courses, in addition to their regular requirements:

ECET 384-Ac and Dc Circuit Analysis
MATH 306-Differential Equations I
MATH 310-Matrix Algebra
MET 322-Thermodynamics

Licensed Surveyor: CET majors whose curriculum contains at least 7 elective hours of surveying coursework meet the educational qualification to become licensed as a Registered Land Surveyor (RLS) in Georgia. In addition, they must obtain 4 years of acceptable experience and pass the LSIT and LS examinations.

Civil Engineering Technology

First Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
CET	100	Introduction to Civil Engineering Technology	1	0	1
CET	150	Civil Graphics	2	6	4
ENGL	110	Introductory Composition I	3	3	4
MATH	111*	Precalculus I	5	0	5
		Total	11	9	14
Second Quarter					
CS	103	Applications Programming in BASIC	3	3	4
	or				
CS	215	FORTRAN	4	3	5
ENGL	112	Introductory Composition II	3	3	4
HIST	21X	United States History	4	0	4
MATH	112	Precalculus II	5	0	5
		Total	15	6	17
		or	16	6	18
Third Quarter					
Area I		Group 2	4	0	4
CET	160	Civil Computer-Aided Drafting	2	6	4
CET	202	Computer Applications in CET	0	2	1
MATH	253	Calculus I	5	0	5
SURV	221	Elementary Surveying	2	6	4
		Total	13	14	18

*MATH 109-College Algebra (5-0-5) is a prerequisite for MATH 111 and can be exempted by showing proficiency through the Math Advisory Test (MAT).

NOTES: CET students entering after Spring 1987 are required to earn a grade of "C" or better in all CET courses and courses used as CET electives.

For more information about Area I and Area III courses see the Core Curriculum section under Admission Information.

Civil Engineering Technology

Second Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
Area I		Group 3	4	0	4
MATH	254	Calculus II	5	0	5
PHYS	221*	Mechanics	4	2	5
SURV	222	Route Surveys	3	3	4
		Total	16	5	18
Second Quarter					
CET	213	Statics	4	0	4
CHEM	201	General Chemistry I	4	2	5
SPCH	240	Public Speaking	4	0	4
PHYS	223*	Heat, Sound, Light, and Quantum Physics	4	2	5
		Total	16	4	18
Third Quarter					
CET	314	Strength of Materials	4	3	5
CET	317	Dynamics	4	0	4
CET	321	Transportation Systems	3	3	4
PHYS	222*	Electromagnetism and Relativity	4	2	5
		Total	15	8	18

NOTE: CET students entering after Spring 1987 are required to earn a grade of "C" or better in all CET courses and courses used as CET electives.

*PHYS 201, PHYS 202, and PHYS 203 are acceptable substitutions.

Civil Engineering Technology

Third Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
CET	316	Structural Analysis I	4	0	4
CET	343	Basic Fluid Mechanics	3	0	3
ENGL	232	Technical Writing	3	3	4
		Free Electives			7
		Total			18
Second Quarter					
Area III		Group 2	4	0	4
CET	301	Soil Mechanics	3	3	4
CET	337	Structural Steel Design I	3	3	4
CET	344	Introduction to Environmental Technology	3	3	4
CET	345	Fluid Mechanics Laboratory	0	2	1
		Total	13	11	17
Third Quarter					
Area III		Group 3	4	0	4
CET	302	Construction Materials	4	3	5
CET	331	Highway Design	3	3	4
CET	335	Contracts and Specifications	3	3	4
		Total	14	9	17

NOTE: CET students entering after Spring 1987 are required to earn a grade of "C" or better in all CET courses and courses used as CET electives.

Civil Engineering Technology

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
irst Quarter					
CET	338	Reinforced Concrete Design I	3	3	4
CNST	415	Construction Scheduling	3	3	4
ET	424	Engineering Economy	5	0	5
		CET Electives			3
		Total			16
econd Quarter					
rea III		Group 4	4	0	4
CET	444	Applied Hydrology	3	2	4
		CET Electives			8
		Free Electives			2
		Total			18
hird Quarter					
rea III		Group 1, 2, 3, or 4	4	0	4
CET	480	Senior Project	1	9	4
		CET Electives			8
		Total			16
		Bachelor Degree Program Total			**210**

OTE: CET students entering after Spring 1987 are required to earn a grade of "C" or better in all CET courses and courses used as CET electives.

Civil Engineering Technology
Bachelor Degree Program

Recommended CET Electives

Through careful planning for the 19 credit hours of CET electives required in the bachelor degree program, students can specialize in the following areas:

Environmental Control Specialty: CET 354, CET 364, CHEM 300, and two courses from

CET	374	Solid Waste Management
CET	418	Engineering Geology
CET	442	Industrial/Hazardous Waste Treatment
CET	445	Urban Drainage and Erosion Control
CET	464	Air Pollution Control

(Students electing this area must have CHEM 202 or its equivalent.)

General Path: 19 credit hours of 300- or 400-level CET electives, which can include up to 5 credit hours of non-CET courses chosen from CNST courses, ECET 384, MATH 306, MATH 310, or MET 322.

Structures Specialty: A minimum of 18 credit hours chosen from

CET	39X	
or		
CET	49X	Special Topics in Structures
CET	415	Foundation Design
CET	417	Structural Analysis II
CET	437	Structural Steel Design II
CET	438	Structural Concrete Design II
CET	440	Computer Methods in Structures

Surveying Specialty: SURV 323 and 14 credit hours chosen from

SURV	324	Topographic and Contour Surveying
SURV	325	Construction Surveying
SURV	328	Legal Aspects of Surveying
SURV	39X	
or		
SURV	49X	Special Topics in Surveying
SURV	404	Survey Adjustments
SURV	421	Photogrammetry
SURV	423	Geodesy with GPS Applications
SURV	425	Advanced Surveying

Transportation Specialty: Twelve hours chosen from

CET	351	Traffic Engineering
CET	445	Urban Drainage and Erosion Control
CET	450	Pavement Design and Maintenance
CET	471	Computer Methods in Transportation
CET	49X	Special Topics in Transportation

Computer Engineering Technology (CpET)

(Bachelor of Science Degree Offered)

The development of the microcomputer has created a need for engineering technologists with a specialized knowledge of computers and control systems. The bachelor degree in computer engineering technology was created to meet this need.

The degree program in computer engineering technology utilizes a core of mathematics, physics, and electronics courses. These courses provide the scientific and technical background for an in-depth study of the hardware and software aspects of computers and related systems.

The emphasis of the program is on microcomputers and their application to the solution of industrial problems relating to robotics, control, instrumentation, monitoring, data communications, and automated testing.

Graduates of these programs are qualified for employment as engineering technologists with companies that utilize computers in computation and control activities as well as companies that design, manufacture, market, install, and service computers.

The following options are available at the bachelor degree level:

1. Control Systems
2. Digital Systems

Computer Engineering Technology

First Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ECET	100	Introduction to ECET	2	0	2
ENGL	110	Introductory Composition I	3	3	4
MATH	111*	Precalculus I	5	0	5
MET	113	Engineering Graphics I	3	3	4
		Total	13	6	15
Second Quarter					
CHEM	201	General Chemistry I	4	2	5
ENGL	112	Introductory Composition II	3	3	4
MATH	112	Precalculus II	5	0	5
PHYS	201†	Mechanics	4	3	5
		Total	16	8	19
Third Quarter					
ECET	111	Dc-Circuit Analysis	5	3	6
MATH	253	Calculus I	5	0	5
PHYS	202†	Electricity, Magnetism, and Modern Physics	4	2	5
		Total	14	5	16

*MATH 109-College Algebra (5-0-5) is a prerequisite for MATH 111 and can be exempted by showing proficiency through the Math Advisory Test (MAT).

†PHYS 221 and 222 may be substituted.

NOTE: A grade of "C" or better is required in all ECET courses prescribed for the four-year bachelor degree program.

Computer Engineering Technology

Second Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ECET	274	Ac-Circuit Analysis I	5	3	6
ECET	305	Digital Fundamentals	5	3	6
MATH	254	Calculus II	5	0	5
		Total	15	6	17
Second Quarter					
Area III		Group 4	4	0	4
ECET	272	Introduction to Semiconductor Devices	5	3	6
ECET	304	Ac-Circuit Analysis II	3	3	4
ECET	322	Introduction to Assembly Language Programming	3	3	4
		Total	15	9	18
Third Quarter					
ECET	238	Electromechanical Fabrication and PCAD	3	3	4
ECET	300	Semiconductor Circuits and Devices	4	3	5
ENGL	232	Technical Writing	3	3	4
PHYS	203†	Heat, Sound, and Light	4	2	5
		Total	14	11	18

†PHYS 223 may be substituted.

NOTES: A grade of "C" or better is required in all ECET courses prescribed for the four-year bachelor degree program.

For more information about Area I and Area III courses see the Core Curriculum section under Admission Information.

Computer Engineering Technology

Third Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ECET	338	Linear Integrated Circuits	4	3	5
ECET	424	Digital System Design	4	3	5
ECON	230	Introduction to Economics	4	0	4
MATH	260	Probability and Statistics	5	0	5
		Total	17	6	19
Second Quarter					
ECET	315	Transmission Lines	3	3	4
ECET	355	Data Communications	3	3	4
ECET	426	Microcomputer System Design	3	6	5
HIST	21X	United States History	4	0	4
		Total	13	12	17
Third Quarter					
ECET	314	C Language with Applications	3	3	4
ECET	341	Applied Assembly Language Programming	3	3	4
LIT	22X	Literature	4	0	4
SPCH	240	Public Speaking	3	3	4
		Total	13	9	16

NOTE: A grade of "C" or better is required in all ECET courses prescribed for the four-year bachelor degree program.

Computer Engineering Technology
Control Systems Option

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
Area I		Group 3	4	0	4
ECET	325	Electroptics and Fiberoptics	3	3	4
ECET	425	Microprocessor Interfacing and Hardware	3	3	4
ECET	428	Control Systems	3	3	4
		Total	13	9	16
Second Quarter					
ECET	432	Machine Intelligence	3	3	4
ECET	436	Process Control Systems	3	3	4
PSYC	230	Introduction to Psychology	4	0	4
		Free Electives*			6
		Total			18
Third Quarter					
ECET	437	Advanced Process Control	3	3	4
	or				
ECET	442	Neural Networks and Fuzzy Logic	3	3	4
ECET	475	Senior Project	3	3	4
HIST	22X	World Civilization	4	0	4
		ECET Electives**			4
		Total			16
		Bachelor Degree Program Total			**210**

*Six hours of free electives are exclusive of Physical Education and ROTC.

**Four hours of electives must be in ECET 300- and 400-level courses.

NOTE: A grade of "C" or better is required in all ECET courses prescribed for the four-year bachelor degree program.

Computer Engineering Technology
Digital Systems Option

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
Area I		Group 3	4	0	4
ECET	325	Electroptics and Fiberoptics	3	3	4
ECET	425	Microprocessor Interfacing and Hardware	3	3	4
ECET	428	Control Systems	3	3	4
		Total	13	9	16
Second Quarter					
ECET	401	Test Engineering	3	3	4
ECET	427	16/32-Bit Microcomputer Systems	3	3	4
PSYC	230	Introduction to Psychology	4	0	4
		Free Electives*			6
		Total			18
Third Quarter					
ECET	440	Digital Communication Networks	3	3	4
ECET	475	Senior Project	3	3	4
HIST	22X	World Civilization	4	0	4
		ECET Electives**			4
		Total			16
		Bachelor Degree Program Total			**210**

*Six hours of free electives are exclusive of Physical Education and ROTC.

**Four hours of electives must be in ECET 300- and 400-level courses.

NOTE: A grade of "C" or better is required in all ECET courses prescribed for the four-year bachelor degree program.

Construction (CNST)

(Bachelor of Science Degree Offered)

Construction education is defined by the Associated Schools of Construction as a ". . . discipline which is designed to instill in future constructors the skills, knowledge and understanding necessary to make the critical decisions which will guide the production and management processes of the largest industry in the United States. In the major, the traditional areas of business, engineering, and architecture are combined with specialized courses in construction. Completion of this curriculum prepares the constructor to work with other specialists in the building arena in managing the construction process. Graduates in the field will help to solve the complex technical and managerial problems in the building process, and can look forward to challenging careers which provide a full range of outlets for their creative efforts."

Our accredited Construction program provides a broad range of studies in construction-related courses as well as general education. The subjects are taught so as to develop skills as well as instill knowledge. The intent is to create a professional who works well in team situations. The coursework is frequently done on the case or project method, so as to simulate the working environment. A constant effort is made to help the student develop an analytical, practical, and realistic approach to problem-solving and decision-making.

Upon graduation, most students pursue careers with construction firms, starting in management positions of many types. Typical entry level positions include: project engineer; safety engineer; scheduling engineer; assistant cost engineer; assistant superintendent; assistant project manager; quality control engineer; assistant estimator. Opportunities are not limited to these areas, as many graduates start their careers with equipment or material suppliers, development firms, specialty contractors, lenders, or owners.

The demand for constructors in Georgia, and particularly in the Atlanta area, has been so great that employers have been forced to recruit out-of-state to hire graduates with construction management degrees. As a result, the program at Southern College of Technology was established through the financial support of the members and associate members of the Georgia Branch of The Associated General Contractors of America, Inc.

Southern College of Technology is a member of Associated Schools of Construction (ASC). ASC is an association of colleges and universities with construction related curricula, and individuals who are interested in construction education. The fundamental objective of the ASC is to establish, advance, and sustain construction education as a unique and progressive academic discipline. The establishment and nurturing of the construction program is evidence of Southern College of Technology's commitment to this objective.

Construction

First Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
Area III		Group 1	4	0	4
CNST	111	Construction Careers and Industry Fundamentals	2	2	3
ENGL	110	Introductory Composition I	3	3	4
MATH	109	College Algebra	5	0	5
		Total	14	5	16
Second Quarter					
Area III		Group 3	4	0	4
ED	171	Construction Graphics	2	6	4
ENGL	112	Introductory Composition II	3	3	4
MATH	111	Precalculus I	5	0	5
		Total	14	9	17
Third Quarter					
Area I		Group 2	4	0	4
Area I		Group 3	4	0	4
CNST	205	Light Construction Materials and Techniques	3	3	4
MATH	112	Precalculus II	5	0	5
		Total	16	3	17

NOTE: For more information about Area I and Area III courses see the Core Curriculum section under Admission Information.

Construction

Second Year

			Hours Per Week Class	Lab	Credit Hours
irst Quarter					
rea III		Group 4	4	0	4
NST	210	Building Construction Techniques	3	3	4
ATH	253	Calculus I	5	0	5
HYS	201	Mechanics	4	3	5
		Total	16	6	18
econd Quarter					
NST	215	Computer Applications in Construction	1	6	3
NGL	221	Business Communication	3	3	4
HYS	202	Electricity, Magnetism, and Modern Physics	4	2	5
or					
HEM	201	General Chemistry I	4	2	5
PCH	240	Public Speaking	3	3	4
		Total	11	14	16
hird Quarter					
rea III		Group 2	4	0	4
rea III		Group 4	4	0	4
ET	200	Introduction to Structures	4	0	4
HYS	203	Heat, Sound, and Light	4	2	5
		Total	16	2	17

Construction

Third Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
CET	220	Construction Soils and Concretes	3	3	4
CNST	315	Construction Accounting	4	2	5
CNST	355	Steel Frame Structures	4	0	4
SURV	200	Construction Measurements	3	6	5
		Total	14	11	18
Second Quarter					
CNST	330	Construction Financial Management	4	2	5
CNST	343	Mechanical, Electrical, and Conveying Systems	4	0	4
CNST	352	Construction Safety	3	3	4
CNST	356	Concrete Frame Structures	4	0	4
		Total	15	5	17
Third Quarter					
CNST	321	Conceptual Cost Estimating	4	0	4
CNST	305	Land Development	4	0	4
CNST	325	Quantity Surveying	4	2	5
TMGT	350	Managerial Statistics	5	0	5
		Total	17	2	18

Construction

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
irst Quarter					
NST	410	Construction Formwork	4	0	4
NST	411	Law in the Construction Process	5	0	5
NST	415	Construction Scheduling	3	3	4
NST	435	Cost Estimating	4	2	5
		Total	16	5	18
econd Quarter					
NST	425	Construction Project Management	4	2	5
NST	451	Workplace Law	4	0	4
		CNST Electives			4
		TMGT Electives*			3
		Total			16
hird Quarter					
NST	488	Business and Management Seminar	2	0	2
NST	490	Capstone Project	0	15	5
		Free Electives			6
		Total			13
		Bachelor Degree Program Total			**201**

Approved by CNST department

Electrical Engineering Technology (EET)

(Bachelor of Science Degree Offered)

Electrical Engineering Technology is a branch of engineering education tha emphasizes the practical aspects of engineering rather than abstract concepts c theories. It is a blend of the application of science, engineering knowledge, an technical skills used in support of engineering activities.

Electronics is a relatively new science, but it has given birth to an industria giant. Computers, medical electronics, automation, communications, instrumen tation, radar, and robotics are but a few fields based on electronics.

This demand has created a need for electrical engineering technologists in a phases of developrnent, design, production, maintenance, and troubleshooting This need is being met by graduates of the bachelor degree program in electrica engineering technology.

The following options are available at the bachelor degree level:

1. Communications
2. General
3. Power Generation and Distribution

First Year

			Hours Per Week Class	Lab	Credi Hour
First Quarter					
ECET	100	Introduction to ECET	2	0	2
ENGL	110	Introductory Composition I	3	3	4
MATH	111*	Precalculus I	5	0	5
MET	113	Engineering Graphics I	3	3	4
		Total	13	6	15
Second Quarter					
CHEM	201	General Chemistry I	4	2	5
ENGL	112	Introductory Composition II	3	3	4
MATH	112	Precalculus II	5	0	5
PHYS	201†	Mechanics	4	3	5
		Total	16	8	19
Third Quarter					
ECET	111	Dc-Circuit Analysis	5	3	6
MATH	253	Calculus I	5	0	5
PHYS	202†	Electricity, Magnetism, and Modern Physics	4	2	5
		Total	14	5	16

*MATH 109-College Algebra (5-0-5) is a prerequisite for MATH 111 and can be exempt by showing proficiency through the Math Advisory Test (MAT).

†PHYS 221 and 222 may be substituted.

NOTE: A grade of "C" or better is required in all ECET courses prescribed for the four-ye bachelor degree program.

Electrical Engineering Technology

Second Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ECET	274	Ac-Circuit Analysis I	5	3	6
ECET	305	Digital Fundamentals	5	3	6
MATH	254	Calculus II	5	0	5
		Total	15	6	17
Second Quarter					
Area III		Group 4	4	0	4
ECET	272	Introduction to Semiconductor Devices	5	3	6
ECET	304	Ac-Circuit Analysis II	3	3	4
ECET	322	Introduction to Assembly Language Programming	3	3	4
		Total	15	9	18
Third Quarter					
ECET	238	Electromechanical Fabrication and PCAD	3	3	4
ECET	300	Semiconductor Circuits and Devices	4	3	5
ENGL	232	Technical Writing	3	3	4
PHYS	203†	Heat, Sound, and Light	4	2	5
		Total	14	11	18

†PHYS 223 may be substituted.

NOTES: A grade of "C" or better is required in all ECET courses prescribed for the four-year bachelor degree program.

For more information about Area I and Area III courses see the Core Curriculum section under Admission Information.

Electrical Engineering Technology

Third Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ECET	338	Linear Integrated Circuits	4	3	5
ECET	424	Digital System Design	4	3	5
ECON	230	Introduction to Economics	4	0	4
MATH	306	Differential Equations I	3	0	3
		Total	15	6	17
Second Quarter					
ECET	315	Transmission Lines	3	3	4
ECET	355	Data Communications	3	3	4
ECET	426	Microcomputer System Design	3	6	5
HIST	21X	United States History	4	0	4
		Total	13	12	17
Third Quarter					
ECET	314	C Language with Applications	3	3	4
LIT	22X	Literature	4	0	4
MATH	307	Differential Equations II	3	0	3
SPCH	240	Public Speaking	3	3	4
		ECET Electives*			4
		Total			19

*20 hours of electives must be in ECET 300- and 400-level courses.

NOTE: A grade of "C" or better is required in all ECET courses prescribed for the four-year bachelor degree program.

Electrical Engineering Technology

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ECET	406	Survey of Electric Machinery	3	3	4
ECET	410	Waveform Analysis	4	0	4
		ECET Electives*			4
		Free Electives**			4
		Total			16
Second Quarter					
ECET	325	Electroptics and Fiberoptics	3	3	4
HIST	22X	World Civilization	4	0	4
PSYC	230	Introduction to Psychology	4	0	4
		ECET Electives*			4
		Total			16
Third Quarter					
Area I		Group 3	4	0	4
		ECET Electives*			8
		Free Electives**			5
		Total			17
		Bachelor Degree Program Total			**210**

*20 hours of electives must be in ECET 300- and 400-level courses.

**Nine hours of free electives are exclusive of Physical Education and ROTC.

NOTE: A grade of "C" or better is required in all ECET courses prescribed for the four-year bachelor degree program.

Electrical Engineering Technology
Bachelor Degree Program
Option Electives

In order to match more effectively the graduate of Electrical Engineering Technology to the needs of industry, the ECET Department has developed three options. Through these the student may specialize in his or her particular area of interest. All electrical students in the bachelor degree program are required to take 20 hours of ECET 300/400 electives.

1. **Communications Option**
   This option requires any four of the following courses plus one ECET 300/400 elective.

ECET 363	Communications Circuit Applications	3-3-4
ECET 365	RF Devices and Antennas	3-3-4
ECET 440	Digital Communications Networks	3-3-4
ECET 465	Modern Radio Frequency Communications Systems	3-3-4
ECET 466	Fiberoptic Communication System Design	3-3-4

2. **General Option**
   This option requires the following courses:

ECET 363	Communications Circuit Applications	3-3-4
ECET 401	Test Engineering	3-3-4
ECET 428	Introduction to Control Systems	3-3-4
ECET 300/400	Elective	4

   One of the following courses:

ECET 313	Network Analysis	3-3-4
ECET 414	Industrial Distribution Systems, Illumination, and Applications of the NEC	4-0-4
ECET 415	Ac and Dc Industrial Motor Control	3-3-4

3. **Power Generation and Distribution Option**
   This option requires any four of the following courses plus one ECET 300/400 elective.

ECET 313	Network Analysis	3-3-4
ECET 413	Power System Analysis	3-3-4
ECET 414	Industrial Distribution Systems, Illumination, and Applications of the NEC	4-0-4
ECET 415	Ac and Dc Industrial Motor Control	3-3-4
ECET 419	Introduction to Power Electronics	3-3-4

ndustrial Distribution (ID)

Bachelor of Science Degree Offered)

The Industrial Distribution degree prepares the student for sales, sales management, and mid-management positions with wholesale distributors who purhase, warehouse, sell, distribute, and service a wide variety of industrial roducts. The day-to-day challenges faced by the industrial distributor requires im or her to be a professional with many capabilities. To fulfill this demand, the rogram of study includes study in management, industrial engineering, commuications, data processing, and marketing.

This is one of the few industrial distribution programs offered in the United tates and the only one offered in Georgia.

First Year

			Hours Per Week Class	Lab	Credit Hours
irst Quarter					
NGL	110	Introductory Composition I	3	3	4
D	101	Introduction to ID Software	2	0	2
ATH	111*	Precalculus I	5	0	5
SYC	230	Introduction to Psychology	4	0	4
		Total	14	3	15
econd Quarter					
rea III		Group 2	4	0	4
NGL	112	Introductory Composition II	3	3	4
ATH	112	Precalculus II	5	0	5
ET	113	Engineering Graphics I	3	3	4
		Total	15	6	17
hird Quarter					
rea III		Group 4	4	0	4
S	200	Introduction to Programming with C	4	3	5
D	304	Philosophy of Industrial Distribution	3	0	3
ATH	253	Calculus I	5	0	5
		Total	16	3	17

ATH-109 College Algebra (5-0-5) is a prerequisite for MATH 111 and can be exempted y showing proficiency through the Math Advisory Test (MAT).

OTES: A grade of "C" or better is required in all ID and IET courses prescribed for the four-year bachelor degree program.

For more information about Area I and Area III courses see the Core Curriculum section under Admission Information.

Industrial Distribution

Second Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
HIST	21X	United States History	4	0	4
ID	307	Production Processes	2	3	3
IET	227	Industrial Statistics	5	0	5
PHYS	201†	Mechanics	4	3	5
		Total	15	6	17
Second Quarter					
ECON	230	Introduction to Economics	4	0	4
ENGL	232	Technical Writing	3	3	4
IET	321	Work Analysis and Design	2	6	4
PHYS	202†	Electricity, Magnetism, and Modern Physics	4	2	5
		Total	13	11	17
Third Quarter					
Area I		Group 2	4	0	4
IET	325	Work Measurement	2	6	4
PHYS	203†	Heat, Sound, and Light	4	2	5
SPCH	240	Public Speaking	3	3	4
		Total	13	11	17

†BIOL 201, BIOL 202, CHEM 201, and/or CHEM 202 may be taken in lieu of the physic sequence with advisor approval.

NOTE: A grade of "C" or better is required in all ID and IET courses prescribed for the fou year bachelor degree program.

Industrial Distribution

Third Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
Area I		Group 3	4	0	4
D	334	Production and Inventory Control	2	3	3
ET	330	Materials Handling	2	3	3
ET	335	Quality Assurance Concepts	3	0	3
		Total	11	6	13
Second Quarter					
D	350	Loss Control Concepts of Industrial and Product Safety	3	3	4
D	445	Industrial and Consumer Marketing	4	0	4
ET	424	Engineering Economy	5	0	5
		Free Electives			4
		Total			17
Third Quarter					
D	343	Engineering Law I	4	0	4
D	432	Engineering Cost Analysis I	3	3	4
D	434	Distribution Operations	3	3	4
		Free Electives			4
		Total			16

NOTE: A grade of "C" or better is required in all ID and IET courses prescribed for the four-year bachelor degree program.

Industrial Distribution
Engineering Sales Option

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ID	375	Engineering Law II	4	0	4
ID	410	Principles of Team Dynamics	5	0	5
ID	433	Engineering Cost Analysis II	2	3	3
ID	435	Fundamentals of Technical Sales	4	0	4
		Total	15	3	16
Second Quarter					
ID	436	Applications of Sales Techniques	4	0	4
ID	441	Engineering Cost Estimation	3	3	4
IET	440	Facilities Design	2	6	4
		Free Electives			4
		Total			16
Third Quarter					
ID	437	Sales Management	4	0	4
ID	475	Logistics Systems Project	2	6	4
		Free Electives			8
		Total			16
		Bachelor Degree Program Total			**199**

NOTE: A grade of "C" or better is required in all ID and IET courses prescribed for the four year bachelor degree program.

Industrial Distribution
Logistics Option

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ID	329	Labor Relations	3	0	3
ID	410	Principles of Team Dynamics	5	0	5
ID	433	Engineering Cost Analysis II	2	3	3
TMGT	315	Management and Organizational Behavior	5	0	5
		Total	15	3	16
Second Quarter					
ID	441	Engineering Cost Estimation	3	3	4
ID	447	Purchasing and Material Management	4	0	4
ID	449	Traffic Management	4	0	4
IET	440	Facilities Design	2	6	4
		Total	13	9	16
Third Quarter					
ID	475	Logistics Systems Project	2	6	4
		Free Electives			12
		Total			16
		Bachelor Degree Program Total			**199**

NOTE: A grade of "C" or better is required in all ID and IET courses prescribed for the four-year bachelor degree program.

Industrial Engineering Technology (IET)

(Bachelor of Science Degree Offered)

The field of Industrial Engineering Technology offers the student a challenging career in business, industry, or government. Industrial Engineering Technologists deal primarily with the efficient management of money, materials, and manpower in a business environment. They solve problems dealing with the location and layout of plant facilities, materials handling, work-station design, wage and salary payment plans, quality control, personnel selection and placement, occupational safety and health, and economic cost studies. To enable the graduate to solve such a wide variety of management problems, the curriculum of study will be broad and interesting.

First Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ENGL	110	Introductory Composition I	3	3	4
IET	101	Introduction to IET Software	2	0	2
MATH	111*	Precalculus I	5	0	5
PSYC	230	Introduction to Psychology	4	0	4
		Total	14	3	15
Second Quarter					
Area III		Group 2	4	0	4
ENGL	112	Introductory Composition II	3	3	4
MATH	112	Precalculus II	5	0	5
MET	113	Engineering Graphics I	3	3	4
		Total	15	6	17
Third Quarter					
Area III		Group 4	4	0	4
CS	200	Introduction to Programming with C	4	3	5
IET	305	Philosophy of Industrial Engineering Technology	3	0	3
MATH	253	Calculus I	5	0	5
		Total	16	3	17

*MATH-109 College Algebra (5-0-5) is a prerequisite for MATH 111 and can be exempted by showing proficiency through the Math Advisory Test (MAT).

NOTES: A grade of "C" or better is required in all IET courses prescribed for the four-year bachelor degree program.

For more information about Area I and Area III courses see the Core Curriculum section under Admission Information.

Industrial Engineering Technology

Second Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
HIST	21X	United States History	4	0	4
ET	307	Production Processes	2	3	3
MATH	260	Probability and Statistics	5	0	5
PHYS	201	Mechanics	4	3	5
		Total	15	6	17
Second Quarter					
ECON	230	Introduction to Economics	4	0	4
ENGL	232	Technical Writing	3	3	4
ET	321	Work Analysis and Design	2	6	4
PHYS	202	Electricity, Magnetism, and Modern Physics	4	2	5
		Total	13	11	17
Third Quarter					
ET	325	Work Measurement	2	6	4
PHYS	203	Heat, Sound, and Light	4	2	5
SPCH	240	Public Speaking	3	3	4
		Technical Science Electives*			7
		Total			20

*Technical Science electives must be selected from CET 200, CET 213, CET 219, ECET 384, MET 301, MET 314, MET 319, MET 322, MET 323, MET 324. Your choices must be approved by an advisor.

NOTE: A grade of "C" or better is required in all IET courses prescribed for the four-year bachelor degree program.

Industrial Engineering Technology

Third Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
Area I		Group 2	4	0	4
Area I		Group 3	4	0	4
IET	330	Materials Handling	2	3	3
IET	334	Production and Inventory Control	2	3	3
IET	335	Quality Assurance Concepts	3	0	3
		Total	15	6	17
Second Quarter					
CHEM	201	General Chemistry I	4	2	5
IET	339	Statistical Quality Control	3	3	4
IET	424	Engineering Economy	5	0	5
		Technical Science Electives*			6
		Total			20
Third Quarter					
IET	343	Engineering Law I	4	0	4
IET	350	Loss Control Concepts of Industrial and Product Safety	3	3	4
IET	405	Principles of Operation Research	3	3	4
IET	432	Engineering Cost Analysis I	3	3	4
		Total	13	9	16

*Technical Science electives must be selected from CET 200, CET 213, CET 219, ECET 384, MET 301, MET 314, MET 319, MET 322, MET 323, MET 324. Your choices must be approved by an advisor.

NOTE: A grade of "C" or better is required in all IET courses prescribed for the four-year bachelor degree program.

Industrial Engineering Technology
General Option

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
IET	401	Project Planning and Control	2	3	3
IET	403	Analysis of Technical Data	4	3	5
IET	410	Principles of Team Dynamics	5	0	5
IET	433	Engineering Cost Analysis II	2	3	3
		Total	13	9	16
Second Quarter					
IET	427	Methods Time Measurement - 1	2	6	4
IET	440	Facilities Design	2	6	4
IET	451	Systems Simulation	2	6	4
		Free Electives			4
		Total			16
Third Quarter					
IET	475	Logistics Systems Project	2	6	4
IET	478	Quality Assurance Project	2	6	4
		Free Electives			9
		Total			17
		Bachelor Degree Program Total			**210**

NOTE: A grade of "C" or better is required in all IET courses prescribed for the four-year bachelor degree program.

Industrial Engineering Technology
Quality Assurance Option

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
IET	401	Project Planning and Control	2	3	3
IET	403	Analysis of Technical Data	4	3	5
IET	410	Principles of Team Dynamics	5	0	5
IET	433	Engineering Cost Analysis II	2	3	3
		Total	13	9	16
Second Quarter					
IET	336	Quality Assurance Management	3	0	3
IET	440	Facilities Design	2	6	4
IET	451	Systems Simulation	2	6	4
MET	331	Survey of Metrology	2	3	3
		Total	9	15	14
Third Quarter					
ATET	445	Textile Testing and Quality Control	4	3	5
IET	475	Logistics Systems Project	2	6	4
IET	478	Quality Assurance Project	2	6	4
		Free Electives			6
		Total			19
		Bachelor Degree Program Total			**210**

NOTE: A grade of "C" or better is required in all IET courses prescribed for the four-year bachelor degree program.

Industrial Engineering Technology
Technical Sales Option

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
IET	401	Project Planning and Control	2	3	3
IET	403	Analysis of Technical Data	4	3	5
IET	433	Engineering Cost Analysis II	2	3	3
IET	434	Distribution Operations	3	3	4
		Total	11	12	15
Second Quarter					
IET	435	Fundamentals of Technical Sales	4	0	4
IET	440	Facilities Design	2	6	4
IET	445	Industrial and Consumer Marketing	4	0	4
IET	451	Systems Simulation	2	6	4
		Total	12	12	16
Third Quarter					
IET	436	Applications of Sales Techniques	4	0	4
IET	475	Logistics Systems Project	2	6	4
IET	478	Quality Assurance Project	2	6	4
		Free Electives			6
		Total			18
		Bachelor Degree Program Total			**210**

NOTE: A grade of "C" or better is required in all IET courses prescribed for the four-year bachelor degree program.

Manufacturing (MFG)

(Bachelor of Science Degree Offered)

Two options are available under this degree heading: (1) the International Manufacturing Option and, (2) the Pulp and Paper Technology Option.

International Manufacturing Option

The International Manufacturing Option provides students with a taste of other cultures through a "term abroad". Otherwise the technical content is very similar to that of the BS with a major in MET; however, more emphasis on Industrial Engineering Technology is provided through six required courses in that area. Opportunities for study abroad are available in England, France, Germany, and Sweden.

First Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ENGL	110	Introductory Composition I	3	3	4
MATH	253	Calculus I	5	0	5
MET	111	Manufacturing Processes	5	0	5
MET	113	Engineering Graphics I	3	3	4
		Total	16	6	18
Second Quarter					
ENGL	112	Introductory Composition II	3	3	4
MATH	254	Calculus II	5	0	5
MET	115	Descriptive Geometry	3	3	4
PHYS	221	Mechanics	4	2	5
		Total	15	8	18
Third Quarter					
CS	200	Introduction to Programming with C	4	3	5
MET	117	Engineering Graphics II	3	3	4
MET	142	Metal Cutting I	1	3	2
PHYS	222	Electromagnetism and Relativity	4	2	5
		Total	12	11	16

Manufacturing
International Manufacturing Option

Second Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ECON	230	Introduction to Economics	4	0	4
HIST	22X	World Civilization	4	0	4
MATH	260	Probability and Statistics	5	0	5
PHYS	223	Heat, Sound, Light, and Quantum Physics	4	2	5
		Total	17	2	18
Second Quarter					
CHEM	201	General Chemistry I	4	2	5
ENGL	232	Technical Writing	3	3	4
HIST	21X	United States History	4	0	4
MET	323	Statics	4	0	4
		Total	15	5	17
Third Quarter					
Area I		Group 2	4	0	4
ECET	384	AC and DC Circuit Analysis	3	0	3
FREN	240	Intermediate French			
	or				
SPAN	240	Intermediate Spanish	4	0	4
IET	321	Work Analysis and Design	2	6	4
MET	326	Dynamics	4	0	4
		Total	17	6	19

NOTE: For more information about Area I and Area III courses, see the Core Curriculum section under Admission Information.

Manufacturing
International Manufacturing Option

Third Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
Area III		Group 4	4	0	4
IET	405	Principles of Operations Research	3	3	4
IET	424	Engineering Economy	5	0	5
MET	324	Strength of Materials	3	2	4
		Total	15	5	17
Second Quarter					
Area I		Group 3	4	0	4
IET	334	Production and Inventory Control	2	3	3
MET	314	Engineering Materials	4	3	5
MET	322	Thermodynamics	5	0	5
		Total	15	6	17
Third Quarter					
Area III		Group 1, 2, 3, or 4	4	0	4
IET	339	Statistical Quality Control	3	3	4
MET	333	Numerical Control I	2	3	3
MET	341	Tool Design I	2	4	4
		Total	11	10	15

Manufacturing
International Manufacturing Option

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
rst Quarter					
		Term Abroad			15
		Total			15
econd Quarter					
		Senior Project			15
		Total			15
hird Quarter					
ET	451	Systems Simulation	2	6	4
IET	436	Automation Control Systems	3	2	4
MGT	240	Micro-Economics	5	0	5
		Free Electives			5
		Total			18
		Bachelor Degree Program Total			**203**

OTE: Free electives may not include PHYS 101, MATH 109, MATH 111, or MATH 112.

Manufacturing
Pulp and Paper Technology Option

The pulp and paper industry provides a variety of products that are part of every day life including packaging products, printing paper, newsprint, medical specialty products, cleaning materials and clothing. This industry needs highly trained production professionals who have been educated in current technical and management skills.

First Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
Area III		Group 1	4	0	4
ENGL	110	Introductory Composition I	3	3	4
MATH	111*	Precalculus I	5	0	5
MET	113	Engineering Graphics I	3	3	4
		Total	15	6	17
Second Quarter					
Area III		Group 2	4	0	4
CHEM	201	General Chemistry I	4	2	5
ENGL	112	Introductory Composition II	3	3	4
MATH	112	Precalculus II	5	0	5
		Total	16	5	18
Third Quarter					
Area I		Group 3	4	0	4
CHEM	202	General Chemistry II	4	2	5
MATH	253	Calculus I	5	0	5
PHIL	230	Survey of Philosophical Thought	4	0	4
		Total	17	2	18

*MATH-109 College Algebra (5-0-5) is a prerequisite for MATH 111 and can be exempte by showing proficiency through the Math Advisory Test (MAT).

NOTE: For more information about Area I and Area III courses, see the Core Curriculu section under Admission Information.

Manufacturing
Pulp and Paper Technology Option

Second Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
CS	103	Applications Programming in BASIC	3	3	4
or					
CS	105	Programming Principles I	4	3	5
or					
CS	200	Introduction to Programming with C	4	3	5
or					
CS	215	FORTRAN	4	3	5
ECON	230	Introduction to Economics	4	0	4
MATH	254	Calculus II	5	0	5
PHYS	221	Mechanics	4	2	5
PPT	200	Introduction to Pulp and Paper Technology	1	0	1
		Total	17	5	19
			or 18	5	20
Second Quarter					
Area III		Group 4	4	0	4
MATH	260	Probability and Statistics	5	0	5
PHYS	222	Electromagnetism and Relativity	4	2	5
PSYC	230	Introduction to Psychology	4	0	4
		Total	17	2	18
Third Quarter					
ENGL	232	Technical Writing	3	3	4
MET	314	Engineering Materials	4	3	5
MET	323	Statics	4	0	4
PHYS	223	Heat, Sound, Light, and Quantum Physics	4	2	5
		Total	15	8	18

Manufacturing
Pulp and Paper Technology Option

Third Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
CHEM	321	Survey of Organic Chemistry	4	3	5
IET	329	Labor Relations	3	0	3
MET	301	Fluid Mechanics	5	0	5
MET	324	Strength of Materials	3	2	4
		Total	15	5	17
Second Quarter					
IET	424	Engineering Economy	5	0	5
MET	322	Thermodynamics	5	0	5
PPT	320	Kraft Pulp Manufacture and Process Technology	5	0	5
		Total	15	0	15
Third Quarter					
PPT	330	Kraft Chemical Recovery Operations	4	0	4
PPT	340	Kraft Paper Manufacture and Process Technology	5	0	5
PPT	350	Pulping Methods and Products	3	0	3
PPT	360	Fiber Analysis, Pulp and Paper Testing	0	3	1
		Technical Electives			4
		Total			17

Manufacturing
Pulp and Paper Technology Option

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ECET	384	Ac and Dc Circuit Analysis	3	0	3
PPT	410	Coating, Finishing, and Specialty Products	4	0	4
PPT	420	Power Production Operations	3	0	3
		Production Management Electives			5
		Total			15
Second Quarter					
CHEM	300	Environmental Chemistry	3	3	4
ECET	386	Electrical Machinery, Transformers, and Controls	4	0	4
IET	334	Production and Inventory Control	3	3	4
IET	339	Statistical Quality Control	3	3	4
		Total	13	9	16
Third Quarter					
Area I		Group 2	4	0	4
PPT	430	Environmental Control and Chemical Safety	4	0	4
		Free Electives			5
		Production Management Electives			4
		Total			17
		Bachelor Degree Program Total			**210**

NOTES: Production Management Electives must be chosen from the following: CNST 365, IET 335, IET 336, IET 350, IET 432, TMGT 315, TMGT 320, TMGT 420.

Free electives may not include PHYS 101.

Mechanical Engineering Technology (MET)

(Bachelor of Science Degree Offered)

General Option

Mechanical Engineering Technology is concerned with the practical aspects of the following: generation, transmission, and applications of heat and other mechanical forms of energy; the design of tools and machines; and manufacturing processes and techniques. The Mechanical Engineering Technology curriculum combines basic sciences and mathematics with engineering technology to prepare the graduate to meet the needs of today's and tomorrow's technological society.

Manufacturing Option

The MET bachelor degree with a manufacturing option is obtained by the appropriate selection of elective courses within the MET curriculum. These courses emphasize a variety of topics in modern manufacturing.

Note: The first two years are common to both options of the MET program.

Mechanical Engineering Technology

First Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ENGL	110	Introductory Composition I	3	3	4
MATH	111*	Precalculus I	5	0	5
MET	101	Introduction to Mechanical Engineering Technology	2	0	2
MET	111	Manufacturing Processes	5	0	5
		Total	15	3	16
Second Quarter					
ENGL	112	Introductory Composition II	3	3	4
MATH	112	Precalculus II	5	0	5
MET	113	Engineering Graphics I	3	3	4
MET	142	Metal Cutting Operations I	1	3	2
MET	144	Metal Joining	1	3	2
		Total	13	12	17
Third Quarter					
CS	103	Applications Programming in BASIC	3	3	4
or					
CS	105	Programming Principles I	4	3	5
or					
CS	200	Introduction to Programming with C	4	3	5
or					
CS	215	FORTRAN	4	3	5
HIST	21X	United States History	4	0	4
MATH	253	Calculus I	5	0	5
MET	115	Descriptive Geometry	3	3	4
		Total	15	6	17
			or 16	6	18

*MATH-109 College Algebra (5-0-5) is a prerequisite for MATH 111 and can be exempted by showing proficiency through the Math Advisory Test (MAT).

Mechanical Engineering Technology

Second Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
ENGL	232	Technical Writing	3	3	4
MATH	254	Calculus II	5	0	5
MET	143	Metal Cutting Operations II	1	3	2
PHYS	221†	Mechanics	4	2	5
		Total	13	8	16
Second Quarter					
CHEM	201	General Chemistry I	4	2	5
MET	117	Engineering Graphics II	3	3	4
MET	323	Statics	4	0	4
PHYS	222†	Electromagnetism and Relativity	4	2	5
		Total	15	7	18
Third Quarter					
ECET	384	Ac and Dc Circuit Analysis	3	0	3
ENGL	221	Business Communication	3	3	4
MET	333	Numerical Control I	2	3	3
MET	373	Instruments Laboratory	1	3	2
PHYS	223†	Heat, Sound, Light, and Quantum Physics	4	2	5
		Total	13	11	17

†The following substitutions are allowed:
PHYS 201 for PHYS 221
PHYS 202 for PHYS 222
PHYS 203 for PHYS 223

Mechanical Engineering Technology
General Option

Third Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
MET	314	Engineering Materials	4	3	5
MET	319	Thermodynamics I	5	0	5
MET	324	Strength of Materials	3	2	4
MET	332	Metrology	3	3	4
		Total	15	8	18
Second Quarter					
Area I		Group 2	4	0	4
MET	301	Fluid Mechanics	5	0	5
MET	325	Machine Design I	3	2	4
MET	326	Dynamics	4	0	4
		Total	16	2	17
Third Quarter					
Area I		Group 3	4	0	4
Area III		Group 2	4	0	4
MET	320	Thermodynamics II	4	0	4
MET	341	Tool Design I	2	4	4
		Total	14	4	16

NOTE: For more information about Area I and Area III courses see the Core Curriculum section under Admission Information.

Mechanical Engineering Technology
General Option

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
Area III		Group 3	4	0	4
MET	328	Kinematics of Machinery	2	3	3
MET	473	Power Laboratory	1	3	2
		Major Electives			4
		Technical Electives			4
		Total			17
Second Quarter					
Area III		Group 4	4	0	4
Area III		Group 1, 2, 3, or 4	4	0	4
ECET	386	Electrical Machinery, Transformers, and Controls	4	0	4
		Free Electives			3
		Major Electives			4
		Total			19
Third Quarter					
Area I		Group 4			4
IET	424	Engineering Economy	5	0	5
		Free Electives			4
		Major Electives			4
		Total			17
		Bachelor Degree Program Total			**210**

NOTES: A technical elective is any course with an ATET, CET, CS, ECET, IET, or MET designation, or any CHEM, MATH, or PHYS course of 200 level or higher.

Free electives may not include PHYS 101.

In approximately 40 states in the U.S., including Georgia, bachelor degree Engineering Technology graduates with the appropriate work experience are eligible to take examinations for registration as Professional Engineers.

Mechanical Engineering Technology
Manufacturing Option

Third Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
MET	314	Engineering Materials	4	3	5
MET	319	Thermodynamics I	5	0	5
MET	324	Strength of Materials	3	2	4
MET	332	Metrology	3	3	4
		Total	15	8	18
Second Quarter					
Area I		Group 2	4	0	4
MET	301	Fluid Mechanics	5	0	5
MET	325	Machine Design I	3	2	4
MET	326	Dynamics	4	0	4
		Total	16	2	17
Third Quarter					
Area I		Group 3	4	0	4
Area III		Group 2	4	0	4
MET	341	Tool Design I	2	4	4
MET	435	Robot Applications	2	4	4
		Total	12	8	16

NOTE: For more information about Area I and Area III courses see the Core Curriculum section under Admission Information.

Mechanical Engineering Technology
Manufacturing Option

Fourth Year

			Hours Per Week Class	Lab	Credit Hours
First Quarter					
Area III		Group 3	4	0	4
MET	328	Kinematics of Machinery	2	3	3
MET	438	Numerical Control II, CNC and DNC	3	3	4
MET	441	Manufacturing Operations	4	0	4
MET	473	Power Laboratory	1	3	2
		Total	14	9	17
Second Quarter					
Area III		Group 4	4	0	4
Area III		Group 1, 2, 3, or 4	4	0	4
ECET	386	Electrical Machinery, Transformers, and Controls	4	0	4
MET	417	Interactive CAD/CAM Surface Modeling	3	3	4
		Free Electives			4
		Total			20
Third Quarter					
Area I		Group 4	4	0	4
IET	424	Engineering Economy	5	0	5
MET	440	Tool Design II	3	2	4
MET	450	Manufacturing Systems Design Project	2	3	3
		Total	14	5	16
		Bachelor Degree Program Total			**210**

NOTES: Free electives may not include PHYS 101.

In approximately 40 states in the U.S., including Georgia, bachelor degree Engi
neering Technology graduates with the appropriate work experience are eligible t
take examinations for registration as Professional Engineers.

Construction (Cons)

(Master of Science Degree Offered)

The Master of Science program with a major in Construction is designed to offer education in construction and project management to persons in the construction industry in three categories:

1. practicing professionals who were educated in related disciplines such as engineering, engineering technology, business or architecture, but who need more knowledge in the construction process,
2. professionals who were educated in Construction or Construction Management and who wish to pursue the subject in greater depth, and
3. persons holding a bachelor degree who are actively pursuing a construction industry career but lack education in construction and project management.

Our objectives are:

1. to offer a degree oriented toward the practice of construction,
2. to deliver this graduate education in an evening and weekend setting, and
3. to provide a program which will enhance graduates' management skills and advancement opportunities.

The requirements are a minimum of 50 hours of graduate work as designated below. A grade of "C" or better for each course is required. A total grade point average of 3.00 must be established by the third quarter enrolled and maintained thereafter.

Required Major Courses (35 hours)			**Hours**
CNST	610	Construction Law and Dispute Resolution	5
CNST	620*	Estimating and Bidding Strategy	5
CNST	630*	Project Management and Administration	5
CNST	640*	Project Controls	5
CNST	650*	Management of the Construction Firm	5
CNST	660	Safety and Risk Management	5
TMGT	601	Management Communications	5

*Course substitution may be allowed upon demonstration of advanced competency.

Elective options (15 hours)

a) Graduate courses listed below or as approved by CNST Department Head (0-15 hours)

CNST	691-695	Special Issues in Construction	5
QA	601	Total Quality	5
TMGT	6XX	(as advised by graduate coordinator)	5

b) Project/Thesis option (10-15 hours)

CNST	600	Research Methods	5
or			
CS	610	Research Methods	5
and			
CNST	771 - 775	Master's Project	5-10
or			
CNST	781 - 785	Master's Thesis	5-10

Foundation: In addition to the 50 graduate level quarter credit hours above, students may need to demonstrate competency or take basic foundation construction courses including construction management accounting, construction methods and techniques, construction estimating, descriptive structural systems, and construction scheduling (foundation courses will not count toward the above 50 hours).

Engineering Technology (ET)

(Master of Science Degree Offered)

Electrical Concentration

The scope of Electrical Engineering Technology has become very diverse and is expanding at an accelerating pace. The Master of Science Degree is offered to allow in-depth studies of topics relevant to the student's career goals. There are three main objectives of this program:

1. To provide additional in-depth technical education to persons who currently hold an ABET-accredited baccalaureate degree in Electrical Engineering Technology, Computer Engineering Technology, Electrical Engineering, Computer Engineering or a closely related field;

2. To provide these individuals with the necessary additional insight in their discipline to allow advancement in their chosen careers, either as company employees or managers or as independent consultants; and

3. To provide additional technical education to those individuals who desire to teach at the high school, technical school, or college level.

Each graduate student will pursue an individualized course of study within the guidelines of one of the two program options described below. The student and his/her academic advisor will identify the graduate courses required to: 1) meet that student's career goals, 2) provide an individualized, high-quality program and 3) meet the program guidelines.

Program options (numbers are graduate-level credit hours):

Project Option	Research Option	Area of Study
10	20	ECET Foundation courses (600-level) Provide a strong background for the elective courses that follow.
20	25	ECET Elective courses (700-level) Studies that focus on current topics in electrical and computer technologies.
10	10	Free Electives To further tailor the program to the individual student's goals.
10		Project sequence (ECET 772, 773, 775)
	5	Research (ECET 790)
50	60	Program Total

Quality Assurance (QA)

(Master of Science Degree Offered)

The Master's Program with a major in Quality Assurance is offered by the industrial engineering technology department in order to meet an established need in both manufacturing and service industries. The program focuses on total quality management and on analytical methods such as statistics, process analysis, and problem solving techniques. A primary objective of the degree is to provide graduate level study opportunity to individuals who are currently practicing in the quality and related fields so that they may be aware of recent advances and modern methods of practice.

Engineering and Technology Concentration

This concentration is designed for prospective students who have undergraduate degrees in engineering technology (all majors), physical science, mathematics, and other technical majors. To qualify fully for admission students will need the technically oriented undergraduate degree including a laboratory based physical science, at least one calculus course, and a statistics course. Two years of full-time experience in the field is also expected of all applicants for this concentration. For a fully qualified student the program requires 60 quarter hours of study. This includes 10 quarter hours for the Master's project which is usually performed in the employer's facility. When admitted, students will be assigned a graduate advisor. Students are required to work frequently with their advisors to plan the program of study and to maintain progress.

Curriculum			Hours
QA	601	Total Quality	5
QA	611	Advanced Statistical Applications	5
QA	612	Advanced Experimental Design	5
QA	621	Quality, Productivity, and Administration	5
QA	715	Applied Systems Reliability	5
QA	725	Quality Systems Design	5
QA	775	Project	10
		Free Elective	5
		QA Elective	5
		TMGT/ENGL/CS/ECET Electives	10

Quality Systems Concentration

This concentration is designed for students who are working in the quality, training, and related developmental disciplines. The program has been established to meet the needs of the professional who has not received a formal technical education in quality, yet must support total quality, continuous improvement, and re-engineering efforts within their organization. The program focuses on total quality management and on analytical techniques. Students will complete a thesis as part of their studies. A primary objective of the degree is to provide graduate level study opportunity to individuals who are currently practicing in a qualify related field who have not had any formal technical education in the discipline.

The concentration is designed for prospective students who have undergraduate degrees in business, social science, education, and other non-technical majors. To qualify fully for admission students will need to hold a bachelor's degree and either be working in a quality related field, e.g., human resources, or desire to work in the field.

For a qualified student the program requires 60 quarter hours of study. This includes a 10 hour thesis. The remainder of the curriculum includes graduate coursework in Total Quality, Process Analysis, Technical Training, Team Concepts, Quality Systems Design, and Statistical Process Control.

Curriculum			**Hours**
QA	501	Methods of Analysis	5
QA	511	Statistics for Quality Assurance	5
QA	512	Inspection System Design	5
QA	530	Technical Training	5
QA	601	Total Quality	5
QA	611	Advanced Statistical Applications	5
QA	621	Quality, Productivity, and Administration	5
QA	725	Quality Systems Design	5
QA	785	Thesis	10
		Free Elective	5
		TMGT/ENGL/CS/ECET Elective	5

Minors

Southern College of Technology offers minors in the following areas:

Apparel/Textile Engineering Technology
Computer Information Systems
Computer Science
Construction
Environmental Development
Industrial Engineering Technology
International Studies
Management of Technology
Mathematics
Physics
Technical and Professional Communication

To be eligible for a minor, the student needs to complete 20 to 29 credit hours of upper-division courses in a field of study other than the student's major.

In the following pages, the course requirements for each minor are outlined.

Minor in Apparel/Textile Engineering Technology

To be eligible for a minor in Apparel/Textile Engineering Technology, the student must complete a minimum of 20 credit hours of the following courses:

ATET	334	Basic Composites	3-3-4
ATET	353	Weaving	5-0-5
ATET	363	Pattern Analysis and Drafting	2-6-4
ATET	364	Machine Evaluation and Selection	4-3-5
ATET	368	International Sourcing of Apparel/Textile Products	2-3-3
ATET	381	Fibers, Fabrics, and Finishes	5-0-5
ATET	432	Preparation, Coloration, and Finishing of Textile Materials	3-3-4
ATET	444	Testing and Quality Control	3-3-4
ATET	455	Material Utilization	5-0-5
ATET	466	Cutting-Room Analysis and Costing	3-6-5
ATET	467	Apparel Production Planning	4-3-5

Minor in Computer Information Systems

To be eligible for a minor in Computer Information Systems, the student must complete the following courses with a grade of "C" or better:

CS	305	Data Structures	5-0-5
CS	330	Files and Databases	4-3-5
CS	350	Introduction to Software Engineering	5-0-5

and one of the following courses:

CS	410	Human Factors	5-0-5
CS	450	Management Information Systems	5-0-5
CS	455	Software Engineering	4-3-5
CS	483	Issues in Information Management	5-0-5

Minor in Computer Science

To be eligible for a minor in Computer Science, the student must complete the following courses with a grade of "C" or better:

CS	305	Data Structures	5-0-5
CS	325	Assembler	
or			
CS	330	Files and Databases	4-3-5

CS	345	Programming Language Concepts	4-3-5

and two of the following courses:

CS	325	Assembler (if not taken above)	4-3-5
CS	330	Files and Databases (if not taken above)	4-3-5
CS	340	Graphics I	4-3-5
CS	350	Introduction to Software Engineering	5-0-5
CS	361	Applications Programming in C	4-3-5
CS	362	Applications Programming in C++	4-3-5
CS	370	Operating Systems	5-0-5
CS	372	Applications Programming in Ada	4-3-5
CS	445	Object-Oriented Design and Programming	4-3-5

other upper-level CS courses approved by the department head

Minor in Construction

To be eligible for a minor in Construction, the student must complete the following courses:

CNST	315	Construction Accounting	4-2-5
CNST	325	Quantity Surveying	4-2-5
CNST	411	Law in the Construction Process	5-0-5
CNST	425	Construction Project Management	4-2-5

Five credit hours of CNST 300- or 400-level courses approved by the Construction department

Minor in Environmental Development

To be eligible for a minor in Environmental Development, the student must complete the following courses:

ED	301*	Site Planning and Development	3-6-5
ED	311	Land Use Controls and Development	3-0-3
ED	312	Valuation and Assessment Techniques	3-3-4
ED	315	Real Estate Development Finance	4-0-4
ED	411	Real Estate Market Analysis	4-0-4

*Requires ED 212-Development Process (4-0-4) or CNST 305-Land Development (4-0-4) as a prerequisite.

Minor in Industrial Engineering Technology

To be eligible for a minor in Industrial Engineering Technology, the student must complete the following courses:

IET	305	Philosophy of Industrial Engineering Technology	
or			
IET	335	Quality Assurance Concepts	3-0-3
IET	321	Work Analysis and Design	2-6-4
IET	325	Work Measurement	2-6-4
IET	330	Materials Handling	2-3-3
IET	403	Analysis of Technical Data	4-3-5
IET	440	Facilities Design	2-6-4

Minor in International Studies

To be eligible for a minor in International Studies, students must complete the following courses with a grade of "C" or better:

GEOG	341	World Regional Geography	4-0-4
POLS	341	Contemporary World Politics	4-0-4
SIS	350	Contemporary International Economic Issues	4-0-4
SIS	360	Comparative Culture	4-0-4
SIS	370	International Issues in Science and Technology	4-0-4
SIS	400	Regional Studies	4-0-4

Additionally, students must (1) take HIST 222 - World Civilization:Modern to meet their social science history core requirement, and (2) meet a language requirement by testing, demonstrating proficiency in one foreign language, or by taking two courses in one foreign language.

SIS 391-395 (1-5 credit hours) - Special Topics are also available for additional course work.

Minor in Management of Technology

To be eligible for a minor in Management of Technology, the student must complete a minimum of 20 quarter hours from the following list of courses:

TMGT	315	Management and Organizational Behavior	5-0-5
TMGT	320	Basic Business Finance	3-0-3
TMGT	330	Marketing Principles	3-0-3
TMGT	345	Legal Environment	3-0-3
TMGT	355	Total Quality Management	5-0-5
TMGT	418	Business Strategy	5-0-5
TMGT	420	Production, Operations, and Management Information Systems I	5-0-5
TMGT	490	Technology and Public Issues	5-0-5

Minor in Mathematics

To be eligible for a minor in Mathematics, the student must have completed MATH 255 (Calculus III) and complete:

MATH	356	Calculus IV	5-0-5
		Mathematics Electives*	15

*A Mathematics Elective is a mathematics course at the 300-level or above.

Engineering Mathematics - Students particularly interested in Engineering Mathematics are advised to select the following courses as electives: MATH 306-Differential Equations I, MATH 307-Differential Equations II, and MATH 310-Matrix Algebra. These students should also consider MATH 406-Advanced Engineering Mathematics, and MATH 407-Vector Analysis.

These courses provide a mathematical background equivalent to that in most engineering programs and are a suitable preparation for the mathematics part of the Engineer-in-Training examination.

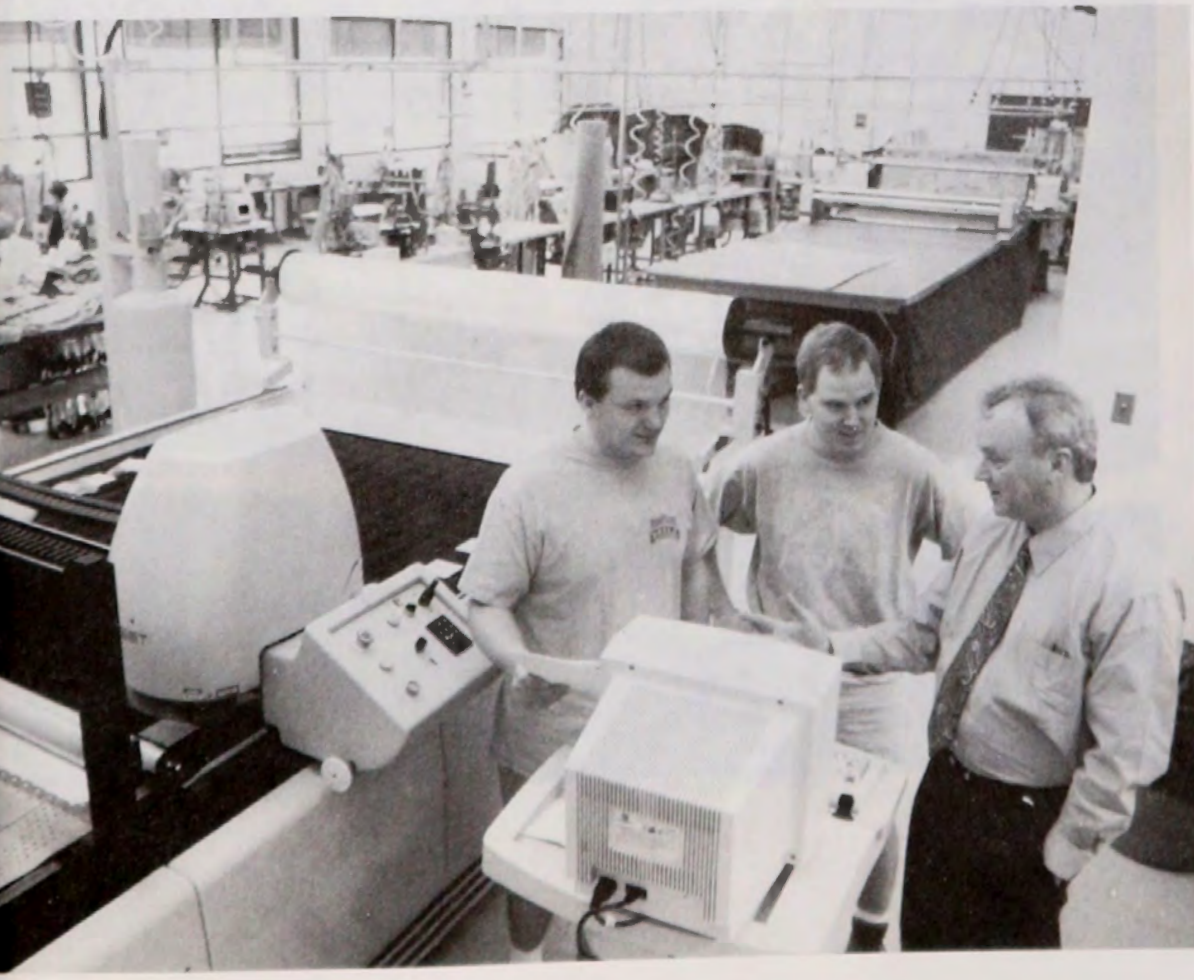
Minor in Physics

To be eligible for a minor in Physics, the student must complete at least 20 credit hours of 300- or 400-level physics courses.

Minor in Technical and Professional Communication

To be eligible for a minor in Technical and Professional Communication, the student must complete a minimum of 20 credit hours of the following courses:

ARTS	310	Visual Thinking	4-0-4
ENGL	311	Advanced Grammar and Composition	4-0-4
ENGL	420	International Technical Communication	5-0-5
ENGL	425	Online Communication	5-0-5
ENGL	435	Communication Graphics	5-0-5
ENGL	440	Manuals	5-0-5
ENGL	445	Proposals	5-0-5
ENGL	450	Editing	5-0-5
ENGL	460	Professional Oral Presentations	5-0-5
ENGL	485	Small Group Communication	5-0-5



Course Descriptions

Course descriptions are arranged in alphabetical-numerical order. The numbers shown after the title of the course indicate (in sequence) the number of hours in class per week, the number of hours in laboratory per week, and the number of credit hours for the course. Course prerequisites are also specified. Course descriptions are listed in the following order.

Subject	Department
Anthropology	Social and International Studies
Apparel/Textile Engineering Technology	Apparel/Textile Engineering Technology
Architecture	Architecture
Arts	Humanities and Technical Communication
Arts and Sciences	Social and International Studies
Biology	Physics, Chemistry, and Biological Sciences
Botany	Physics, Chemistry, and Biological Sciences
Chemistry	Physics, Chemistry, and Biological Sciences
Civil Engineering Technology	Civil Engineering Technology
Computer Science	Computer Science
Construction	Construction
Design Foundation	Architecture
Economics	Technology Management
Electrical and Computer Engineering Technology	Electrical and Computer Engineering Technology
English	Humanities and Technical Communication
Environmental Development	Architecture
French	Social and International Studies
Geography	Social and International Studies
History	Social and International Studies
Humanities	Humanities and Technical Communication
Industrial Distribution	Industrial Engineering Technology
Industrial Engineering Technology	Industrial Engineering Technology
Literature	Humanities and Technical Communication
Mathematics	Mathematics
Mechanical Engineering Technology	Mechanical Engineering Technology
Modern Foreign Languages	Social and International Studies
Philosophy	Humanities and Technical Communication
Physics	Physics, Chemistry, and Biological Sciences
Political Science	Social and International Studies
Psychology	Social and International Studies
Pulp and Paper Technology	Mechanical Engineering Technology
Quality Assurance	Industrial Engineering Technology
Religion	Social and International Studies
Social and International Studies	Social and International Studies
Social Sciences	Social and International Studies
Spanish	Social and International Studies
Speech	Humanities and Technical Communication
Surveying	Civil Engineering Technology
Technology Management	Technology Management

Anthropology

ANTH 240 Cultural Anthropology **4-0-4**

Introduction to basic cultural anthropological concepts emphasizing the differences and similarities in contemporary human behavior in Western and non-Western societies. Course includes lectures and case studies.

Apparel/Textile Engineering Technology (ATET)

ATET 101 Introduction to the Apparel/Textile Industry **3-0-3**

Provide ATET students and students majoring in other degree programs an overall introduction to the apparel and textile industry, career opportunities in Apparel/Textile Engineering Technology, familiarization with college and departmental policies, curriculum, and facilities. All phases of apparel and textile manufacturing will be covered from receipt of raw materials to the manufacture and distribution of the finished product.

ATET 104 Introduction to Computers for Textile/Apparel Problem Solving **3-3-4**

Introduction to computers, including word processing, spreadsheets, and other software tools for problem solving in textile/apparel application and information/knowledge management.

ATET 111 Fibers and Fabrics **3-0-3**

A study of the major chemical and physical properties of natural and man-made fibers. Emphasis is on the fibers' end uses, with particular stress on the properties the fibers give to fabric hand, drape, wrinkle resistance, wear properties, and permanent use.

ATET 210 Textile Laboratory I **0-3-1**

Prerequisite: ATET 111

Orientation to manufacturing and management operations in the textile industry.

ATET 215 Introduction to Textile/Polymer Chemistry **3-0-3**

Prerequisite: CHEM 201

An introduction to the chemistry of polymer and textile fibers, preparation agents, dyes and finishes.

ATET 224 Yarn Manufacturing **5-0-5**

Prerequisite: ATET 111

Fundamental principles of processing natural and man-made staple fibers into yarns: basic properties of spun yarns.

ATET 230 Textile Laboratory II **0-3-1**

Prerequisite: ATET 224 or consent of the department head

Yarn production and maintenance operations.

ATET 262 Employee Selection and Training **3-0-3**

Principles of employee testing, selecting, and training in the apparel industry. Emphasis will be given to instructional methods in training and management follow-up necessary to achieve job proficiency. Areas of interviewing and initial orientation are covered.

ATET 281 Survey of Textile Processes **3-0-3**

Covers the basic textile designs, fabric properties, and the textile processes from raw material through dyeing.

ATET 312 Industrial Photography **2-3-3**

A study of basic photography, starting with still cameras and building up to highspeed stroboscope work in simulated and actual slow-motion studies. The course includes darkroom manipulations, still-camera use in "freezing" motions regardless of speeds, movie and television cameras, and composition in photography. All are useful in today's industry.

ATET 334 Basic Composites **3-3-4**

Prerequisites: CHEM 201, PHYS 201 or PHYS 221

Introduce the student to basic types of composites construction with emphasis on typical component materials used and typical manufacturing techniques utilized in industry.

ATET 353 Weaving **5-0-5**

Prerequisite: PHYS 201 or PHYS 221

Theory and practice of warping and slashing, elements of fabric design, fabric analysis, the physics of loom motions including shuttle and shuttleless looms, and the element of fabric geometry and fabric cover are studied.

ATET 363 Pattern Analysis and Drafting **2-6-4**

Prerequisite: MET 113

The theory, geometric principles, and methods of drafting patterns for apparel and allied products. Includes developing patterns by draping and places emphasis on analysis and interpretation of samples, fashion sketches, and photographs to determine the pattern requirements for the presentation of the designer's creation. The student develops complete sets of industrial patterns, including grading in accordance with accepted size ranges and specifications.

ATET 364 Machine Evaluation and Selection **4-3-5**

Includes studies of thread, stitch formation, seam application as it relates to the garment, and cost considerations in the selection of machinery. Presents a survey of industrial sewing machines, tabling, and auxiliary equipment for apparel products production as well as analyzing and evaluating sewing-machine attachments for their qualitative and quantitative potentials. Includes studies of the durability and style analysis of sewing quality and operative training methods. Stresses quality factors inherent to the price range.

ATET 368 International Sourcing of Apparel/Textile Products **2-3-3**

Includes process of finishing, inspecting, and shipping the finished product and principles of marketing and distribution to a global market. Evaluating sourcing options considering transportation, domestic, 807 operations, foreign investment, foreign purchase, turn time, communications, production capabilities, cultural priorities, political influence, costs, quality and technology. Analyzing impact of global events on business.

ATET 370 Computer Applications in Textiles/Apparel **2-3-3**

Prerequisites: ATET 104, ATET 224, ATET 353 or ATET 467

Computer techniques with emphasis on SPC are applied to textile/apparel manufacturing problems.

ATET 371 Carpet Manufacturing **3-0-3**
Prerequisites: ATET 224, ATET 353 or consent of the department head
A study of carpet-manufacturing technology with emphasis on fibers, yarns, and cords used in the manufacture of carpets; carpet material and carpet manufacturing processes; carpet design and construction; dyeing, printing, and finishing.

ATET 380 Textile Laboratory III **0-3-1**
Prerequisite: ATET 353 or consent of the department head
Fabric structure operations including weaving, knitting, and tufting.

ATET 381 Fibers, Fabrics, and Finishes **5-0-5**
Prerequisite: CHEM 201
How the mechanical and chemical properties of fibers dictate the natures of fabrics. Dyestuffs and the various minimum-care finishes are examined for their roles in today's fabric arrays.

ATET 383 Pattern Analysis and Drafting **2-0-2**
The theory, geometric principles, and methods of drafting patterns for apparel and allied products. Includes developing patterns by draping and places emphasis on analysis and interpretation of samples, fashion, sketches and photographs to determine the pattern requirements for the presentation on the designer's creation. (Not for ATET Majors.)

ATET 384 Machine Evaluation and Selection **4-0-4**
Includes studies of thread, stitch formation, seam application as it relates to the garment, and cost consideration in the selection of machinery. Presents a survey of industrial sewing machines, tabling, and auxiliary equipment for apparel products production as well as analyzing and evaluating sewing-machine attachments for their qualitative and quantitative potentials. Includes studies of the durability and style analysis of sewing quality and operative training methods. Stresses quality factors inherent to the price range. (Not for ATET Majors.)

ATET 388 International Sourcing of Apparel/Textile Products **2-0-2**
Includes process of finishing, inspecting, and shipping the finished product and principles of marketing and distribution to a global market. Evaluating sourcing options considering transportation, domestic, 807 operations, foreign investment, foreign purchase, turn time, communications, production capabilities, cultural priorities, political influence, costs, quality and technology. Analyzing impact of global events on business. (Not for ATET Majors.)

ATET 390 Textile Laboratory IV **0-3-1**
Prerequisite: ATET 432 or consent of the department head
Textile dyeing and finishing operations.

ATET 391-395 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Consent of the department head
Special problems selected by the department. Offered on a demand basis.

ATET 410 Textile/Apparel Management Decision Making **2-3-3**
Prerequisite: Junior standing
Students practice making management decisions in a competitive market using computer simulations of textile and apparel manufacturing operations.

ATET 420 Advanced Production Planning and Time Study **3-4-5**
Prerequisites: IET 321, ATET 364
Prepares the student for immediate assignment to apparel time study with a minimum of in-plant training. Provides an understanding of the uses of work measurement as well as its limitations. Topics include distribution of human abilities, expected performance levels, pace rating systems, computation of time standards and their application to cost control, production planning and wage incentives.

ATET 432 Preparation, Coloration, and Finishing of Textile Materials **3-3-4**
Prerequisites: CHEM 201, ATET 215 or CHEM 321
The chemical, thermal, and mechanical processes used in the preparation, coloration, and finishing of textile structures.

ATET 444 Testing and Quality Control **3-3-4**
Prerequisites: IET 227, PHYS 201 or PHYS 221
Fundamentals of the testing methods normally found in the plant laboratory including Uster Evenness Tester, Pressley Index, Digital Fibrograph, Micronaire, twist counting, various yarn and strength tests plus statistical analysis of the test results.

ATET 445 Textile Testing and Quality Control **4-3-5**
Fundamentals of the testing methods normally found in the plant laboratory including Uster Evenness Tester, Pressley Index, Digital Fibrograph, Micronaire, twist counting, various yarn and strength tests plus statistical analysis of the test results. (Course designed for non-ATET majors not equipped with textile background.)

ATET 455 Material Utilization **5-0-5**
Prerequisites: ATET 363, ATET 466, IET 339
A systematic appraisal of the factors governing economical fabric use, including; in-depth study of the relationship of pattern make-up to fabric consumption; the impact of width variation to total consumption; and the relationship of all fabric defects to total utilization.

ATET 464 Principles of Knitting **3-0-3**
Prerequisite: Junior standing
The principles of circular, flat, warp, and double-knits.

ATET 466 Cutting-Room Analysis and Costing **3-6-5**
Prerequisites: MATH 111, ATET 281
Principles and methods of cutting raw materials used in apparel products and including preparatory processes related to cutting production. Presents basic principles and methods of calculating, designing, and making markers for apparel and allied products. Also includes the principles of marker duplication and yardage estimation. Laboratory work deals with cost and quality factors and with equipment for examining, spreading, cutting, marking, and ticketing. Principles of miniature marking and material utilization are also covered in both class and lab sessions.

ATET 467 Apparel Production Planning **4-3-5**
Prerequisites: ATET 363, ATET 364
Integrates all phases of apparel production by planning the best production cycle for an apparel item from receipt of raw material to the finished product.

ATET 484 Textile Product Manufacturing Resources Design and Management **2-3-3**

Prerequisites: IET 330, IET 334, IET 440, senior standing

This course is designed to provide the student with integrated knowledge from previous courses. The course focuses on the planning and control functions required in textile production systems, including design of facilities, inventories, and planning. A formal written report and oral presentation will be evaluated by faculty and industry representatives.

ATET 486 Cutting Room Analysis and Costing **3-0-3**

Principles and methods of cutting raw materials used in apparel products and including preparatory processes related to cutting production. Presents basic principles and methods of calculating, designing, and making markers for apparel and allied products. Also includes the principles of marker duplication and yardage estimation. (Not for ATET Majors.)

ATET 487 Apparel Production Planning **4-0-4**

Integrates all phases of apparel production by planning the best production cycle for an apparel item from receipt of raw material to the finished product. (Not for ATET Majors.)

ATET 491-495 Special Topics **variable credit-1 to 5 hours**

Prerequisite: Consent of the department head

Special Problems selected by the department. Offered on a demand basis.

Architecture

ARCH 201 Architecture I **0-18-6**

Prerequisites: DFN 103, ARCH 221 and ARCH 271 or concurrently

Introduction to the principles and elements of architectural design. Emphasis on design methods with examination of the influences of site and architectural history as they relate to the architectural design.

ARCH 202 Architecture II **0-18-6**

Prerequisites: ARCH 201, ARCH 222 and ARCH 272 or concurrently

A continuation of ARCH 201 with emphasis on the integration of materials and systems into the design solution.

ARCH 203 Architecture III **0-18-6**

Prerequisites: ARCH 202, ARCH 223 and ARCH 272 or concurrently

A continuation of ARCH 202 with emphasis on the integration of more complex systems.

ARCH 221 History of Architecture I

Prerequisite: DFN 103; Corequisite: ARCH 281

A study of world architecture, early times. Cultural, economic, political, religious, artistic, and technological influences on the built environment are emphasized as well as the various responses to these and their implications for contemporary design efforts.

ARCH 222 History of Architecture II **3-0-3**

Prerequisite: ARCH 221; Corequisite: ARCH 282

A continuation of the study of world architecture, up to the early 19th century. Cultural, economic, political, religious, artistic, and technological influences on the built environment are emphasized as well as the various responses to these and their implications for contemporary design efforts.

ARCH 223 History of Architecture III **3-0-3**
Prerequisite: ARCH 222; Corequisite: ARCH 283
A study of world architecture and planning in the 19th and 20th centuries. The development of theoretical approaches to design and the influences of those approaches on contemporary theory and work are emphasized along the cultural, economic, political, religious, artistic, and technological influences.

ARCH 250 Introduction to Structures **4-0-4**
Prerequisite: PHYS 201
An introduction to Architectural Structures with emphasis on statics and strength of materials concepts. Focus is on force systems, shear and moment diagrams and determination of section properties

ARCH 271 Building Technology I **3-0-3**
Prerequisite: DFN 103; Corequisite: ARCH 281
A non-mathematical study of building structural systems with emphasis on wood, steel, concrete, and masonry. Students are introduced to concepts of tension, compression and shear, as well as fundamental material properties that form the basis of understanding structures. System components, assembly and integration with other systems are stressed.

ARCH 272 Building Technology II **3-0-3**
Prerequisite: ARCH 271; Corequisite: ARCH 282
A continuation of ARCH 271 with emphasis on systems of enclosure. Climatic determents of building form, orientation, and material selections are introduced. System components, assembly and integration with other systems are stressed.

ARCH 273 Building Technology III **3-0-3**
Prerequisite: ARCH 272; Corequisite: ARCH 283
A study of site engineering standards and legal issues related to the development of building sites. The course focuses on zoning, building placement, rough grading, vehicular and pedestrian circulation, and storm water management.

ARCH 281 Architecture Practicum I **0-3-1**
This practicum provides an opportunity for the student to apply knowledge acquired in the concurrent architectural history and technology courses to ARCH 201 design projects or related projects. Field trips may also be required.

ARCH 282 Architecture Practicum II **0-3-1**
This practicum is a continuation of ARCH 281 and provides an opportunity for the student to apply knowledge acquired in concurrent architectural history and technology courses to ARCH 202 design projects or related projects. Field trips may also be required.

ARCH 283 Architecture Practicum III **0-3-1**
This practicum is a continuation of ARCH 282 and provides an opportunity for student to apply knowledge acquired in concurrent architectural history and technology courses to ARCH 203 design projects or related projects. Field trips may also be required.

ARCH 299 Qualifying Architectural Workshop II **5-21-12**
Prerequisite: Acceptance by the Architecture Admissions Committee
A requisite for admissions to the B. Arch program for students with an A.S. degree in a design related program. Prerequisites determined by the Architecture Admissions Committee.

ARCH 301 Architecture IV **0-18-6**
Prerequisites: ARCH 261, ARCH 351 or concurrently
Integration of all aspects of design including programming, theory, design and technology. Introduction to the computer as a design tool.

ARCH 302 Architecture V **0-18-6**
Prerequisites: ARCH 352 and ARCH 341 or concurrently
A continuation of ARCH 301 with emphasis on the integration of mechanical and structural systems.

ARCH 303 Architecture VI **0-18-6**
Prerequisites: ARCH 353 and ARCH 342 or concurrently
A continuation of ARCH 302 with emphasis on the integration of mechanical, electrical and structural systems and the application of building codes.

ARCH 304 Design Drawing I **1-3-2**
This course utilizes the application of drawing skills for design visualization and problem solving. Emphasis on quick sketches, perspective, plans, diagrams, sections, and exploded views. Drawing as a dynamic part of the process of exploring and developing design solutions. Course open to freshmen.

ARCH 305 Design Drawing II **1-3-2**
A continuation of ARCH 304 Design Drawing I with an emphasis on graphic problem solving and efficient rendering techniques. Course open to freshmen.

ARCH 306 Architectural Presentation Graphics **3-3-4**
Prerequisite: DFN 103
This course emphasizes the planning and execution of black and white and color graphic techniques for architectural presentations. Skills are developed in composition and perspective construction using pencil, ink, colored pencil, watercolor, and other media.

ARCH 312 Introduction to Built Form and Culture **4-0-4**
Prerequisite: Admission to the Professional Program
Examination of the relationship between built environments and human culture. Cross-cultural comparisons of settlement patterns, spatial and architectural orders, and implications for architectural design.

ARCH 313 Architectural Photography **2-6-4**
Prerequisite: ARCH 201
Photography as a design tool for the architect. Lectures and labs in data reconnaissance, imaging in the design process, and photography as a presentation medium.

ARCH 331 Advanced CADD **2-6-4**
Prerequisite: ARCH 301
Admission to this class is based on faculty acceptance of the student's portfolio of Alais UpFront work. Perspective, macro language, and usage with emphasis on presentation graphics.

ARCH 341 Building Technology IV **3-0-3**
Prerequisites: ARCH 272, PHYS 203; Corequisite: ARCH 381
A study of the connection between basic human comfort, building form, orientation and envelope materials, and energy consumption. System selection and configuration is examined in response to building spatial configuration, functions, and life cycle cost.

ARCH 342 Building Technology V **3-0-3**
Prerequisite: ARCH 341; Corequisite: ARCH 382
A continuation of ARCH 341 with emphasis on building electrical distribution systems and lighting.

ARCH 343 Building Technology VI **3-0-3**
Prerequisite: ARCH 271; Corequisite: ARCH 383
An introduction to the Standard Building Code, NFPA 101, and ADA. Emphasis is placed on theory of building safety, code document organization, and the application of codes to actual buildings.

ARCH 351 Architectural Structures I **3-0-3**
Prerequisite: ARCH 250; Corequisite: ARCH 381
Analysis and design of wood, steel, and concrete structural systems and components.

ARCH 352 Architectural Structures II **3-0-3**
Prerequisite: ARCH 351; Corequisite: ARCH 382
Continuation of ARCH 351.

ARCH 353 Architectural Structures III **3-0-3**
Prerequisite: ARCH 352; Corequisite: ARCH 383
Continuation of ARCH 352.

ARCH 381 Advanced Architecture Practicum IV **0-3-1**
This advanced practicum provides an opportunity for student to apply knowledge acquired in the concurrent technology courses to ARCH 301 design projects or related projects. Field trips may also be required.

ARCH 382 Advanced Architecture Practicum V **0-3-1**
This advanced practicum is a continuation of ARCH 381 and provides an opportunity for student to apply knowledge acquired in the concurrent technology courses to ARCH 302 design projects or related projects. Field trips may also be required.

ARCH 383 Advanced Architecture Practicum VI **0-3-1**
This advanced practicum is a continuation of ARCH 382 and provides an opportunity for student to apply knowledge acquired in the concurrent technology courses to ARCH 303 design projects or related projects. Field trips may also be required.

ARCH 391-395 Special Topics Seminar **variable credit 1 to 5 hours**
Prerequisite: Admission to the Professional Program
Comprehensive studies and research of special topics not covered in other courses. May be repeated three times when topic varies.

ARCH 399 Qualifying Architectural Workshop **5-21-12**
Prerequisite: Acceptance by the Architecture Admissions Committee
Requisite for admission to the B.Arch. program for students with design related bachelor's degree. Lectures, seminars, and design studio projects adjusted to individual needs. Credits earned in the Qualifying Architectural Workshop may not be used for credit in Architectural electives.

ARCH 401 Architecture VII **2-12-6**
Prerequisite: ARCH 471 or concurrently
The first quarter of a three quarter sequence involving research, design, design development, preparation of construction documents and construction of a architectural project, or portion of the project.

ARCH 402 Architecture VIII **2-12-6**
Prerequisite: ARCH 472 or concurrently
A continuation of ARCH 401.

ARCH 403 Architecture IX **2-12-6**
A continuation of ARCH 402.

ARCH 405 Furniture Design Studio **2-6-4**
Prerequisite: ARCH 203
Students produce full-scale drawings of their furniture design, and either a full-size representational model or functional prototype. To facilitate their personal investigation, the students are asked to research and analyze the furniture of well-known architects from a list provided.

ARCH 406 Furniture Construction Studio **2-6-4**
Prerequisite: ARCH 405
An introductory level course focusing on material, joinery, and finishing systems. Use of hand tools, power tools, and shop safety are stressed.

ARCH 407 Furniture Design Build Studio **1-9-4**
Prerequisite: ARCH 406
An advanced course focusing on the integration of design concepts and furniture fabrication skills and technology. Students develop design concepts, presentation, fabrication drawings and fabricate a full size prototype of a piece of furniture of acceptable size and complexity.

ARCH 412 Contemporary Theory **4-0-4**
Prerequisite: ARCH 223
An in-depth view of contemporary Architecture: readings in and discussion of buildings, including Modernism, Post-Modernism and Deconstruction. This course would examine the modern movements in architecture by specifically discussing buildings.

ARCH 414 Theory of Architectural Representation **4-0-4**
Prerequisite: ARCH 223
This course emphasizes the importance of representation in the architectural creative process. The theory of artists and architects are discussed in seminars and the student is expected to apply these theories to hands-on-projects.

ARCH 415 Theory and Design of Tall Buildings **4-0-4**
Prerequisite: 5th year standing
Special design considerations of the high-rise building in an urban environment. Historical and contemporary examples analyzed from design theory and social impact.

ARCH 416 Advanced Built Form and Culture **4-0-4**
Prerequisite: ARCH 312
A continuation of ARCH 312 with emphasis on cross-cultural contemporary settlement patterns, spatial and architectural orders, and implications for architectural design.

ARCH 425 Atlanta Architecture: History and Firms **4-0-4**
Prerequisite: ARCH 223
A study of the architecture, architectural firms, history and critical regionalism of Atlanta architecture.

ARCH 461 Urban Design and Planning Theory **4-0-4**
Prerequisite: ARCH 302 or concurrently
A study of the evolution of modern cities and the major issues and problems confronting metropolitan centers; emphasis on culture, climate, geology, topography, and their influence on urban form.

ARCH 463 Landscape Architecture **4-0 4**
Prerequisite: ARCH 301
A study of landscape techniques for buildings and building complexes. Introduction to plant material, planting design, landscape design, and landscape construction.

ARCH 471 Contract Documents I **2-0-2**
Prerequisite: ARCH 303
The study and preparation of contract documents required for the construction of an architectural project; emphasis on material research, manually and computer generated documents and utilization of AIA General and Supplemental Conditions.

ARCH 472 Contract Documents II **2-0-2**
Prerequisite: ARCH 471
A continuation of ARCH 471.

ARCH 473 Architectural Office Practice and Ethics **3-0-3**
Prerequisite: 4th or 5th year standing in the Professional Program
Study of professional ethics, laws governing the practice of architecture, and contractual relationships.

ARCH 491-495 Special Topics Seminar **variable credit-1 to 5 hours**
Prerequisite: 4th or 5th year standing in the Professional Program
Comprehensive studies and research of special topics not covered in other courses. Emphasis will be placed on current developments in architecture, construction, and urban planning. May be repeated three times when topic varies.

ARCH 497 Architecture X **2-12-6**
Prerequisite: ARCH 403 and submission of Portfolio
Execution and presentation of a community design project. Project is developed from programmatic research to completed design development.

ARCH 498 Diploma Studio I **2-12-6**
Prerequisite: ARCH 497
This course is a two-part studio. The first half involves completion and presentation of the community design project and the second half involves the programmatic development of a faculty approved terminal project.

ARCH 499 Diploma Studio II **2-12-6**
Prerequisite: ARCH 498
Execution and presentation of a faculty approved terminal project. Project is developed from programmatic research, performed in ARCH 498, to completed design development and documented in a manner acceptable for publication.

Arts

ARTS 230 Drama Appreciation **4-0-4**
Prerequisite: ENGL 110
Survey of drama as a performing art, considering both literary and nonliterary elements. Attendance at one or more live performances may be required.

ARTS 231 Art Appreciation **4-0-4**
Prerequisite: ENGL 110
Appreciation of visual arts is developed through an introduction to the aesthetics, criticism, history, and production of visual art in the Western world. Some non-Western art will be included.

ARTS 232 Music Appreciation **4-0-4**
Prerequisite: ENGL 110
Survey of music in the Western world, including both historical movements and contexts, as well as aesthetic considerations. Non-Western music may be included at the instructor's discretion.

ARTS 310 Visual Thinking **4-0-4**
A study of visual thinking as an alternative to and enhancement of verbal and mathematical thinking. The course also helps students develop creative problem-solving skills by (a) analyzing types of conceptual blocks, and (2) developing techniques that use order and visual coherence to overcome these blocks. Students will keep a sketching journal and produce graphic solutions to problems. Prior drawing experience is not required, but students will develop certain drawing skills during the course.

Arts and Sciences (A & S)

A & S 101 Orientation to the College **1-0-1**
Specific topics needed by students new to Southern College of Technology. Topics include GPA, academic standing, college services, academic life, curricula, and registration. This course is required of all Arts and Sciences students in the first quarter of enrollment. Students may not withdraw from or drop this course unless they withdraw from school.

A & S 320 History of Science Survey **4-0-4**
Prerequisite: Junior standing or consent of the department head
Survey of developments in physical, biological, and human sciences and their connection to western culture from the sixteenth century to the present. Approved for credit toward the upper-division concentration in A&S. Credit will not be allowed for both A&S 320 and HIST 320.

A & S 325 History of American Technology **4-0-4**
Prerequisite: Junior standing or consent of the department head
Survey of the development of technology and its impact on American society. Topics will include technology transfer and American innovation, the organization and mechanization of industrial production, and the technologies of cities, households, transportation, communication, and leisure. Approved for credit toward the upper-division concentration in A&S. Credit will not be allowed for both A&S 325 and HIST 325.

A & S 326 History of American Science and Medicine **4-0-4**
Prerequisite: Junior standing or consent of the department head
Survey of the development of American science and medicine and their impact on American society. Topics will include the development of various fields of science, the relationship between science and government, the relationship between science and medicine, and the development of medical knowledge and practice. Approved for credit toward the upper-division concentration in A&S. Credit will not be allowed for both A&S 326 and HIST 326.

A & S 370 International Issues in Science and Technology **4-0-4**
Examines the technical, social, and moral issues raised by current advances in international science and technology with special attention to comparative studies, technology transfer, and technological imperialism. Historical case studies allow students to develop perspective and analytical skills that are then applied to a broad range of contemporary issues. Approved for credit toward the upper-division concentration in A&S. Credit will not be allowed for both A&S 370 and SIS 370.

A & S 394 Special Topics **4-0-4**
Prerequisite: Junior standing
Special topics course approved for credit toward the A&S upper-division concentration for students majoring outside the department offering the course.

A & S 410 Issues in Science and Technology **5-0-5**
Prerequisite: Consent of the department head
Course examines the technical, social, and moral issues raised by current advances in science and technology. Historical case studies allow students to develop perspective and analytical skills that are then applied to a broad range of contemporary issues. Approved for credit toward the upper-division concentration in A&S for non-TPC majors. Credit will not be allowed for both A&S 410 and ENGL 410.

A & S 411 Information and Research **4-0-4**
Prerequisite: Junior standing
Study of how to find, interpret, and evaluate information in a modern technical society. Includes a major research paper. Required for all majors in the School of Arts and Sciences.

A & S 483 Issues in Information Management **5-0-5**
Prerequisite: Junior standing
An introduction to current issues in computing, automation, and the management of information. Organized around a central text that provides a perspective on some aspect of information handling, this course includes a substantial amount of outside reading and library research. Approved for credit toward the upper-division concentration in A&S for non-CSci majors. Credit will not be allowed for both A&S 483 and CS 483.

Biology

BIOL 201 Biological Principles I **4-3-5**
An introduction to biology including the chemistry of life, cell structure and function, bioenergetics, genetics, basic statistics, biotechnology, and evolution.

BIOL 202 Biological Principles II **4-3-5**

Topics include organ system anatomy and physiology, a survey of the diversity of life, animal behavior, and ecology.

BIOL 301 Introduction to Microbiology **3-3-4**

Prerequisite: CHEM 201

A survey of the biology of microorganisms, their relationship to man, and the role of microorganisms in ecosystems.

BIOL 391-395 Special Topics **variable credit-1 to 5 hours**

Special Topics selected by the department. Offered on a demand basis.

Botany

BOT 201 Introduction to Botany I **4-3-5**

A study of the biology of plants including cell structure and function, plant structure, growth and function, and basic ecology.

BOT 202 Introduction to Botany II **4-3-5**

Prerequisite: BOT 201

A study of (a) heredity, variation, and evolution of seed plants; (b) representative members of each of the major plant groups; and (c) the relations of plants to their environment.

Chemistry

CHEM 201 General Chemistry I **4-2-5**

Prerequisite: MATH 111

An introduction to the fundamentals of chemistry. Subject matter includes atomic theory, stoichiometry, reactions in solutions, gases, chemical equilibrium, and nuclear chemistry.

CHEM 202 General Chemistry II **4-2-5**

Prerequisite: CHEM 201

A continuation of the coverage of basic chemical principles begun in CHEM 201. Topics include electronic structure of atoms,covalent bonding, properties of the solid and liquid states, properties of solutions, properties of acids and bases, and acid-base equilibria.

CHEM 203 General Chemistry III **4-2-5**

Prerequisite: CHEM 202

A continuation of the coverage of basic chemical principles begun in CHEM 202. Topics include chemical kinetics, solubility and complex ion equilibria, thermodynamics, eletrochemistry, descriptive chemistry of the main group elements, transition metals and coordination chemistry, organic chemistry, and biochemistry. A significant portion of the laboratory will involve the qualitative identification of cations and anions.

CHEM 300 Environmental Chemistry **3-3-4**

Prerequisite: CHEM 201

This course emphasizes the source, transport, reactions and fate of pollutants and natural chemical substances that enter or compose the aquatic, air, and soil environments. The laboratory focuses mainly on parameters used to characterize water and wastewater samples.

CHEM 321 Survey of Organic Chemistry **4-3-5**
Prerequisite: CHEM 201
A survey of basic chemical principles underlying the properties and reactions of organic compounds. Subject matter includes the study of natural and synthetic polymers.

CHEM 331 Organic Chemistry I **4-3-5**
Prerequisite: CHEM 202
An introduction to the chemistry of the compounds of carbon. Topics include a study of the synthesis, reactions, and properties of acyclic and cyclic compounds and their derivatives.

CHEM 332 Organic Chemistry II **4-3-5**
Prerequisite: CHEM 331
A continuation of the study of organic molecules. Topics include a survey of natural products and synthetic polymers.

CHEM 380 Quantum Chemistry **3-0-3**
Prerequisites: PHYS 371, MATH 306
Applications of modern quantum mechanics to the description of atomic and molecular systems. Topics will include one-electron and multi-electron atoms and molecular orbital theory. This course is identical to PHYS 380. Credit will not be allowed for both CHEM 380 and PHYS 380.

CHEM 391-395 Special Topics **variable credit-1 to 5 hours**
Special topics selected by the department. Offered on a demand basis.

CHEM 401 Analytical Chemistry **4-3-5**
Prerequisite: CHEM 321 or CHEM 331
An introduction to the classical and instrumental methods of qualitative analysis and their underlying principles.

CHEM 421 Introduction to Biochemistry **3-0-3**
Prerequisite: CHEM 332
This course examines the structure, function, and metabolism of the major classes of biological molecules and the reactions involving energy metabolism in biological systems.

CHEM 591-595 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Graduate Standing
Special topics selected by the department. Offered on a demand basis.

Civil Engineering Technology (CET)

CET 100 Introduction to Civil Engineering Technology **1-0-1**
Introduction to civil engineering field; career opportunities; educational spectrum; and professional options. Departmental policies and expectations for student majors.

CET 150 Civil Graphics **2-6-4**
An introduction to drafting and graphics principles and practices appropriate to civil engineering technology. This course includes the development of the basic drafting skills needed to produce civil engineering plans and graphical presentations. The elements of descriptive geometry are addressed as well.

CET 160 Civil Computer-Aided Drafting **2-6-4**
Prerequisites: CS 103 or CS 105, CET 150

An introduction to the fundamentals of computer-aided drafting and design. Subject matter includes use of the personal computer and commercial CAD software as tools in graphic communications as they apply to Civil Engineering Technology subject areas. Emphasis will be on structural drafting.

CET 200 Introduction to Structures **4-0-4**
Prerequisites: MATH 112, PHYS 201

An introduction to architectural structures with emphasis on statics and strength of materials concepts. Subject matter includes force systems, shear and moment diagrams, determination of section properties, and the design of wood beams and columns. (Not for credit for CET students or students with credit for CET 214).

CET 202 Computer Applications in CET **0-2-1**
Prerequisites: CS 103 or equivalent, MATH 112

A general introduction to computer methods and tools used to address real world engineering problems. Various software applications including spreadsheets, word processors, and network programs will be covered.

CET 213 Statics **4-0-4**
Prerequisites: PHYS 201, MATH 253

An introduction to mechanics of materials with the emphasis on statics. Subject matter includes principles and applications of freebody diagrams for force systems, shear and moment diagrams, and determination of section properties.

CET 220 Soils and Concretes in Construction **3-3-4**
Prerequisite: CET 200

A study of the properties and behavior of soil, aggregates, and portland cement concretes as they relate to construction operations. Topics include soil index properties, classification, compaction, and drainage; aggregate gradation, durability, and applications; design of portland cement concrete mixtures and testing of concrete in plastic and cured states, use of concrete admixtures and field concreting practices. (Not for credit for CET students or students with credit for CET 301 and CET 302.)

CET 301 Soil Mechanics **3-3-4**
Prerequisite: CET 319 or CET 200

Theory of soil mechanics as applied to permeability, consolidation, shear strength, unconfined and triaxial compression, inplace density, Atterburg limits, compaction, specific gravity, grain size, classification of soils.

CET 302 Construction Materials **4-3-5**
Prerequisites: CHEM 201, CET 301

This course provides an introduction to materials science and the engineering aspects of a variety of civil engineering materials such as metals, wood and concretes. The relationship between composition, material properties, and manufacturing will be examined through lecture and laboratory exercises. The laboratory will emphasize the analysis of data and the application of standard tests to written specifications.

CET 314 Strength of Materials **4-3-5**
Prerequisite: CET 213
This course will explore the mechanical behavior materials under load and the mathematical modeling of this behavior. Lecture, reinforced by laboratory exercises, will emphasize the elastic conditions of equilibrium, compatibility and material behavior as they relate to analysis and design of structural elements. In the laboratory, emphasis will be placed on report writing and the presentation of test data.

CET 316 Structural Analysis I **4-0-4**
Prerequisite: CET 219 or CET 200
An introduction to methods of analysis of both statically determinate and indeterminate structures. Subject matter includes methods of consistent deformations, unit-load, beam deflections, truss deflection, and influence line diagrams for continuous beams. The method of moment distribution is emphasized along with its application to frames with sidesway.

CET 317 Dynamics **4-0-4**
Prerequisites: CET 213, MATH 254
A study of kinematics and kinetics of particles and rigid bodies. Subject matter includes the principles and relationships of displacement, velocity, and acceleration; relative and absolute motion; force, mass, and acceleration; work and energy; and impulse and momentum. Emphasis is placed upon the solution of problems in dynamics and engineering through the use of these principles.

CET 321 Transportation Systems **3-3-4**
Prerequisite: SURV 222
An overview of transportation engineering as it applies to land, sea, and air systems. Topics include the planning process and planning models, traffic analysis and capacity; intersection design and signalization; mass transit; airport planning; layout and design; and port and harbor facilities.

CET 331 Highway Design **3-3-4**
Prerequisite: CET 321
A study of the design factors required in planning and constructing a highway. Topics covered are planning, location and plans, rights of way, traffic volumes and capacity, signals, lane marking, signs, sight distances, safety, drainage, construction of roadbed, flexible pavements, rigid pavements, and maintenance. The lab includes a project requiring the preparation of a set of highway plans.

CET 335 Contracts and Specifications **3-3-4**
Prerequisite: Junior standing
A study of legal issues which affect engineers including an introduction to the law, contracts, contract documents, insurance and bonds, liability, water rights, and environmental law.

CET 337 Structural Steel Design I **3-3-4**
Prerequisite: CET 316
A study of techniques used for analysis and design of structural elements used in buildings. Design procedures for joists, beams, girders, columns, plates, and fastenings are presented using the latest edition of AISC specifications.

CET 338 Reinforced Concrete Design I **3-3-4**
Prerequisite: CET 316
A study of reinforced concrete structures, including load analysis, member size determination, and selection of required reinforcement using the latest ACI code design practice. Topics include flexure, shear, columns and joints.

CET 343 Basic Fluid Mechanics **3-0-3**
Prerequisite: CET 213
A study of the basic principles of fluid mechanics and the application of these principles to practical problems. The subject matter will consist of fluid properties, fluid pressure, buoyancy, pipe flow analysis, open channel flow, and pump selection.

CET 344 Introduction to Environmental Technology **3-3-4**
Prerequisites: CHEM 201, CET 343
An introduction to the various aspects of pollution of air, land, and water. The emphasis of the course is on the design of water and wastewater treatment plants, water distribution systems, and wastewater collection systems.

CET 345 Fluid Mechanics Laboratory **0-2-1**
Prerequisite: CET 343
Laboratory exercises, tests, experiments, and computer applications that pertain to the theory covered in CET 343 with emphasis upon laboratory report writing.

CET 351 Traffic Engineering **3-3-4**
Prerequisite: CET 321
Traffic engineering policies and analysis procedures are presented. Particular attention is given to determining highway capacity, existing and projected levels of service at unsignalized and signalized intersections; pedestrian volume studies; and the analysis of transit and paratransit.

CET 354 Unit Operations in Environmental Engineering I **3-3-4**
Prerequisites: CHEM 202, CET 344
Course dealing with the source, treatment, and distribution of water for municipalities. Includes design of distribution systems and performing standard laboratory tests with accompanying reports.

CET 364 Unit Operations in Environmental Engineering II **3-3-4**
Prerequisites: CHEM 202, CET 344
Design of collection systems; treatment processes on wastewater; and wastewater disposal systems. Perform standard laboratory tests associated with municipal wastewater operation with accompanying reports.

CET 374 Solid Waste Management **3-3-4**
Prerequisites: CET 301, CET 344
Collection of solid wastes, transfer, and transport options; processing techniques and equipment; legislation and government agencies; planning in management; choices in on-site handling, storage, and processing; collection alternatives.

CET 391-395 Special Topics **variable credit-1 to 5 hours**
Prerequisites: Junior standing, consent of the department head
Special topics offered by the department on a demand basis.

CET 400 Student Projects **0-9-3**
Prerequisite: Consent of the professor
Scheduling, designing, fabrication, financing, and managing the construction of such projects as steel bridge and concrete canoe for regional and national competitions. (Other major projects may fall into this course such as a project in transportation or environmental areas.) A final report, set of plans, and flow chart will be developed.

CET 402 Ethics of Engineering **1-0-1**

A review of the theoretical and practical aspects of ethical problems in engineering, along with their suggested solutions. Specific examples, situations and limitations of ethics and ethical relationships are discussed in detail.

CET 415 Foundation Design **4-0-4**

Prerequisites: CET 301, CET 338

A study of the selection and design of foundation types for structures and of the behavior of foundation earth materials both during and after construction. Topics covered include subsurface investigation, stress distribution, settlement, bearing capacity, structural design of footings, lateral earth pressure and retaining wall behavior, and pile foundation analysis/design.

CET 417 Structural Analysis II **4-0-4**

Prerequisite: CET 316

Continuation of CET 316 with emphasis on Statically Indeterminate Structures under moving loads. Load analysis and design procedures as recommended by the American Association of State Highway and Transportation Officials are employed in the analysis/design of typical highway bridges.

CET 418 Engineering Geology **3-3-4**

Prerequisites: CET 301, CET 344

Investigation of the effects of geologic structure, groundwater, rock properties, and mineralogy on design and construction of highways, buildings, tunnels, and dams. Typical solutions are discussed for problems of construction excavation and dewatering, tunneling methods, evaluating rock slope stability, and determining geologic substructure through use of maps and sub-surface investigations.

CET 437 Structural Steel Design II **3-3-4**

Prerequisite: CET 337

A continuation of CET 337 with an emphasis on AISC's load and resistance factor design method. Topics covered are beams (fully plastic, inelastic, elastic), columns, standard connections (bolted and welded), frame design (braced and unbraced), and 2nd order effect analysis, modified effective lengths in frames, base plates, and composite beams (ASD and LRFD).

CET 438 Structural Concrete Design II **3-3-4**

Prerequisite: CET 338

A continuation of CET 338. Topics covered are post tension member design, prestress member design, retaining walls, and biaxial bending in short and long columns.

CET 440 Computer Methods in Structures **3-3-4**

Prerequisite: CET 337

An introduction to computer methods of structural analysis, design, and graphics. Subjects covered will include linear matrix algebra, computer programming as applied to structures (using both mainframes and personal computers), and use of commercially-available software.

CET 442 Industrial/Hazardous Waste Treatment **3-3-4**

Prerequisite: CHEM 300

Deals with the scope and characteristics of industrial wastewaters; treatment processes; pre and primary treatment; coagulation and precipitation; aeration and mass-transfer; adsorption; and biological oxidation.

CET 444 Applied Hydrology **3-2-4**
Prerequisite: CET 343
An introduction to the physical processes of the hydrologic cycle; the fundamentals of hydrologic analysis; and the elements of design hydrology. Also includes drainage area studies, hydrograph theory, and storm sewer and culvert design.

CET 445 Urban Drainage and Erosion Control **3-3-4**
Prerequisite: CET 444
Analysis and design of storm sewer appurtenances, flood plain analysis, and open channels. Introduction to site development and the methods presently employed to control erosion and sediment in urban areas. Design of detention ponds, sediment basins, and storm sewer systems.

CET 450 Pavement Design and Maintenance **4-0-4**
Prerequisite: CET 321
A development of procedures used to determine thicknesses and composition of the components of highway pavements. Both flexible and rigid type pavements will be considered. Approximately one-fourth of the lecture time will be devoted to the recognition of pavement distress and the design of repair measures. Standard techniques in current practice will be used for structural design of the pavements.

CET 464 Air Pollution Control **3-0-3**
Prerequisite: CET 344
Global and local effects of air pollution; pollution sources; emission controls; meteorology; plume dispersion and rise; particulates; sulfur oxides; nitrogen oxides; air quality and emission standards; control systems and devices.

CET 471 Computer Methods in Transportation **2-6-4**
Prerequisite: CET 321
The use of the computer in transportation engineering is examined by employing various software packages and reviewing them for their applicability to the planning, analysis, and design process.

CET 480 Senior Project **1-9-4**
Prerequisites: Senior standing and consent of the department
Designed to be the culmination of their undergraduate civil engineering technology education, this course will provide students with the opportunity to work on "real world" civil engineering projects. Working in teams, students will choose from proposed or ongoing projects within the metropolitan area of Atlanta, design or redisgn one of those projects, and present their results for review to a panel of faculty and students.

CET 491-495 Special Topics **variable credit-1 to 5 hours**
Prerequisites: Junior standing, consent of the department head
Special topics offered by the department on a demand basis.

Computer Science (CS)

CS 101 Introduction to Computer Science **5-0-5**
This course covers the basics of computer science including number systems, algorithms, computability, complexity, basic computer organization, language hierarchy, system software components, computer history, and language syntax diagrams.

CS 103 Applications Programming in BASIC **3-3-4**
Prerequisite: "C" or better in MATH 111

This course covers the fundamentals of computer programming and the use of a computer for performing calculations and using data files. Microcomputers are used in laboratory assignments. Students are taught the concept of counters, accumulators, decision-making, looping, subroutines, arrays, files, DOS operations, and string processing. (This course cannot be counted toward programming hours for CSci majors).

CS 105 Programming Principles I **4-3-5**
Prerequisite: "C" or better in MATH 111

This course teaches structured programming with the high level language PASCAL. The techniques of good programming style and how to design, code, debug, and document programs are covered with laboratory assignments. Topics progress from basic PASCAL syntax and semantics to sequential text files. Procedures and functions are covered early in the course to enable the student to write modular programs.

CS 200 Introduction to Programming with C **4-3-5**
Prerequisite: "C" or better in MATH 111

This course covers the beginning concepts of programming logic and algorithms using the C Programming Language. (This course cannot be counted toward programming hours by CSci majors).

CS 205 Programming Principles II **4-3-5**
Prerequisite: CS 105

Advanced computer programming techniques are taught and practiced in laboratory assignments. Emphasis is on the advanced features of the language, including such topics as recursive routines, records, pointers, and sets. Basic data structures such as stacks, queues, and lists are covered along with the algorithms for their implementation.

CS 215 FORTRAN **4-3-5**
Prerequisite: "C" or better in MATH 111

A fundamental course in FORTRAN programming covering data types, basic operations, control structures, arrays, functions and subroutines, I/O formatting, and sequential file access.

CS 219 Computer Architecture **5-0-5**
Prerequisites: CS 101, CS 105

This course emphasizes the interrelationships between computer software and hardware. Basic number systems and computer system principles are addressed, followed by more detailed coverage of digital logic, microprogrammed architectures, and conventional machine organizations. Students are exposed to both machine language programming and microprogramming through the use of PC based simulators.

CS 291-295 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Sophomore standing

Special topics selected by the department. Offered on a demand basis.

CS 305 Data Structures **5-0-5**
Prerequisite: CS 205

Algorithms for storing, searching, listing, and updating all types of data structures are covered. Sample topics include trees, graphs, data abstraction, database manipulation, sorting, searching, and storage techniques, and memory management. A component of the course will also include file handling, including sequential, direct, and indexed files.

CS 325 Assembler **4-3-5**
Prerequisite: CS 219

This course provides experience in assembly language programming and will enable a student to apply concepts learned in CS 219. Topics include computer organization, data representation, addressing modes, instruction formats and encoding, pseudo-operations, macros, and interrupts.

CS 330 Files and Databases **4-3-5**
Prerequisite: CS 305

This course covers all file structures including sequential, direct, ISAM, relative, VSAM files, and database design including hierarchical, network, and relational structures. Labs are done using an SQL based database product.

CS 335 PC Assembler **4-3-5**
Prerequisite: CS 325

This course provides in-depth exposure to the assembly language of the PC including a variety of applications.

CS 340 Graphics I **4-3-5**
Prerequisites: CS 305, MATH 310

The basic principles for the design, use, and understanding of an interactive computer graphics system are covered in this introductory course including the specific input and output hardware devices and their technology, the software standards and programming methods for the design of a graphics package, and a survey of graphical applications as an effective means for communication. A large component of the class is the writing of a large-scale program in a high-level language that drives the output device, creates the models, manipulates the model or segments of the model, receives interactive input requests, etc.

CS 345 Programming Language Concepts **4-3-5**
Prerequisites: CS 205, CS 325

A comparative study of programming languages covering their history, development, and different design criteria; their formal definitions of syntax and semantics; their concepts and constructs; and the similarities and differences between languages. View on the complexity of programming languages are covered including object-oriented, functional, and concurrent languages, exception handling, modularization, scoping, etc. The use of programming tools that enable the student to practice the course objectives are incorporated.

CS 350 Introduction to Software Engineering **5-0-5**
Prerequisite: CS 330

The entire systems development life cycle is covered. Topics include problem definition, systems analysis, requirements determination, proposal preparation, design techniques, testing, implementation, and maintenance. Various structured analysis tools are taught in conjunction with short case studies for practical exercises.

CS 361 Applications Programming in C **4-3-5**
Prerequisite: CS 305
The computer programming language C presented with a focus on its use in applications involving systems programming, low- and high-level features, graphics, and libraries of program units. Laboratory projects are required.

CS 362 Applications Programming in C++ **4-3-5**
Prerequisite: CS 305
The computer programming language C++ presented with a focus on its use in applications involving object-oriented concepts, windows programming, and as a vehicle for using a software engineering approach to software development. Laboratory projects are required.

CS 363 Applications Programming in COBOL **4-3-5**
Prerequisite: CS 305
The computer programming language COBOL presented with a focus on its use in file handling and large-scale commercial applications. Laboratory projects are required.

CS 370 Operating Systems **5-0-5**
Prerequisites: CS 305, CS 325
An introduction to operating system principles. Process management, memory management (real and virtual), job scheduling, peripheral device management, multiprocessing, and file systems are explored from a conceptual viewpoint.

CS 372 Applications Programming in Ada **4-3-5**
Prerequisite: CS 370
The computer programming language Ada presented with a focus on its use in applications involving multi-tasking and as a vehicle for using a software engineering approach to software development. Laboratory projects are required.

CS 375 Computer Networks **4-3-5**
Prerequisite: CS 370
Covers the issues involved in computer-to-computer communications, based on the layered architecture of the ISO Reference Model on Open Systems Interconnection. A study of the objectives and methodologies of each layer, with emphasis on the data link, network, and transport layers. Laboratory projects involve simulation and implementation of various parts of these layers in a local area network (LAN).

CS 391-395 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Junior standing
Special topics selected by the department. Offered on demand basis.

CS 410 Human Factors **5-0-5**
Prerequisite: Junior standing
A course that addresses the effectiveness of human interactions with computers. Presentations of cognitive and perceptual issues; human information processing; usability concerns, and interaction styles and techniques are covered. The course includes projects in cognitive ergonomics, human factors in software development, and strategies that address ease of learning and ease of use of software systems.

CS 420 Real-Time Systems **4-3-5**
Prerequisites: CS 370, ENGL 232, SPCH 240
Real-time concepts are discussed and practiced in the laboratory. Labs involve real-time multi-task programming, using a real-time executive. System performance characterization is also addressed.

CS 430 Logical Foundations of Computer Science **5-0-5**
Prerequisites: MATH 254, MATH 260, MATH 310, senior standing
An elective course surveying computability theory, finite state machines, automata, parsing, grammars, and aspects of compiler construction. **Particularly useful for students contemplating attending graduate school in computer science.**

CS 440 Graphics II **4-3-5**
Prerequisite: CS 340
A continuation of Graphics I, with emphasis on advanced graphics programming. A large component of this course involves working on a major graphics project.

CS 444 Simulation and Modeling **4-3-5**
Prerequisites: MATH 260, a programming course
An introduction to the basic role of simulation in system modeling. Presents approaches to organizing and conducting simulation studies. Emphasis is on the principles and practice of discrete-event simulation using one or more applicable programming languages.

CS 445 Object-Oriented Design and Programming **4-3-5**
Prerequisites: CS 305, CS 345
An introduction to the concepts of object-oriented design and programming including objects, classes, messages, methods, encapsulation, and inheritance. The concepts are implemented in languages such as C++ and Smalltalk.

CS 450 Management Information Systems **5-0-5**
Prerequisite: Senior standing
A study of the information needs in a formal organization and the information systems required to meet those needs within the planning, control, operating and decision making processes.

CS 455 Software Engineering **4-3-5**
Prerequisites: CS 305, CS 350, ENGL 232, SPCH 240
A followup to CS 350, this is a project course which covers the life cycle topics. Students will utilize various software engineering tools to help complete various projects from analysis to implementation. "Real life" projects are used whenever possible.

CS 462 Artificial Intelligence **5-0-5**
Prerequisite: CS 305
An introduction to artificial intelligence, with an emphasis on searching techniques, knowledge representation, and problem-solving strategies.

CS 465 Expert Systems **4-3-5**
Prerequisites: CS 305, ENGL 232, SPCH 240
An introduction to the development of expert systems, with an emphasis on the role of domain knowledge, knowledge acquisition, expert knowledge representation, and implementation. A major project is required.

CS 470 UNIX **4-3-5**
Prerequisite: CS 370 or consent of the department head
This course covers the UNIX operating system. Lab work is done using a workstation platform. In addition to common system commands, applications programming topics include the shell, awk, grep, and other system "little languages".

CS 475 System Software **4-3-5**
Prerequisites: CS 370, a knowledge of C
Advanced operating systems concepts and related implementation techniques using system software development. Labs include writing actual system software.

CS 483 Issues in Information Management **5-0-5**
Prerequisite: Junior standing
An introduction to current issues in computing, automation, and the management of information. Organized around a central text that provides a perspective on some aspect of information handling, this course includes a substantial amount of outside reading and library research. Approved for credit toward the upper-division concentration in A&S for non-CSci majors. Credit will not be allowed for both A&S 483 and CS 483.

CS 485 Senior Project **5-0-5**
Prerequisites: ENGL 232, SPCH 240, consent of the department head
A senior-level project course applying the theories, tools, and techniques of Computer Science. This involves a major report and oral presentation under the direction of a CS faculty member.

CS 491-495 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Senior standing
Special topics offered by the department on a demand basis.

CS 501 Introduction to Computer Science: Programming **5-0-5**
Prerequisite: Credit for/or experience with the basic concepts of a higher-level programming language such as Pascal or C
This is an intensive course for graduate students with a limited background in programming. Topics from the principles of programming include: documentation, Pascal syntax and semantics, subprograms, arrays, recursion, pointers, and data structure issues (lists, stacks, queues, trees, sorting, searching) with a focus on concepts, data abstraction, and algorithms. Programming projects are implemented in Pascal.

CS 502 Introduction to Computer Science: Architecture **5-0-5**
Prerequisite: Credit for/or experience with the basic concepts of a higher-level programming language such as Pascal or C
This is an intensive course for graduate students with a limited background in computer architecture. Topics from the principles of computer organization and architecture include: number systems, digital logic, and assembly and machine language with a focus on concepts. Laboratory assignments are required.

CS 503 Introduction to Computer Science: Operating Systems **5-0-5**
Prerequisites: CS 501 and CS 502, or the equivalent from undergraduate degree or work experience
This is an intensive course for graduate students with a limited background in operating systems concepts. Topics from the principles of operating systems include: process management, real and virtual memory management, job scheduling, management of peripherals, multiprocessing, and file systems.

CS 504 Mathematical Structures for Computer Science **5-0-5**
Prerequisite: CS 501 and an undergraduate course in algebra; or, the equivalent from undergraduate degree or work experience

This is an intensive course for graduate students with a limited background in discrete mathematics. Topics include: set theory, relations and functions, principles of counting, introductory graph theory, formal logic, recursion, finite state machines, and a brief review of calculus.

CS 506 Database Systems **5-0-5**
Prerequisite: CS 501 or the equivalent from undergraduate degree or work experience

This course includes an overview of various database models including relational, object-oriented, hierarchical, and network. It covers the planning, analysis, design, development, and implementation of database systems. This is a project course where students analyze, design, and implement a database system using a typical relational database product such as Oracle or Paradox.

CS 591-595 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Consent of the department head

Special topics selected by the department. Offered on demand basis.

CS 601 Programming Languages **5-0-5**
Prerequisites: CS 501 and CS 504, or the equivalent from undergraduate degree or work experience

Comparative study of programming languages with emphasis on design issues and compiler implementation problems. Covers formal definitions of syntax and semantics, data types, static and dynamic storage allocation, definition of operations, control of program flow, subroutine and function linkages, formal tools for characterizing program execution, and abstraction techniques, such as nonprocedural and object-oriented languages.

CS 602 Computer System Architecture **5-0-5**
Prerequisites: CS 501, CS 502, and CS 503 or the equivalent from undergraduate degree or work experience

Computer architecture, operating systems, and the integration of the two into usable computer systems. Includes discussions of processor types, buses, peripheral subsystems, microcode, instruction sets, operating systems characteristics, and interaction of operating systems with hardware.

CS 603 Advanced Concepts in Operating Systems **5-0-5**
Prerequisite: CS 602

Topics from the theory of operating systems including: memory management options and management of high-performance architectures that address concurrent, parallel, and distributed processing.

CS 604 Algorithmic Processes **5-0-5**
Prerequisites: CS 501 and CS 504, or the equivalent from undergraduate degree or work experience

Design and analysis of algorithms. Includes an overview of software engineering concepts, survey of notations for representing algorithms, and mathematical techniques for analyzing algorithms for appropriateness, completeness, use of resources, speed, correctness, and decidability.

CS 610 Research Methods **5-0-5**

Materials and methods of scholarly research in computer science. Includes study of standard research paradigms with illustrative cases of each and the use of research methods in industrial and business settings.

CS 615 Advanced Database Systems **5-0-5**

Prerequisite: CS 506 or the equivalent from undergraduate degree or work experience

An advanced course in database systems emphasizing design issues and implementation tradeoffs. It covers the theory, algorithms, and methods that underlie distributed database management systems. Client-server architecture is discussed, and students use an application development tool such as PowerBuilder.

CS 620 Introduction to Software Engineering **5-0-5**

Prerequisite: CS 501 or the equivalent from undergraduate degree or work experience

A survey of techniques for performing systems analysis and system design tasks. The emphasis is on choosing the appropriate tools for a given situation.

CS 625 Object-Oriented Analysis and Design **5-0-5**

Prerequisite: CS 501 or the equivalent from undergraduate degree or work experience

This course explores the object-oriented software development process including analysis, design, and programming. Emphasis is on the object-oriented paradigm.

CS 630 Issues in Information Management **5-0-5**

An introduction to current issues in computing, automation, and the management of information. Organized around a central text that provides a perspective on some aspect of information handling, this course includes a substantial amount of outside reading and library research.

CS 635 Human Factors **5-0-5**

The psychological, social, and technical aspects of interaction between humans and computers. Includes usability considerations, cognitive and perceptual issues, human information processing, and software development techniques for producing appropriate systems. Major project included.

CS 640 Software Engineering **5-0-5**

Prerequisite: CS 620

The software engineering course covers the application of a Computer Assisted Software Engineering (CASE) tool to the design, development, and implementation of a project.

CS 645 Software Metrics and Quality Management **5-0-5**

Prerequisite: CS 620

This course covers quality assessment, cost estimation, configuration management, software performance measures, proof of correctness, validation and verification, and management of the total quality environment for software development.

CS 648 Formal Methods in Software Engineering **5-0-5**

Prerequisites: CS 504 or the equivalent from undergraduate degree or work experience, CS 620

A study of formal specification in the software development process including transformational development, structured algebraic specification, and model-based (particular, Z) specification.

CS 650 Data Communications and Networks **5-0-5**
Prerequisite: CS 602

Hardware and system software topics in data communications and a study of networks from the perspective of the ISO model. Includes local and wide area networks, topological considerations, emerging network standards, and hardware support issues. Major project included.

CS 655 Simulation and Modeling **5-0-5**
Prerequisites: Familiarity with linear algebra and statistics and ability to program in a high-level language

The application of various modeling techniques to the understanding of computer system performance. Includes analytic modeling, queueing theory, continuous and discrete simulation methods, and the use of some software tool such as SimScript to implement a major project.

CS 660 Computer Graphics **5-0-5**
Prerequisites: CS 501 and CS 502, or the equivalent from undergraduate degree or work experience

A study of the hardware and software of computer graphics systems from the programmer's perspective. Includes a survey of display technologies, special architectures for support of graphics systems, algorithms and data structures for manipulation of graphical objects, and consideration of user interface design. Major project included.

CS 670 Management Information Systems **5-0-5**

A study of the use of computer and information management systems in the management of organizations. Includes formal characterization of management structures, identification of information needs, and integrated tools for providing MIS support. Major project included.

CS 675 Data Center Organization **5-0-5**

Issues in setting up and running a multiuser computer or data system. Includes RFP generation, vendor selection, project planning and control methods, backup and disaster recovery plans, site preparation, and job scheduling. Case studies will illustrate the subject materials.

CS 680 Real-Time Systems **5-0-5**
Prerequisites: CS 504 or the equivalent from undergraduate degree or work experience, CS 602

The use of computers in processing of data to/from various non-character devices. Includes inter-process cooperation and communication, elements of analog-to-digital and digital-to-analog conversion, signal processing, real-time constraints, and some hardware interfacing. Major project included.

CS 682 Artificial Intelligence **5-0-5**
Prerequisite: CS 501 or the equivalent from undergraduate degree or work experience

A survey of the major issues in A.I. system development and the methodologies associated with neural networks, expert systems, knowledge bases, and logic programming. Case studies will be used to illustrate material in the readings.

CS 685 Knowledge Representation/Problem Solving **5-0-5**
Prerequisite: CS 682 or consent of the department head

A survey of techniques for representing abstract knowledge in computer systems,knowledge acquisition methods, and approaches to automation of problem solving. The course is organized around case studies.

CS 688 Pattern Recognition **5-0-5**
Prerequisite: Familiarity with linear algebra and statistics
A study of the mathematical techniques for pattern recognition, classification, and interpretation. Includes analytic and statistical approaches and some coverage of signal analysis techniques appropriate to image processing.

CS 691-695 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Consent of the department head
Special topics selected by the department. Offered on demand basis.

CS 771-775 Master's Project **variable credit-1 to 5 hours**
Prerequisite: Consent of both the department head and the project advisor
This project is designed for students wanting a professional focus to their degree. The student works independently under the supervision of a designated CS faculty member on a project of practical significance in computer science. The student will generate a substantial final report and give a final defense of the project and his/her degree. This course may be repeated, but only 5 hours may be applied toward the degree.

CS 781-785 Master's Thesis **variable credit-1 to 5 hours**
Prerequisite: Consent of both the department head and the thesis advisor
The thesis is designed for students wanting a research focus to their degree. The student works independently under the supervision of a designated CS faculty member on a thesis of substance in computer science. The student will generate a formal written thesis and give a final defense of the thesis and his/her degree. This course may be repeated, but only 10 hours may be applied toward the degree.

Construction

CNST 110 Introduction to Construction **3-0-3**
A study of the fundamentals of the construction industry and process from the pre-construction phase through project control and management. Topics include project types, documents, estimating, procurement, bonding, scheduling, mobilization, materials, methods, change orders, claims, safety, and organizational structures.

CNST 111 Construction Careers and Industry Fundamentals **2-2-3**
An introduction to the structure of, organization of, and career opportunities in the construction industry including an overview of the roles of participants in the construction process.

CNST 205 Light Construction Materials and Techniques **3-3-4**
A study of materials and residential construction techniques. Foundations, wood frame and masonry structural systems, interior and exterior finishes, residential electrical and mechanical systems are included.

CNST 210 Building Construction Techniques **3-3-4**
Prerequisite: CNST 110 or CNST 111
A study of the techniques used in construction of foundations, structural frames, exterior finishes, interior finishes, and environmental building systems in commercial buildings. Additional topics include systems building and component prefabrication.

CNST 215 Computer Applications in Construction **1-6-3**

An introduction to commercial software and microcomputers. Topics included are DOS manipulations, spreadsheets, word processing, scheduling, and estimating using packaged software.

CNST 291-295 Special Topics **variable credit-1 to 5 hours**

Prerequisites: Sophomore standing, consent of the department head

Special topics offered by the department on a demand basis.

CNST 305 Land Development **4-0-4**

A study of principles of development. Topics include the legal aspects of property ownership, development, and transfer; market analysis; design principles; governmental regulation; and valuation.

CNST 315 Construction Accounting **4-2-5**

Prerequisite: Junior standing or consent of the department head

A study of accounting practices and unique procedures encountered in the construction industry. Topics include the principles of developing accounting data; preparation and interpretation of financial statements; and management accounting and job cost control.

CNST 321 Conceptual Cost Estimating **4-0-4**

Prerequisite: CNST 210 or CET 335 or ARCH 272

A study of preliminary construction cost estimating methods including Order of Magnitude estimates, Area and Volume estimates and Assemblies (Systems) estimates. Emphasis is on Assemblies estimating and a project is required. Systems include superstructure, foundation, roofing, exterior closure, mechanical, electrical, interior construction, site work, and general conditions.

CNST 325 Quantity Surveying **4-2-5**

Prerequisites: SURV 200, CNST 210 or CET 335 or consent of the department head

A study of techniques in reading, interpreting, and visualizing construction specifications and drawings, and the process of construction estimating with emphasis placed on the quantity survey. The completion of a specification take-off and a quantity survey of a commercial construction project is required. Topics covered include the estimating process; analysis of plans and specifications; and estimating material quantities required for C.S.I. Divisions 1 - 16.

CNST 330 Construction Financial Management **4-2-5**

Prerequisite: CNST 315

A study of financial management principles and applications and their importance to the contractor. Topics include taxation, ratio analysis, the time value of money, budgeting, cash flow analysis, business financing, managing receivables, and forms of construction firms.

CNST 343 Mechanical, Electrical, and Conveying Systems **4-0-4**

An introductory study of mechanical, electrical, and conveying systems used in commercial buildings. Basic design of these systems and their major components is presented including: plumbing, HVAC, electrical power, lighting, alarm systems, elevators, and other major systems.

CNST 352 Construction Safety **3-3-4**
Prerequisite: CNST 210
A study of construction safety and loss control practices. Topics include project security control, construction accidents, safety information sources, weather precautions, emergency planning, and OSHA procedures and regulations.

CNST 355 Steel Frame Structures **4-0-4**
Prerequisite: CET 200 or CET 219
A study of structural design analysis and design concepts used in steel construction. Topics include selection of structural system and the design of steel columns, beams, and connections.

CNST 356 Concrete Frame Structures **4-0-4**
Prerequisite: CNST 355
A continuation of CNST 355 with emphasis on the design concepts used in concrete construction. Topics include selection of structural system and the design of concrete columns, beams, and embedded items.

CNST 391-395 Special Topics **variable credit-1 to 5 hours**
Prerequisites: Junior standing, consent of the department head
Special topics offered by the department on a demand basis.

CNST 410 Construction Formwork **4-0-4**
Prerequisite: CET 316 or CNST 355 or consent of the department head
A study of structural design analysis for job built concrete forms and temporary structures required on a construction project. Topics covered are wood for structural purposes; formwork design; scaffolding; material handling equipment and staging; job office and storage facilities.

CNST 411 Law in the Construction Process **5-0-5**
Prerequisite: Junior standing or consent of the department head
A study of the legal system and laws which are encountered in the construction process. Topics covered include contracts, contract documents, bonding, competitive bidding, professional responsibility and liability, claims process, changes, arbitration and mediation.

CNST 415 Construction Scheduling **3-3-4**
A study of management techniques for scheduling, controlling costs, resource leveling, and planning. A project construction schedule using the critical path method and precedence method is required. Networks, arrow diagrams, time-scaled diagrams, and Gantt charts are discussed.

CNST 425 Construction Project Management **4-2-5**
Prerequisite: CNST 415 or consent of the department head
A study of management control of field operations. Project organization; supervision and administration; permits, licenses, and fees; project meetings; cash flow; shop drawings; quality control; purchasing; subcontractors; record drawings; job records; contract changes; and owner and architect relations.

CNST 435 Cost Estimating **4-2-5**
Prerequisite: CNST 325
The continued study of the estimating process emphasizing take-off and pricing of the general contractor's work on a building from an actual set of working drawings, and specifications. An estimate and bid submission is required. Estimating procedures; specification take-off; direct costs; evaluation of subcontractor quotations; bid strategy and mark-up; and bid opening.

CNST 451 Workplace Law **4-0-4**

A study of the legal constraints encountered in the workplace. Topics included are drugs and drug testing, sexual harassment, labor management cooperation, discrimination, worker compensation, foreign labor regulation, minority/women business enterprises, and professional regulation, and labor-management cooperation.

CNST 488 Business and Management Seminar **2-0-2**

Prerequisite: Senior standing

Business and management topics pertinent to the construction industry. Presentations by prominent industry representatives.

CNST 490 Capstone Project **0-15-5**

Prerequisites: CNST 425, CNST 435, approved graduation petition

This project course is the application of course materials covered in the four-year curriculum to an actual project with a simulated business construct. Project proposal including contract documents must be submitted to and approved by faculty committee. Project includes developing a fictitious company organization; preparing a bid on an actual building; and executing all documents and paperwork to create the company and complete the construction contract.

CNST 491-495 Special Topics **variable credit-1 to 5 hours**

Prerequisites: Senior standing, consent of the department head

Special topics offered by the department on a demand basis.

CNST 502 Construction Methods and Techniques **5-0-5**

A study of the materials, methods, and techniques of residential, commercial including high rise, and heavy construction.

CNST 503 Descriptive Structural Systems **5-0-5**

A descriptive study of structural behavior with an overview of statics, strength of materials, design of beams and columns for concrete, steel, and timber structural systems.

CNST 515 Construction Scheduling **3-3-4**

A study of management techniques for scheduling, controlling costs, resource leveling, and planning. A project construction schedule using the critical path method and precedence method is required. Network arrow diagrams; time-scaled diagram; and Gantt charts are discussed.

CNST 600 Research Methods **5-0-5**

Conceptual and methodological issues in construction research. Includes hypothesis development, data collection, quantitative analysis, validity, and reliability.

CNST 610 Construction Law and Dispute Resolution **5-0-5**

This course focuses on the legal problems and concerns frequently encountered by constructors and others who participate in the construction process. Topics include the formation of contracts and the various contractual relationships; methods of modification and termination of the contracts; exploration of licensure and professional liability of the construction practitioner; and currently used dispute resolution techniques.

CNST 620 Estimating and Bidding Strategy **5-0-5**

A review of all normal bid-preparation activities that should take place in a prime contractor's organization from the initial decisions on project selection and receipt of drawings and specifications, through the estimating process and sub-bid research, final bid assembly, markup and submission, to postmortems and necessary follow-up actions. Significant attention will be devoted to bidding techniques, strategies, practices, and methods recommended to handle these functions.

CNST 630 Project Management and Administration **5-0-5**

This course explores the life cycle of a construction project and the roles of the participants in the construction project. Project documentation, procurement, performance, and completion are analyzed. Obligations and responsibilities of the construction team participants are examined and questioned. Currently used tools and techniques are explored.

CNST 640 Project Controls **5-0-5**

This course is devoted to project planning and measurement. Included in this process is the exploration of the various methods of project scheduling including the introduction of subnetwork and multiproject scheduling. Recourse management, network cost integration, linear projection, line of balance scheduling, time-cost tradeoffs, and s-curves are among the subjects covered.

CNST 650 Management of the Construction Company **5-0-5**

Organization of the construction firm is covered in this course. Financing of the firm, marketing the various construction services of the firm, and exploring the economics which are unique to the construction industry are analyzed. Strategic planning and planning for growth of a construction firm are included in this course. Insurance, bonding, employee development, and labor relations are studied. The continuing relationships with clients, bankers, bonding companies, and design professionals are explored.

CNST 660 Safety and Risk Management **5-0-5**

This course focuses on the safety practices mandated by government regulation and required by good business practice. The costs of safety and the lack of it is examined. Workers' compensation insurance cost is integrated into the issues of safety. Exposure analysis, risk management, risk transfer, and the costs associated with each are examined in this course.

CNST 691-695 Special Topics **variable credit-1 to 5 hours**

Prerequisite: Consent of the department head

Special topics offered by the department when the demand warrants such offerings.

CNST 771-775 Master's Project **variable credit-1 to 5 hours**

Prerequisites: Consent of the department head and of the course professor

This course is designed for the students who want to focus their course of study on a particular aspect of construction. The student works independently under the supervision of the course professor on a project or an inquiry that is significant in the construction industry. The topic of the project or inquiry must be prior approved and the student must continue the work in a manner that is satisfactory to the course professor. The student is expected to submit a substantial report or project and to defend this submittal and the coursework taken in the degree program. This course may be repeated but no more than 10 hours may be applied toward the requirements for graduation.

CNST 781-785 Master's Thesis **variable credit-1 to 5 hours**
Prerequisites: Completion of 35 hours of graduate Construction Master's coursework or consent of the department head, approval of thesis proposal

Intensive research project that results in a formal written thesis. Usually in an area of interest discovered by the student in early stages of the Construction program or work experience. Students may enroll for a maximum of 5 hours per quarter for thesis credit. The student works independently under the supervision of the thesis advisor on an inquiry that is significant to the construction industry. The topic must be prior approved and the student must continue the work in a manner that is satisfactory to the thesis advisor. The student is expected to submit a substantial body of research work and to defend this submittal and the coursework taken in the degree program. This course may be repeated but no more than 10 hours may be applied toward the requirements for graduation.

Design Foundation (DFN)

DFN 101 Design Foundation I **2-9-5**

DFN 101 develops environmental awareness, and teaches methods of environmental analysis, idea generation, evaluation, and synthesis. Emphasis is placed on the relationships between behavior and architectural enclosure, and graphic and written communication.

DFN 102 Design Foundation II **2-9-5**
Prerequisites: DFN 101, DFN 110

Building from DFN 101, this course teaches methods of space formation and sequence.

DFN 103 Design Foundation III **2-9-5**
Prerequisite: DFN 102

Incorporating the subject matter of DFN 101 and 102, students apply professional design methods of analysis, definition, generation, evaluation, and synthesis to issues of form, organization, light, and color in the built environment.

DFN 110 Introduction to Environmental Design **2-0-2**

Education and licensing of environmental design professionals, development of the built environment and the study of professional practice.

DFN 199 Qualifying Architectural Workshop I **5-21-12**
Prerequisite: Acceptance by the Architecture Admissions Committee

Requisite for admission to the B.Arch. program for transfer students from non-architectural programs. Lectures, seminars, and design studio projects adjusted to individual needs. Prerequisites determined by the Architecture Admissions Committee. Credits earned in the Qualifying Architectural Workshop may not be used for credit in Architectural electives.

Economics

ECON 230 Introduction to Economics **4-0-4**
Prerequisite: MATH 111

An analysis of the economics of production in American society. Particular emphasis is given to the study of fiscal and monetary policies, and to the study of the impact of government upon the functioning of these industries. Topics include marginal productivity analysis, graphic models, national income analysis, and the importance of the labor market in American industry.

Electrical and Computer Engineering Technology (ECET)

ECET 100 Introduction to ECET **2-0-2**

Provides the student with an overview of the multitude of career opportunities collectively known as Electrical and Computer Engineering Technology. Each week a different speaker, drawn from the campus or local industry, gives insight into his/her area of specialization. The student will become personally acquainted with the facilities and expertise available at SCT.

ECET 111 Dc-Circuit Analysis **5-3-6**

Prerequisites: ENGL 110, PHYS 201 or PHYS 221, MATH 253 or concurrently, ECET 100 or concurrently

An introductory dc-circuits course dealing with units, basic electrical laws, series and parallel circuits, network analysis, network theorems, and dc-instruments. Capacitance and inductance are introduced. Laboratory work parallels class work and includes the use of various dc-instruments.

ECET 238 Electromechanical Fabrication and PCAD **3-3-4**

Prerequisites: ECET 272, MET 113

A study of the layout, packaging, and manufacture of electronic assemblies and systems. Electrical design of assemblies and printed circuit boards utilizing PCAD will be emphasized. Layout and fabrication practices in current use by electronic-equipment manufacturers will be explored. Laboratory experience will emphasize manufacturing techniques and use of PCAD software for circuit board layout.

ECET 272 Introduction to Semiconductor Devices **5-3-6**

Prerequisite: ECET 274

An introduction to the conduction process in semiconductor materials. Junctions, diodes, BJTs and FETs are studied with emphasis on characteristic curves. Biasing, stability and graphical analysis for the BJT and FET are included with the small-signal models. SCRs and related devices, with selected applications, are introduced.

ECET 274 Ac-Circuit Analysis I **5-3-6**

Prerequisites: ECET 111, MATH 254 or concurrently

An introductory ac-circuits course dealing with sinusoidal waveforms, phasors, impedance, admittance, equivalent circuits, complex power, ac network analysis, and ac network theorems. Laboratory work parallels class work and includes the use of bridges, oscilloscopes, analog and digital meters, and other appropriate instruments.

ECET 291-295 Special Topics **variable credit-1 to 5 hours**

Special topics selected by the department. Offered on a demand basis.

ECET 300 Semiconductor Circuits and Devices **4-3-5**

Prerequisites: ECET 272, ECET 304

BJT and FET amplifiers are studied in depth. Various configurations of small- and large-signal amplifiers are studied. Special attention is given to frequency response and feedback principles. Heat sinking and other practical considerations are included.

ECET 304 Ac-Circuit Analysis II **3-3-4**
Prerequisite: ECET 274
The second part of the ac-circuit sequence deals with dependent sources, resonance, transformers, coupled circuits, three-phase circuits, harmonics and nonsinusoidal waveforms. Laboratory work parallels class work and reinforces the use of laboratory equipment introduced in ECET 274.

ECET 305 Digital Fundamentals **5-3-6**
Prerequisite: ECET 111
A study of digital fundamentals including Boolean algebra, number systems, logic gates, and combinational and sequential logic. (CSci students may not receive credit for ECET 305).

ECET 310 Alternate Energy Sources **4-0-4**
Prerequisite: Junior Standing
A study of the theory and practice of energy conversion with special emphasis placed on methods of conversion that hold promise for the future. Economic and environmental problems are considered. The course includes a study of methods by which useful energy may be derived from nuclear, geothermal, tidal, solar, and wind power. Conventional sources are also considered.

ECET 312 Active Filters **3-3-4**
Prerequisite: ECET 338
Operational-amplifier circuit analysis, transfer functions and Bode plots are studied in preparation for active filter design. The polynomial approximation method is used in selecting order and response for a filter. Various topologies are studied with emphasis placed on general biquad circuits. Delay, sensitivity, coefficient matching, frequency scaling, impedance scaling, magnitude scaling as well as transformations of transfer functions are covered. Actual breadboard construction and evaluation of the selected filter is part of the course requirements.

ECET 313 Polyphase Network Analysis **3-3-4**
Prerequisite: ECET 304
An in-depth study of polyphase systems, balanced and unbalanced; generation, basic connection, parallel loads, voltage regulation, powerfactor correction, line drop, transformer connections, wattmeter and varmeter methods, phase-sequence indicators, and half-wave rectifiers. Includes two-phase, three-phase, four-phase, and six-phase systems. The laboratory sessions include computations, field trips, demonstrations, and measurements in the power laboratory.

ECET 314 C Language with Applications **3-3-4**
Prerequisite: ECET 322
Introduces the C programming language, with emphasis on the modular programming of microcontrollers through personal computers. A major emphasis will include the testing and debugging of C programs at both the source code and the machine code levels.

ECET 315 Transmission Lines **3-3-4**
Prerequisite: ECET 338
A detailed study of all types of guided radio-frequency transmission systems. Concepts of distributed networks are introduced. Topics include transient and steady-state response of lossless and lossy transmission lines, analysis of transmission line systems via Smith Chart and an introduction to S-parameters. Laboratory work, with an introduction to classical RF measurements will emphasize broadband techniques through work with a network analyzer.

ECET 322 Introduction to Assembly Language Programming **3-3-4**
Prerequisite: ECET 305
Principles of stored-program concepts for the Von Neumann type digital computer. The emphasis is on programming techniques for the microcomputer at the introductory level.

ECET 323 Scientific Programming Applications **3-3-4**
Prerequisite: ECET 300
An introduction to the use of the digital computer and FORTRAN for scientific programming with emphasis on engineering problems and their solutions.

ECET 325 Electro/Fiberoptics **3-3-4**
Prerequisites: ECET 338, PHYS 203 or PHYS 223
An introductory study of electroptic devices and optical fibers concentrating on the fundamental principles, specifications, operation, and practical applications of these technologies. Topics include optoelectronic sources, electroptic detectors and lasers concentrating on practical solid-state devices. Both multimode and singlemode optical fibers are discussed. Laboratory experiences supplement the classroom discussions.

ECET 338 Linear Integrated Circuits **4-3-5**
Prerequisite: ECET 300
A study of the characteristics, performance and applications of the most common linear integrated circuits. The student will become familiar with the most common types of modern linear ICs and their functions. Topics included are operational amplifiers, regulated sources, multipliers, oscillators, comparators, phase-locked loops and data converters. Laboratory experience will supplement the classroom treatment for most devices.

ECET 341 Applied Assembly Language Programming **3-3-4**
Prerequisite: ECET 322
A study of the assembly language programming of the Intel 80 x 86 family of microprocessors. Emphasis will be placed on developing a final program that simulates a "real world" application. The architecture, instruction set, and addressing modes of the processors will be introduced, along with the use of industry standard assembler and debugger tools. Applications may include: direct access of video RAM, programming parallel and serial ports, disk drives, keyboards, and speakers. Programming techniques will involve accessing these devices via DOS, BIOS, and/or device controller calls.

ECET 348 Audio Technology **3-3-4**
Prerequisite: ECET 338
Fundamentals of specifications, standards, devices, circuits, and systems used in audio. Power amplifiers, preamplifiers, frequency contouring circuits, signal processors, microphones, and loudspeakers are studied. Circuit responses are observed in the laboratory and also through the use of a computer-based electronic analysis program.

ECET 355 Data Communications **3-3-4**
Prerequisites: ECET 338, ECET 322 or ECET 341
An introduction to data transmission and reception. Both analog and digital transmission are considered. Multiplexing, data link control, and networking are included.

ECET 363 Communications Circuit Applications **3-3-4**
Prerequisite: ECET 338
A study of radio-frequency devices and amplifiers. Tuned oscillators, modulation, and demodulation are covered. Topics include the effects of noise in communications systems and spectral analysis.

ECET 365 RF Devices and Antennas **3-3-4**
Prerequisites: ECET 315, ECET 363, MATH 307 or concurrently
A study of the active and passive RF devices and antennas encountered in modern communications systems. Topics include LNA design and analysis of a specific antenna configuration.

ECET 366 Survey of Fiberoptic Technology **3-3-4**
Prerequisites: PHYS 203 or PHYS 223, PHYS 202 or PHYS 222 or ECET 300
A survey of fiberoptic technology and its current industrial applications. Topics include the principles of optical fiber lightguides and fiberoptic transmitters and receivers. Emphasis is on practical applications including telecommunications, datacommunications, computers, remote sensing, metrology, intelligent materials, and medicine. Future growth areas and markets will be studied. Laboratory work and projects will reinforce classroom studies. (Students may receive credit for ECET 366 or ECET 466 but not for both).

ECET 384 Ac and Dc Circuit Analysis **3-0-3**
Prerequisite: PHYS 202 or PHYS 222
An introductory ac- and dc-circuit analysis course for non-ECET majors. The topics covered include current, voltage, resistance, inductance, capacitance and network theorems. Sinusoidal waveforms, the j-operator, and power. (Credit for non-ECET students only)

ECET 386 Electrical Machinery, Transformers, and Controls **4-0-4**
Prerequisite: ECET 384
Topics covered include ac and dc machines, transformers, feedback control, polyphase circuits, distribution, and instrumentation. (Credit for non-ECET students only)

ECET 391-395 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Junior standing
Special topics selected by the department. Offered on a demand basis.

ECET 401 Test Engineering **3-3-4**
Prerequisites: ECET 314, ECET 424
An introduction to test engineering principles with emphasis on computer-aided instrumentation using industry-standard bus structures such as the IEEE 488 bus and related protocol. Application software will be written in C for testing using various GPIB instruments. Design for testability and related topics will also be covered. Laboratory projects will emphasize automated testing using the principles learned in class.

ECET 406 Survey of Electric Machinery **3-3-4**
Prerequisite: ECET 306
An introductory course in the characteristics and applications of basic electric machinery. Ac generators, dc generators, ac motors, and dc motors are studied.

ECET 410 Waveform Analysis **4-0-4**
Prerequisite: ECET 304

A study of the analysis of nonsinusoidal waveforms, both periodic and transient, occurring in ac circuits containing linear and nonlinear elements. Methods of analysis include graphical techniques, Fourier series, transient response and the complex-frequency plane, and Laplace transformations. Emphasis is placed on the applications of these techniques to the solution of electrical-technology problems.

ECET 413 Power System Analysis **3-3-4**
Prerequisite: ECET 313

A study of the power system and its various components. The parameters of the power transmission line are studied in detail and equivalent circuits for the line are established. One-line diagrams, power system representation, and network analysis are presented.

ECET 414 Industrial Distribution Systems, Illumination, and Applications of the NEC **4-0-4**
Prerequisite: ECET 304 or ECET 384

A study of electrical distribution systems in commercial and industrial buildings. The course also covers the design of illumination systems, and industrial and commercial applications of the National Electric Code. A design problem is included.

ECET 415 Ac and Dc Industrial Motor Control **3-3-4**
Prerequisite: ECET 406

A study of motor control systems used in industry. A study of ladder diagrams, sequence control, and relay logic as a basic reference for the application of programmable logic controllers (PLCs) and stability of the control system. Power rectification, inverter methods and SCR motor control will also be studied.

ECET 419 Introduction to Power Electronics **3-3-4**
Prerequisites: ECET 338, MATH 254

An overview of power semiconductors - switches, diodes, thyristors, and controllable switches. Dc to dc and dc to ac converters, power conditioners, and uninterruptible power supplies are also covered.

ECET 424 Digital System Design **4-3-5**
Prerequisites: ECET 300, ECET 322

A thorough introduction to digital system design is provided. Techniques and issues relevant to design will be covered in depth and project work will emphasize the use of LSI, MSI, and SSI circuits in the application and design of complex digital systems. Typical projects include the use of RAM, EPROM, analog-to-digital converters (ADC), and digital-to-analog converters (DAC). Projects and instruction will also focus on the use of programmable logic devices (PLD's) and microcontrollers which are an important part of modern digital design.

ECET 425 Microprocessor Interfacing and Hardware **3-3-4**
Prerequisites: ECET 314, ECET 424

A project-oriented course involving the development of an interface for an 80 x 86 based PC's ISA bus. The student will design the interface board from the address decoder, buffer circuits through the "real-world" circuitry such as devices as LCD displays, keypads, D/A and A/D converters, serial I/O, etc. The student will be expected to write test programs and the final program in C and/or assembly language. Lecture topics will include analyzing the typical circuitry of a PC motherboard starting from the CPU chip, memory subsystems, interrupt circuitry, serial and parallel circuits, through the study of the BIOS and DOS functions available in PC's.

ECET 426 Microcomputer System Design **3-6-5**
Prerequisite: ECET 424

The student will design a single board computer (SBC) incorporating standard integrated circuits (including an 8-bit microprocessor) and input/output (I/O) devices. Also the student will develop a complete software monitor system that will control the operation of the SBC. One of the major objectives is to provide an environment within which the student will experience a complete industry-like project development cycle, which will include the design development, construction, and test of the project. An industry-standard Development System will be studied and utilized to troubleshoot the SBC during its development cycle.

ECET 427 16/32-Bit Microcomputer Systems **3-3-4**
Prerequisites: ECET 314, ECET 426

The student will develop a system using an embedded 16/32-bit 68000 family microprocessor. This will complement the study of the 80 x 86 family in the ECET 341, ECET 425 courses. Software will include both C and assembly language programming and a real-time operating system kernel. The project to be developed will be oriented toward data acquisition and distributed systems applications related to test engineering.

ECET 428 Introduction to Control Systems **3-3-4**
Prerequisites: ECET 314, ECET 424

A study of feedback control systems with emphasis on the theory and the practical applications of the theory. The use of control system software, such as MATLAB, in the analysis and design of control systems is covered. Process control, aerospace, and other applications are considered.

ECET 432 Machine Intelligence **3-3-4**
Prerequisite: ECET 314

This is an introductory course in machine intelligence. Expert systems, speech synthesis and recognition, machine vision, and neural networks are covered. Lab projects illustrate both hardware and software approaches to these topics. Practical applications are emphasized.

ECET 433 Computer Peripherals **3-3-4**
Prerequisites: ECET 426, ECET 341, ECET 355 or concurrently

The study of various peripherals which combine to create a complete microcomputer system. Various bus structures and protocols are discussed, including IEEE 488, and RS 232. Course includes such topics as modems, floppy disk controllers and CRT controllers. The students will be asked to connect each type of device (floppy disk and CRT controller) to a micro and design the software and hardware to control the device.

ECET 436 Process Control Systems **3-3-4**
Prerequisites: ECET 425, ECET 428

Instrumentation and programmable controllers used for both discrete and continuous control systems are studied. Current industrial practices are emphasized. Process control approaches such as feedforward control, ratio control, and cascade control are covered. The lab includes both hardware studies and computer studies.

ECET 440 Digital Communication Networks **3-3-4**
Prerequisite: ECET 355
A study of the fundamental concepts, operational characteristics, and design principles of digital networks, commonly referred to as LAN's and MAN's. Topics include LAN/MAN technologies, media, architectures, interfaces, performance, standards, management, security, and internetworking. Laboratory experiences supplement the classroom discussions.

ECET 442 Neural Networks and Fuzzy Logic **3-3-4**
Prerequisite: ECET 314
An introduction to the rapidly developing fields of neural networks and fuzzy logic. The emphasis of this course is on practical applications of these topics. The laboratory covers both topics separately and also combined in the case of a neural network employing fuzzy logic.

ECET 465 Modern Radio Frequency Communications Systems **3-3-4**
Prerequisite: ECET 363
A study of the use of radio frequency signalling in modern communications systems with an emphasis on emerging technologies and applications. Topics include earth orbit satellite systems and non-earth orbit space platforms, terrestrial and hybrid RF networks such as cellular telephone systems, wireless LANs and GPS. Laboratory studies will include hands-on work with both C and Ku-band earth stations. Investigations will examine mechanical, electrical, and weather-related factors in order to accurately assess system performance in terms of power and bandwidth budgets.

ECET 466 Fiberoptic Communication System Design **3-3-4**
Prerequisites: ECET 315, PHYS 203 or PHYS 223
Study of guided optical-wavelength communications systems. The underlying principles and recent advances in the areas of optical sources and detectors and dielectric waveguides are studied. Topics include connectors, couplers, WDM, and test equipment. Network topologies, modulation and noise considerations are reviewed and applied to fiberoptic applications. The course culminates in analysis of existing systems and the design of broadband and digital fiberoptic systems. Laboratory experiences supplement the classroom discussions.

ECET 475 Senior Project **3-3-4**
Prerequisites: ECET 314, ECET 426
An in-depth examination of a problem relating to the controls and automation area requiring the application of electrical engineering technology and philosophy to arrive at a concise solution. The problem (or problems) selected each quarter will provide the student with many of the experiences and challenges likely to be encountered in industry.

ECET 491-495 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Senior standing
Special topics selected by the department. Offered on a demand basis.

ECET 601 Test Engineering **3-4-5**
An introduction to test engineering with emphasis on computer-aided instrumentation utilizing the IEEE-488 bus and related protocol. Instrumentation drivers will be written in C for various test instruments and testing applications. Component, board, backplane, in-circuit, functional, and system tests are studied in relationship to cost, testability, and fault analysis. Surface-mounted devices, ASICs, boundary-scan technology, VXI/VME, and some commercial equipment and software are also introduced.

ECET 603 Solid-State Devices **4-2-5**

A detailed study of the charge transport principles that describe semiconductor devices. In addition, background information is presented and studies progress to other solid-state devices and applications such as electroptic, photonic, superconducting, optical, acoustic and others of interest to the student.

ECET 605 PSpice and Macromodeling **4-2-5**

A detailed study of the PSpice circuit simulation program with an emphasis on understanding the various device parameters used in PSpice, device characterization techniques, and various functional and behavioral modeling applications. This course culminates with the development and assessment of a macromodel of an electronic system.

ECET 606 System Engineering **4-2-5**

This course provides a knowledge base of those elements comprising good design practices beyond circuit design and analysis such as: concurrent engineering, quality, reliability, maintainability, producibility, life-cycle cost, projectizing, manufacturing, and logistic support.

ECET 610 Digital Signal Processing and Applications **4-2-5**

Underlying principles of discrete-time signals and systems and how they differ from continuous signals. Topics include introduction to difference equations as applied in signal processing, Z-Transform, and its relationship to difference equations and bilinear transformation techniques for digital filter design. Studies include the most commonly used special-purpose microprocessors such as TMS320 and DSP56000 families.

ECET 711 Automatic Control Theory and Applications **3-4-5**

A study of feedback control systems with emphasis on the theory and the practical applications of the theory. The use of control system software, such as MATLAB, in the analysis and design of control systems will be covered. Process control, aerospace, and other applications will be considered.

ECET 712 Solid-State Motor Control **3-4-5**

A study of solid-state devices used in the control of electro-mechanical control systems. Course will include an in-depth study of frequency control methods and the use of programmable controllers.

ECET 713 Fault Analysis of Power Systems **3-4-5**

Faults in a three-phase system will be studied using symmetrical components and the computer programs which are applicable to such studies.

ECET 714 Power-Flow Studies of Distribution Systems **3-4-5**

Load-flow studies, economic operation of power systems and system stability will be studied. Power system modeling will also be studied. Digital load-flow programs will be used where applicable.

ECET 721 Current Topics in Computer Controls **3-4-5**

Current uses of computers in real-time control applications. This course provides up-to-date studies of areas of interest in industry not covered in other graduate courses.

ECET 724 Microcomputer Systems **3-4-5**

This course will focus on the latest developments in the field of microcontrollers. The use of new techniques for data I/O, as well as new devices will be covered. Emphasis will be on single-board systems used in the control environment. C, assembly language, and real-time executive programming tools will be used.

ECET 725 Embedded PC Systems **3-4-5**

This course will focus on latest developments in the field of embedded PCs (8088/80x86, 80188/80186 processors). Emphasis will be on single-board systems used in the control environment. Customizing the ROM BIOS and developing ROMable code will be studied. C, assembly language, and real-time executive programming tools will be used.

ECET 727 Fuzzy Logic and Neural Networks **3-4-5**

This course will introduce the concepts of fuzzy logic and its use in current applications. Studies will include not only fuzzy-logic techniques, theory and principles, but students will also develop software for the solution of actual problems. Discussions will also include how neural network simulations are used to solve decision-making tasks.

ECET 728 Advanced Topics in Artificial Intelligence **3-4-5**

Advanced topics in computer vision and/or speech techniques. Speech recognition and synthesis plus 3-D vision analysis will be covered.

ECET 732 Wireless Communication Networks **3-4-5**

A detailed study of wireless communication networks with special emphasis on applications, access techniques and interconnection with other networks. Topics include cellular radio, wireless LANs, and personal communication systems.

ECET 733 Advanced Antenna Systems and Measurements **3-4-5**

A detailed study of antenna systems employed in modern communications and radar systems. Emphasis is placed on beam-shaping techniques and use of phased arrays. Topics include a study of modern instrumentation for polarization, directivity, and phase measurements.

ECET 734 Digital Communication Networks **3-4-5**

A detailed study of asynchronous and synchronous digital communication networks emphasizing characteristics, standards, performance, and optimization of design. Topics include LANs, MANs, and WANs and packet-switching and circuit-switching applications.

ECET 736 RF and Microwave Components **3-4-5**

A study of both active and passive devices that are commonly used in rf systems which will include their specification, design, and testing.

ECET 738 Optical Communication Systems **3-4-5**

A detailed study of optical fibers, fiberoptic communication systems, and free-space optical communication systems. Topics include optical and electroptical components currently utilized in data-communication, telecommunication, and other communication systems.

ECET 772 Project Proposal **2-0-2**
Prerequisites: Completion of 25 QCH of masters program and permission of Project Advisor

The student will prepare the proposal for his/her Masters Project under the guidance of his/her Project Advisor. The Project Proposal must conform to the guidelines and accepted format as presented in the ECET MSET/E Project Handbook. Approval of the Proposal by the student's Project Committee will constitute the completion of the course.

ECET 773 Project Report **3-0-3**
Prerequisites: ECET 775, completion of 40 QCH of masters program and permission of Project Advisor

The student will produce the final report demonstrating the completion of his/her project. The report must conform to the style as outlined in the ECET MSET/E Project Handbook and detailed in the NASA Developmental Engineering Style Guide. The acceptance of the report by the Project Committee will constitute the completion of this course.

ECET 775 Project **5-0-5**
Prerequisites: ECET 772, completion of 30 QCH of masters program and permission of Project Advisor

The student will complete the tasks specified in his/her Project Proposal. The acceptance of the preliminary project results by the Project Committee will constitute the completion of this course.

ECET 790 ECET Research **5-0-5**
Prerequisite: Permission of Academic Advisor

A seminar in research and development methods, current industrial practice and application of new technologies. Guided by the professor, each student will choose a current topic in Electrical or Computer Engineering Technology, become informed about the principles and applications of that topic and ultimately produce a detailed report which is presented during the ECET Forum.

ECET 795 Special Topics **3-4-5**

The topic selection for this course will be by agreement among the student, the advisor, and the department head.

English

ENGL 083 Reading for the Regents' Test **3-0-3**
(Institutional Credit Only)

Prepares the student for taking the Reading component of the Regents' Test by providing simulated experience in the test-taking situations and including general test-taking strategies, reading strategies, and strategies for controlling test anxiety.

ENGL 093 Writing for the Regents' Test **3-0-3**
(Institutional Credit Only)

Prepares students for taking the Writing component of the Regents' Test by providing instruction in such critical skills as grammar, usage, and mechanics through the writing of practice essays.

ENGL 110 Introductory Composition I **3-3-4**

A writing-intensive, introductory composition course, including the principles of grammar, mechanics, and sentence structure. Course covers rhetorical strategies for writing and revising, with particular emphasis on writing expressive, analytical, and persuasive essays. Includes Regents' Essay practice and work in Learning Resources Center as required. Also includes teaching of research skills resulting in at least one documented research essay. Final grade of "C" or better required to receive course credit.

ENGL 112 Introductory Composition II **3-3-4**

Prerequisite: "C" or better in ENGL 110

Second writing-intensive, introductory composition course, including a brief review of grammar, mechanics, and sentence structure as needed. Considers rhetorical strategies for organizing, developing, proofreading, and revising essays. Includes the writing of expository, analytical, and argumentative essays based on course readings. Research essay and preparation for the Regents' Test required. Work in the Learning Resources Center as required.

ENGL 221 Business Communication **3-3-4**

Prerequisite: ENGL 112

Introduction to the communication skills needed in the business world. Includes both written and oral communication skills, learned through exposure to mock business situations, including the job search. Emphasis placed on writing business correspondence. Includes appropriate oral component.

ENGL 232 Technical Writing **3-3-4**

Prerequisite: ENGL 112

Introduction to organization, style, and mechanics of technical and managerial writing. Includes practice in writing such typical documents as technical descriptions, instructions, proposals, and recommendation reports. Emphasis placed on planning, organizing, and writing reports; designing visual aids; and editing. Among other assignments, at least one complete technical report is required.

ENGL 310 Rhetoric: History and Theory **4-0-4**

Prerequisite: ENGL 232

Analysis of classical and contemporary theories or rhetoric and their application to on-the-job writing. Emphasis placed on logical, emotional, and authoritative strategies used in technical and professional writing and oral presentations.

ENGL 311 Advanced Grammar and Composition **4-0-4**

Prerequisite: ENGL 232

Study of the historical development of English grammar, with emphasis on sentence and paragraph structure and contemporary usage. Also, advanced study of the aims and modes of discourse.

ENGL 312 Research Methods in Technical Communication **4-0-4**

Prerequisite: ENGL 232

Study of the methods and materials of research in the field of technical and professional communication, with emphasis on application to the working world. Covers topics such as researching source material, interviewing experts, weighing evidence, reaching conclusions, and reporting on research.

ENGL 313 Instructional Design **4-0-4**
Prerequisite: ENGL 232
Study of the methods, media, and technology used in developing training for business and industry. Sample topics may include the learning process, curriculum development, computer-assisted instruction, and help systems.

ENGL 314 Legal and Ethical Issues in Technical Communication **4-0-4**
Prerequisite: ENGL 232
Course includes (1) a study of the legal and ethical topics related to technical communication, such as risk management, copyright law, regulation of electronic media, and problems involved in the use of graphic and marketing materials; and (2) some practice in the kinds of technical writing that must satisfy legal and ethical criteria.

ENGL 315 Writing in Scientific Fields **4-0-4**
Prerequisite: ENGL 232
Examination of the types of writing produced in various scientific professions. Depending on the quarter, possible topics may include one or more of the following: environmental writing, public policy documents, and other scientific documents.

ENGL 391-395 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Consent of the department head
Special topics in communications. Offered by the department at its discretion.

ENGL 410 Issues in Science and Technology **4-0-4**
Prerequisite: Junior standing
Course examines the technical, social, and moral issues raised by current advances in science and technology. Historical case studies allow students to develop perspective and analytical skills that are then applied to a broad range of contemporary issues. Approved for credit toward the upper-division concentration in A&S for non-TPC majors. Credit will not be allowed for both A&S 410 and ENGL 410.

ENGL 420/520 International Technical Communication **5-0-5**
Prerequisite: ENGL 232 for undergraduates
Survey of the major issues that affect technical communication from a global perspective. Topics may include cultural influences on communication, challenges associated with technical translation, differing uses of graphics, communicating within multinational organizations, and theoretical issues related to international communication. Graduate students complete extra project(s).

ENGL 421 Project Portfolio **2-0-2**
Prerequisite: Senior standing
Independent study each student must complete with his or her advisor. With the advisor's guidance, the student develops a professional portfolio of projects and assignments that reflect work in the program and an understanding of the field.

ENGL 422 Internship **4-0-4**
Prerequisite: Senior standing
An opportunity for students to apply principles and techniques of technical communication in a specific organization. The student is responsible for finding an internship, but the department will help in the effort. Each internship is monitored by the student's advisor.

ENGL 425/625 Online Communication **5-0-5**
Prerequisites: ENGL 232 for undergraduates
Study of the design and development of effective online materials, such as help, online references, and web pages. Presents theories of human-computer interaction and principles of online communication. Students design and develop their own module of online information. Although the course presents principles of authoring, it does not teach tools for authoring online information. Graduate students complete extra project(s).

ENGL 435/535 Communication Graphics **5-0-5**
Prerequisite: ENGL 221 or ENGL 232 for undergraduates
Study of many types of visual aids in technical communication. Course teaches students to select, obtain, handle, and place graphic materials, as well as to work knowledgeably with production editors and layout specialists. Incorporates information on graphics software. Graduate students complete extra project(s).

ENGL 440/540 Manuals **5-0-5**
Prerequisite: ENGL 232 for undergraduates
Introduction to the process of writing manuals, with emphasis on user manuals. Students write and produce all or part of a manual. Course includes discussion of theory relevant to designing usable, readable manuals. Graduate students complete extra project(s).

ENGL 445/545 Proposals **5-0-5**
Prerequisite: ENGL 232 for undergraduates
Theory and practice of writing proposals for business and industry, with emphasis on external sales and in-house proposals. Course covers (1) persuasive theory and strategies, and (2) parts of the proposal process, including team writing techniques, sales letters, writing of the proposal text, proposal graphics, oral presentations, and negotiation strategies. Graduate students complete extra project(s).

ENGL 450/550 Editing **5-0-5**
Prerequisite: ENGL 221 or ENGL 232 for undergraduates
Course designed to give students practice in applying editing principles and techniques to technical subject matter. The following main areas are addressed: copy editing, working with authors and editors, and related issues.

ENGL 460/560 Professional Oral Presentations **5-0-5**
Prerequisite: SPCH 240 or ENGL 221 for undergraduates
Course designed to enhance students' presentation skills in a technical and business environment. Students practice various speech types such as briefings, interviews, formal technical presentations, panels, and impromptu presentations. Course also includes an overview of communication theory as it applies to oral presentations. Graduate students complete extra project(s).

ENGL 485/585 Small Group Communication **5-0-5**
Prerequisite: ENGL 232 for undergraduates
Study of the theory and practice of group interaction and teamwork as it applies to group process. Focuses on such topics as the function of roles in groups, conflict resolution, leadership in the small group, gender differences, listening and negotiation skills, and managing meetings. A collaborative writing project and workshop activities reinforce these principles. Graduate students complete extra project(s).

ENGL 500 Document Design **5-0-5**

Study of the chief elements of technical and professional documents. Topics include analysis of design, and research in the theory of document design as a basis for correcting weaknesses. Requirements include (1) a report proposing a redesign, with sample selected parts of a redesigned document, and (2) a report that is based on current document design theory. Course must be taken first quarter of enrollment in the MS program.

ENGL 515 Multimedia Communication **5-0-5**

An introduction to multimedia concepts, technology, and production. Students will learn the components of multimedia workstations; the elements of information, visual and technical design; the steps in planning and controlling a multimedia project; and the processes of creative and production development, including use of the Internet and World Wide Web.

ENGL 555 Journalism **5-0-5**

Study of technical and scientific reporting, including mass media theory. Emphasis on making technical information understood by a general audience. Students practice many in-house and external forms of writing such as news releases, feature articles, bulletins, brochures, and pamphlets.

ENGL 575 Writing for Publication **5-0-5**

Study of the process of writing for publication, with particular reference to journals and magazines. Students prepare a bibliography, examine the style and submission requirements of several periodicals, write an article of publishable quality, and submit the article for consideration.

ENGL 580 Writing for Special Purposes **5-0-5**

Intensive study of a particular genre of technical writing, with course topics changing from quarter to quarter.

ENGL 590 Project Management for Technical Communicators **5-0-5**

Prerequisite: Consent of the department head

Study of the variety of skills needed to manage projects in technical communication. Course is designed to give students practice in three key areas: planning, scheduling, and controlling. Related areas, such as delegating and decision making, are covered through outside readings. Strongly recommended: several years' experience in technical writing and some experience as senior writer, team leader, or supervisor.

ENGL 591-595 Special Topics **variable credit-1 to 5 hours**

Prerequisite: Consent of the department head

Special topics in technical and professional communication, to meet the special interests of students in the Master of Science in Technical and Professional Communication program. Course content and credit by arrangement between the instructor and the student.

ENGL 600 Research in Technical and Professional Communication **5-0-5**

Study of research methodology in technical communication. Provides experience in collecting material, weighing evidence, reaching conclusions, and writing research reports. Course includes study of the theory necessary to understand research.

ENGL 605 Teaching Technical and Professional Communication **5-0-5**

A practicum designed primarily for students who plan to teach introductory courses in technical communication. Includes suggestions for teaching at various levels. May include suggestions for in-house training programs.

ENGL 615 Usability Testing **5-0-5**
Prerequisite: Consent of the department head
Study of the relevant research and practical application of usability testing as part of product development, with the focus on documentation. Includes strategies for planning, conducting, and analyzing a test. Teams will perform tests and report results from an actual test in a usability lab. Recommended that students have experience writing technical documentation or have taken Online Communication or Manuals.

ENGL 761-765 Master's Internship **variable credit-1 to 5 hours**
Prerequisites: Completion of 35 hours of Technical and Professional Communication coursework or consent of the department head, confirmation of approved internship
Course provides student with hands-on experience in technical communication in a professional environment. The internship involves work for a single sponsoring organization. Work should be typical of technical communicators. Work may be either one extended project or a variety of shorter assignments. (Total of ten hours of Master's Internship required.)

ENGL 771-775 Master's Project **variable credit-1 to 5 hours**
Prerequisites: Completion of 35 hours of Technical and Professional Communication coursework or consent of the department head, approval of project proposal
Written project that student completes as part of, or on the basis of, work done in a company or another organization. Sample projects include case study, project report, feasibility study, training package, or manual. The project will be closely monitored by the student's advisor and will require a literature review. (Total of five hours of Master's Project required.)

ENGL 781-785 Master's Thesis **variable credit-1 to 5 hours**
Prerequisites: Completion of 40 hours of Technical and Professional Communication coursework or consent of the department head, approval of thesis proposal
Intensive research project that results in a formal written thesis. Usually flows from an area of interest discovered by the student in early stages of the Technical and Professional Communication program or through work experience. Thesis work will be closely supervised by the student's advisor. Students may enroll for a maximum of 5 hours per quarter for thesis credit, with exceptions at the discretion of the department head.

Environmental Development (ED)

ED 171 Construction Graphics **2-6-4**
A thorough review of graphic fundamentals needed by Construction students to develop fundamental vocabulary, knowledge and practical skills in the production of architectural and engineering construction documents.

ED 211 Introduction to Urban Planning **4-0-4**
This course focuses on the principles of planning, theories of planning, community organization, changing philosophies in modern society and the process of shaping the community form.

ED 212 Development Process **4-0-4**
Prerequisite: ED 211
The process of land development is explored. The roles of the developers, investors, designers, planners and others are examined identifying the objectives each have in the development decision process.

ED 221 Survey of American Architecture and Building Design **3-0-3**
Prerequisite: DFN 103

A survey of American architecture and urban design from the settlements of the Pueblo Indians to the present. Cross temporal and cultural precedents will be explored as they influenced American architecture and urban design and continue to shape contemporary form.

ED 222 History of Western Urbanization Prior to the Industrial Revolution **3-0-3**
Prerequisite: ED 221

A survey of the evolution of urban form from ancient times through the Renaissance. The course covers the origin of cities in the mid-east and charts their growth in Europe and as they were imported to the United States. The focus is on economic, political, and social determinants of urban form. The roles of private development and government are explored.

ED 223 History of American Cities as Social and Economic Institutions **3-0-3**
Prerequisite: ED 222

An introduction to major social and economic theories of urbanization and the study of the evolution of American cities from colonial settlements to municipal corporations.

ED 261 Site Planning **3-3-4**
Prerequisite: DFN 103

A study of site engineering standards and design principles used in the development of building sites.

ED 271 Construction Systems and Materials I **3-3-4**
Prerequisite: DFN 103

Non-mathematical study of structural and enclosure systems and materials and their integration, using illustration, construction documents, and construction site visits. An introduction to sustainable architecture.

ED 272 Construction Systems and Materials II **3-3-4**
Prerequisite: ED 271

Non-mathematical study of interior partitioning, finish, fixed equipment, movement, acoustical, lighting, power, communications, sanitary, fire protection, and climate control systems and materials and their integration using illustration, construction documents, and construction site visits. An introduction to sustainable architecture.

ED 301 Site Planning and Development **3-6-5**
Prerequisites: ED 212, ED 261

A study of site engineering standards and design principles used in development of building sites. Material includes site analysis, grading, drainage, circulation, utilities and zoning.

ED 311 Land Use Controls and Development **3-0-3**
Prerequisite: ED 301 or concurrently

This course examines the legal and regulatory components of land development. Zoning requirements, site design considerations and environmental review processes are considered in relation to specific projects.

ED 312 Valuation and Assessment Techniques **3-3-4**
Prerequisites: ED 301, ED 311
The standardized methods for assessment of vacant and improved land are presented and analyzed in relation to their applicability and reliability. Additional land valuation techniques used to determine the market value of property are also examined.

ED 313 Housing **3-3-4**
Prerequisite: ED 301
The role of government and private developers in providing housing. Explores how to formulate and implement a housing plan. Various other topics such as syndication, public housing, rehabilitation, rent control, and other topics may be covered.

ED 314 Environmental Planning **3-3-4**
Prerequisite: ED 301
The focus of the course is integrating the natural systems into local planning processes. Case studies of environmental planning at federal, state, and local leveled are undertaken.

ED 315 Real Estate Development Finance **4-0-4**
Prerequisite: TMGT 240
This course focuses on financial analysis of real estate investments. The course covers topics including measures of value, capitalization rate, capital budgeting, debt and equity markets and taxation.

ED 331 Computer Applications for ED **2-6-4**
Prerequisites: ED 211, ED 212
Introduction to theory and practice of computer applications in environmental development and planning.

ED 391-395 Special Topics Seminar **variable credit-1 to 5 hours**
Prerequisite: Junior or senior standing
Comprehensive studies and research of special topics not covered in other courses. Emphasis will be placed on current developments in architecture, construction, and urban planning. May be repeated three times when topic varies.

ED 411 Real Estate Market Analysis **4-0-4**
Prerequisites: ED 315, TMGT 240
This course focuses on examination of techniques of market analysis. Topics cover business and construction cycles, regional and urban growth trends, commercial and industrial location theories and demographic analysis and projection techniques.

ED 412 Environmental Impact Assessment **3-0-3**
Prerequisite: ED 314
The course provides the foundation for understanding the Environmental Impact Assessment process, its legal context and criteria and methods for procedural and substantive compliance.

ED 420 Environmental Ethics **5-0-5**
Prerequisite: Senior Standing
An examination of the impact of urbanization decisions on the commonwealth. Consideration will be given to various environmental and cultural policy topics and to ethical considerations in real estate development and land planning decision making.

ED 499 Senior Project **0-24-8**
Prerequisite: Approved graduation petition
A capstone course requiring the performance of a comprehensive project that demonstrates the student's ability to creatively apply the course materials covered during their 4 year program to a theoretical or realistic project.

French

FREN 121 Elementary French I **4-3-5**
For students with no knowledge of French. Provides students with a foundation in elementary French grammar through an intensive oral approach. The development of aural comprehension and the ability to express thought orally in simple sentences are the primary objectives. Attention is given to reading French prose and to writing simple sentence patterns.

FREN 122 Elementary French II **4-3-5**
Prerequisite: FREN 121 or consent of the department head
Designed for students who have completed Elementary French I or who have completed one year of high school French or one term of college French. The aims of the course are further development of oral and aural skills, the reading of adapted materials, and the increased accuracy of writing skills through further grammatical study.

FREN 240 Intermediate French **3-3-4**
Prerequisite: Prior experience or study in French
The course concentrates on further development of listening and speaking skills, pronunciation and syntax, and reading and discussions of aspects of Francophone life and culture.

Geography

GEOG 240 Human Geography **4-0-4**
Survey of basic concepts in human geography. Includes cultural, political, urban, and economic geography.

GEOG 341 World Regional Georgraphy **4-0-4**
Prerequisite: GEOG 240 or consent of the department head
Examines the geography of the world and its impact on population, urbanization, trade resources, and development as an ongoing framework for analysis and global perspective.

History

HIST 210 United States to 1876 **4-0-4**
United States history from the colonial period through Reconstruction. Emphasis on the interpretation of American institutions and ideas. Satisfies U.S. and Georgia history and government requirement.

HIST 211 United States since 1876 **4-0-4**
The rise of the United States as an industrial power from the late 19th century to the present. Special emphasis on change and reform during this period. Satisfies U.S. and Georgia history and government requirement.

HIST 220 World Civilization: Ancient **4-0-4**

A survey of the cultural, political, economic, intellectual, and scientific development of early world civilizations from pre-historic times to the fall of Rome in the West, c. 500 A.D.

HIST 221 World Civilization: Medieval **4-0-4**

A survey of the political, economic, intellectual, and social development of civilization from 500 A.D. through the Protestant Reformation of the 16th century (with emphasis on Christendom and Islam).

HIST 222 World Civilization: Modern **4-0-4**

A survey of the cultural, political, economic, intellectual, and scientific developments from the emergence of the modern nation state to the present.

HIST 241-242 African American History **4-0-4**

The political, social, and economic history of black Americans from African beginnings to the present. Offered as separate courses divided at 1865.

HIST 290 U.S. Constitution and Georgia History **1-0-1**

A one-hour course designed to help out-of-state transfer students meet the State of Georgia's legislative requirement that all students have knowledge of the U.S. Constitution and of Georgia history.

HIST 320 History of Science Survey **4-0-4**

Prerequisite: Junior standing or consent of the department head

Survey of developments in physical, biological, and human sciences and their connection to western culture from the sixteenth century to the present. Approved for credit toward the upper-division concentration in A&S. Credit will not be allowed for both HIST 320 and A&S 320.

HIST 325 History of American Technology **4-0-4**

Prerequisite: Junior standing or consent of the department head

Survey of the development of technology and its impact on American society. Topics will include technology transfer and American innovation, the organization and mechanization of industrial production, and the technologies of cities, households, transportation, communication, and leisure. Approved for credit toward the upper-division concentration in A&S. Credit will not be allowed for both HIST 325 and A&S 325.

HIST 326 History of American Science and Medicine **4-0-4**

Prerequisite: Junior standing or consent of the department head

Survey of the development of American science and medicine and their impact on American society. Topics will include the development of various fields of science, the relationship between science and government, the relationship between science and medicine, and the development of medical knowledge and practice. Approved for credit toward the upper-division concentration in A&S. Credit will not be allowed for both HIST 326 and A&S 326.

HIST 391-395 Special Topics **variable credit-1 to 5 hours**

Prerequisite: Consent of the department head

Special topics in American or world history. Offered by the department on a demand basis.

HIST 422 History of American Architecture **5-0-5**
Prerequisite: Consent of the department head
A survey of American architecture from the Colonial period to the present. Emphasis on the 19th and 20th centuries.

Humanities

HUM 391-395 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Consent of the department head
Special topics in the humanities. Offered by the department at its discretion.

HUM 425 Technology and Culture **5-0-5**
Prerequisite: Consent of the department head
A colloquium. A study of the ways in which technology interacts with other areas of culture.

Industrial Distribution (ID)

ID 101 Introduction to Industrial Distribution Software **2-0-2**
Part of the course is devoted to an introduction to college policy and expectations for students. The rest of the course is devoted to a study of selected commercially available computer programs as problem solving tools in an industrial environment.

ID 304 Philosophy of Industrial Distribution **3-0-3**
Provides the student with an overview of the multitude of career opportunities with industrial distributors, wholesalers, and suppliers. Topics covered are definitions, history, types of distributors, range of products, channels of distribution, functions of and services provided by distributors. The course will include a visit to a local distributor/wholesaler.

ID 307 Production Processes **2-3-3**
Prerequisites: ID 304, ENGL 112
An introduction to basic production processes and systems from the viewpoint of industrial engineering technology. A variety of production processes, machines, and tools are studied. The design of the production system including people, material, equipment, energy, and information is introduced.

ID 329 Labor Relations **3-0-3**
A study of labor-management relations. Topics covered include the history of organized labor, federal labor laws, collective bargaining. NLRB activities, grievance procedures, strikes, and arbitrations.

ID 334 Production and Inventory Control **2-3-3**
Prerequisites: ID 101, IET 227, IET 325
The concept of a basic production control system and the requirements of production control for both continuous and intermittent manufacturing are covered. Management of inventory is treated as an integral part of the production control system. Various methods and techniques are studied in detail. Laboratory activities include the use of microcomputers to develop a simple manufacturing requirements planning model and other applications. Simulation is used as a tool for decision making in the lab.

ID 343 Engineering Law I **4-0-4**

A basic study of the law with emphasis directed toward the engineering technology student. Topics covered are: introduction to law, including an overview of partnership and corporate law; engineering ethics; contract law; tort law, placing emphasis upon product liability; and business crimes.

ID 350 Loss Control Concepts of Industrial and Product Safety **3-3-4**

Prerequisite: IET 330

A study of industrial controls that assist engineers in the reduction of hazards associated with regulatory standards (i.e., OSHA, EPA), occupational disease and injury, as well as use and abuse of materials, machinery and equipment. Product safety topics include product liability, hazardous characteristics of products, operating hazards analysis and risk assessment. Course emphasis is on identification and abatement of potential losses. A major course project involves either an in-plant loss control inspection or investigation into the safety aspects of a new or existing product. Written and oral presentations of findings and recommendations are part of the project.

ID 375 Engineering Law II **4-0-4**

The study of the general law of: property and bailments, corporations and partnerships; sales and product liability; and patents, copyrights, and trademarks.

ID 410 Principles of Team Dynamics **5-0-5**

Prerequisite: Junior standing

Provides the student with skills and techniques needed to succeed as a member of a task force, project team, or self-directed team. Topics included are project team problem solving techniques and controlling a team through its productivity stages.

ID 432 Engineering Cost Analysis I **3-3-4**

Prerequisites: ID 101, IET 424

Course includes introduction to financial statements through analysis of assets, liabilities, and owner's equity and their relationship to income determination. Course emphasis is on financial statement analysis to determine liquidity, asset activity, debt measurement, and profitability. Topics include the demand and supply of funds in the capital market, the nature and role of finance in our economy, short-term financing, trade credit, long-term financing, and cash flow analysis.

ID 433 Engineering Cost Analysis II **2-3-3**

Prerequisite: ID 432

A study of cost measurement related to manufacturing and non-manufacturing sectors through cost measurement and control in job order, process, standard and variable costing systems. Content includes the recording and control of material, labor and overhead costs; absorption and direct costing; budgeting; and cost volume profit analysis.

ID 434 Distribution Operations **3-3-4**

A study of the operational and control aspects of distributorships which market industrial products. Includes financial transactions of the wholesale distributors. Case studies, company visits, and up-to-date techniques are involved.

ID 435 Fundamentals of Technical Sales **4-0-4**

A study of the basic fundamentals of personal selling in the context of selling industrial or technical products. Current readings and up-to-date selling techniques will be examined.

ID 436 Applications of Sales Techniques **4-0-4**
Prerequisite: ID 435
A continuation of the fundamental concepts taught in ID 435 with particular emphasis on development of oral and written proposals; application of sales strategies; and utilization of telemarketing techniques. Heavy usage will be made of video taped role-playing situations in an industrial or technical sales position.

ID 437 Sales Management **4-0-4**
Prerequisite: ID 435
A study of the basic principles underlying the management of a sales force. Topics covered include sales planning, selection and training of a sales force, sales compensation and motivation, establishment of sales territories, and evaluation of sales personnel. Guest speakers will be invited to lecture to the class.

ID 441 Engineering Cost Estimation **3-3-4**
Prerequisite: ID 432
Introduction to resource requirements, resource costs, cost estimates, cost indices in preparation for methods analysis and contract bidding. Heavy use will be made on using the computer to estimate total project costs including estimates based on sensitivity analysis and decision trees.

ID 445 Industrial and Consumer Marketing **4-0-4**
A detailed study into industrial marketing and the major factors that are involved in the successful marketing of an industrial product. This is compared and contrasted to the consumer marketing process. Emphasis is on industrial marketing from a technical sales perspective, and the techniques used to support a successful technical sales program. The similarities and differences to consumer sales is also discussed.

ID 447 Purchasing and Material Management **4-0-4**
A study of the management of purchasing and materials activities. Topics covered will include specification and standardization, vendor evaluation, receiving and storage, pricing, reciprocity, negotiation, legal aspects, and computer based purchasing. Just-in-time (JIT) ordering, bar code labeling, and electronic data interchange (EDI) will be examined.

ID 449 Traffic Management **4-0-4**
A survey of the transportation systems available to a traffic/warehouse manager. The different forms of transportation are analyzed in terms of services rendered, costs, transit time, reliability, capability, accessibility, security, and traceability. Labor relations and current issues in national transportation policy will also be discussed.

ID 475 Logistics Systems Project **2-6-4**
Prerequisites: ID 334, IET 440, Senior standing
An examination of an in-depth problem requiring the use of industrial methodologies for controlling and operating the industrial logistics network. The control of this network will emphasize the use of integrated information systems. Functions and interdependencies of the major components such as order processing, product/production planning, inventory control/warehousing and distribution will be examined.

ID 491-495 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Junior standing or consent of the department head
Special problems selected by the department. Offered on a demand basis.

Industrial Engineering Technology (IET)

IET 101 Introduction to Industrial Engineering Technology Software 2-0-2

Part of the course is devoted to an introduction to college policy and expectations for students. The rest of the course is devoted to a study of selected commercially available computer programs as problem solving tools in an industrial environment.

IET 227 Industrial Statistics 5-0-5

Prerequisite: MATH 111

A study of Descriptive and Inferential Statistics and Applied Probability. Topics include measures of central tendency and variability, statistical sampling and estimation, hypothesis testing, and the Hypergeometric, Binomial, Poisson and Normal probability distributions. Industrial applications rather than theoretical developments are emphasized. The microcomputer is used as a problem solving tool.

IET 305 Philosophy of Industrial Engineering Technology 3-0-3

Provides the student with an introduction to the role and responsibilities of an Industrial Engineering Technologist employed in either manufacturing or service industries. Topics covered are types of organizational structure, reporting relationships, and IET techniques.

IET 307 Production Processes 2-3-3

Prerequisites: IET 305, ENGL 112

An introduction to basic production processes and systems from the viewpoint of industrial engineering technology. A variety of production processes, machines, and tools are studied. The design of the production system including people, material, equipment, energy, and information is introduced.

IET 321 Work Analysis and Design 2-6-4

Prerequisites: MET 113, ENGL 112, ID 304 or IET 305 or ATET 364

An examination of how the work content of individual jobs is determined, and how that determines each job's worth (value) to the organization. Methods engineering and compensation management practices are examined in detail.

IET 325 Work Measurement 2-6-4

Prerequisites: IET 321, IET 307 or ID 307 or MET 111 or ATET 363 or ATET 281

This course develops the fundamental principles of measuring direct work. It develops the basic skills of establishing work standards by means of a mechanical stopwatch, an electronic board and a Datamyte unit. In addition, it introduces the student to work sampling, production studies and wage payment. Payment systems are examined in addition to the study of the relative worth of a job.

IET 326 Wage and Salary Administration 3-0-3

This course examines compensation theories and their application to modern organizations. Also considered are problems associated with the establishment of wage and salary levels and structures, determination of individual wages, evaluations of methods of payment and indirect compensation, and compensation of managers and professionals.

IET 329 Labor Relations 3-0-3

A study of labor-management relations. Topics covered include the history of organized labor, federal labor laws, collective bargaining. NLRB activities, grievance procedures, strikes, and arbitrations.

IET 330 Materials Handling **2-3-3**
Prerequisite: IET 325
A study and introduction to the practice of materials handling. The fundamental principles of material handling, the selection of basic equipment, the effects of advanced technology and the relevance to effective flow are studied and reviewed.

IET 334 Production and Inventory Control **2-3-3**
Prerequisites: IET 101, IET 325, MATH 260
The concept of a basic production control system and the requirements of production control for both continuous and intermittent manufacturing are covered. Management of inventory is treated as an integral part of the production control system. Various methods and techniques are studied in detail. Laboratory activities include the use of microcomputers to develop a simple manufacturing requirements planning model and other applications. Simulation is used as a tool for decision making in the lab.

IET 335 Quality Assurance Concepts **3-0-3**
Presents the latest principles and techniques of quality assurance and improvement for the management, engineering, economics, production, and assurance of quality at the hardware, processing, and systems levels. Special emphasis is placed on the fundamentals of quality control for production, stressing process orientation of all manufacturing and service operations.

IET 336 Quality Assurance Management **3-0-3**
A study of quality assurance techniques and policy, including government regulations, records, vendor selection, and monitoring of test equipment. Special emphasis is given to quality cost analysis.

IET 339 Statistical Quality Control **3-3-4**
Prerequisites: MATH 260, IET 101 or ID 101
Applications of quality/process control. Topics include probability, sampling distributions, control charts for variables and attributes, lot-by-lot sampling plans, including Mil-Std-105D, acceptance sampling for variables, including Mil-Std-414, elementary reliability calculations, and an introduction to the concept of quality costs.

IET 343 Engineering Law I **4-0-4**
A basic study of the law with emphasis directed toward the engineering technology student. Topics covered are: introduction to law, including an overview of partnership and corporate law; engineering ethics; contract law; tort law, placing emphasis upon product liability; and business crimes.

IET 350 Loss Control Concepts of Industrial and Product Safety **3-3-4**
Prerequisite: IET 330
A study of industrial controls that assist engineers in the reduction of hazards associated with regulatory standards (i.e., OSHA, EPA), occupational disease and injury, as well as use and abuse of materials, machinery and equipment. Product safety topics include product liability, hazardous characteristics of products, operating hazards analysis and risk assessment. Course emphasis is on identification and abatement of potential losses. A major course project involves either an in-plant loss control inspection or investigation into the safety aspects of a new or existing product. Written and oral presentations of findings and recommendations are part of the project.

IET 352 Construction Loss Control and Safety **3-3-4**
Prerequisite: CET 335

A basic study of loss control measures applicable to the construction industry emphasizing safety and health of employees. Topics include: construction accidents—the human factor; reference materials and advisory sources; project security and control; selection of methods and equipment; inclement weather and emergencies; on site accident including OSHA and EPA. Course work includes a comprehensive on-site loss control and safety inspection.

IET 365 Income Tax Accounting **5-0-5**

The study of individual income-tax accounting. Some of the areas that will be covered are income from a proprietorship, farm income, rental income, retirement income, capital gains or losses from either stocks or other assets, and income averaging. Emphasis is placed on the student's being able to prepare any individual tax return. Elective course to be offered on demand.

IET 375 Engineering Law II **4-0-4**

The study of the general law of: property and bailments, corporations and partnerships; sales and product liability; and patents, copyrights, and trademarks.

IET 401 Project Planning and Control **2-3-3**
Prerequisites: MATH 260, IET 101 or ID 101

A study of planning and control methods for industrial and production projects, including the Critical Path Methods (CPM) and Program Evaluation and Review Technique (PERT). Topics include scheduling, updating and controlling with schedules, time-cost trade-off, resource allocation, cost control for projects, and the roles of project personnel in project organizations.

IET 403 Analysis of Technical Data **4-3-5**
Prerequisites: MATH 260, IET 101 or ID 101

A review of basic statistics including descriptive statistics, sampling and estimation and hypothesis testing. A study of the methods of gathering, analyzing and presenting technical and engineering data. Topics include chi-square contingency tables and goodness-of-fit tests. One-way and two-way analysis of variance, bi-variate and multi-variate linear and curvilinear regression analysis, and forecasting and time series analysis. One or more major projects with a technical report are required. The micro-computer is used as a major problem solving tool.

IET 405 Principles of Operations Research **3-3-4**
Prerequisites: MATH 260, IET 101 or ID 101

A study of the quantitative techniques used in the solution of various industrial engineering operations problems. Topics include graphical and Simplex linear programming, assignment and transportation analyses, decision making under uncertainty, queueing theory and an introduction to simulation techniques. Computer based solution techniques are used where appropriate.

IET 410 Principles of Team Dynamics **5-0-5**
Prerequisite: Junior standing

Provides the student with skills and techniques needed to succeed as a member of a task force, project team, or self-directed team. Topics included are project team problem solving techniques and controlling a team through its productivity stages.

IET 424 Engineering Economy **5-0-5**
Prerequisite: MATH 111
An introduction to the effect of the time value of money and tax consequence upon the economic analysis of engineering problems. Problems such as the economic selection of equipment, the economic justification of building and land improvements, and the economic analysis of investment transactions are included.

IET 427 Methods Time Measurement-1 **2-6-4**
MTM-1 is a predetermined time system which is used to establish labor standards on manual operations (machine operators, assembly operators, clerical employees, etc.). Emphasis is on the definitions and applications rules of MTM-1. This course meets the MTM Association's prescribed format for MTM-1 Blue Card Certification. There is a lab fee for this course which covers the cost of the official MTM-1 textbook, and registration as an MTM-1 Applicator for an initial three-year period. The lab fee is due on the first day of class. MTM Certification can be renewed every three years by paying a renewal fee directly to the MTM Association.

IET 432 Engineering Cost Analysis I **3-3-4**
Prerequisites: IET 101, IET 424
Course includes introduction to financial statements through analysis of assets, liabilities, and owner's equity and their relationship to income determination. Course emphasis is on financial statement analysis to determine liquidity, asset activity, debt measurement, and profitability. Topics include the demand and supply of funds in the capital market, the nature and role of finance in our economy, short-term financing, trade credit, long-term financing, and cash flow analysis.

IET 433 Engineering Cost Analysis II **2-3-3**
Prerequisite: IET 432
A study of cost measurement related to manufacturing and non-manufacturing sectors through cost measurement and control in job order, process, standard and variable costing systems. Content includes the recording and control of material, labor and overhead costs; absorption and direct costing; budgeting; and cost volume profit analysis.

IET 434 Distribution Operations **3-3-4**
A study of the operational and control aspects of distributorships which market industrial products. Includes financial transactions of the wholesale distributors. Case studies, company visits, and up-to-date techniques are involved.

IET 435 Fundamentals of Technical Sales **4-0-4**
A study of the basic fundamentals of personal selling in the context of selling industrial or technical products. Current readings and up-to-date selling techniques will be examined.

IET 436 Applications of Sales Techniques **4-0-4**
Prerequisite: IET 435
A continuation of the fundamental concepts taught in IET 435 with particular emphasis on development of oral and written proposals; application of sales strategies; and utilization of telemarketing techniques. Heavy usage will be made of video taped role-playing situations in an industrial or technical sales position.

IET 439 Modern Trends in Quality Assurance **3-0-3**
Prerequisites: IET 403, IET 433 or ID 433
An analysis of emerging trends in quality assurance technology. Special attention is placed on topics such as Taguchi methods and quality auditing.

IET 440 Facilities Design **2-6-4**

Prerequisites: IET 330, ID 433 or IET 433 or ATET 467 or ATET 371

A study of the systematic method for developing a plant layout with an emphasis on: (1) the strategic location of equipment, (2) an efficient materials handling system, and, (3) a smooth product flow. A major term project provides actual experience in the development of a plant layout and a material s handling system.

IET 441 Engineering Cost Estimation **3-3-4**

Prerequisite: IET 432

Introduction to resource requirements, resource costs, cost estimates, cost indices in preparation for methods analysis and contract bidding. Heavy use will be made on using the computer to estimate total project costs including estimates based on sensitivity analysis and decision trees.

IET 445 Industrial and Consumer Marketing **4-0-4**

A detailed study into industrial marketing and the major factors that are involved in the successful marketing of an industrial product. This is compared and contrasted to the consumer marketing process. Emphasis is on industrial marketing from a technical sales perspective, and the techniques used to support a successful technical sales program. The similarities and differences to consumer sales is also discussed.

IET 451 Systems Simulation **2-6-4**

Prerequisite: IET 405

An in-depth study of simulation as applied to manufacturing and distribution systems. Topics will include basic simulation and system modeling techniques, random sampling procedures, production modeling/simulation, inventory modeling/simulation and system evaluation. Emphasis will be upon hands-on simulation of various operations using the SLAM II, PC based general purpose simulation program and SIMFACTORY graphical simulation program.

IET 452 Systems Integration **4-3-5**

Prerequisite: CS 200

This course will cover the fundamentals of systems planning and implementation as well as the ongoing control of these systems. Case studies and current literature will be used to examine state-of-the-art problems and solutions. CIE cost justification will be addressed. Specific information on current tools and technologies especially dealing with information systems communication and networking will be taught. In a lab environment, the student will be exposed to various network support software solutions such as PC Support and OS/2 Communications Manager.

IET 475 Logistics Systems Project **2-6-4**

Prerequisites: IET 334, IET 440, Senior standing

An examination of an in-depth problem requiring the use of industrial methodologies for controlling and operating the industrial logistics network. The control of this network will emphasize the use of integrated information systems. Functions and interdependencies of the major components such as order processing, product/production planning, inventory control/warehousing and distribution will be examined.

IET 478 Quality Assurance Project **2-6-4**
Prerequisites: IET 334, IET 339, IET 440, Senior standing
This course is designed to provide the student with direct applications experience of quality assurance, quality improvement, and productivity improvement principles. The course focuses on the student completing a quality or productivity improvement project at an existing business under the joint supervision of the Southern College of Technology faculty and a practicing quality professional. The course requires a formal written report and a defending oral report.

IET 491-495 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Junior standing or consent of the department head
Special problems selected by the department. Offered on a demand basis.

Literature

LIT 220 Western Literature I **4-0-4**
Prerequisite: ENGL 112
A survey of literature of the Western world from the Greeks through the Renaissance. The course includes drama, poetry, prose fiction, and nonfiction, and emphasizes literature as an art and as a reflection of the history of ideas.

LIT 221 Western Literature II **4-0-4**
Prerequisite: ENGL 112
A survey of literature of the Western world from about 1600 to the present. The course includes drama, poetry, prose fiction, and nonfiction. It emphasizes literature as an art and as a reflection of the history of ideas.

LIT 222 British Literature **4-0-4**
Prerequisite: ENGL 112
Survey of British writers that deals with a variety of literary forms such as poetry, drama, nonfiction, short stories, and novels. The course presents literature as a reflection of culture and the history of ideas.

LIT 223 American Literature **4-0-4**
Prerequisite: ENGL 112
Survey of American writers that deals with a variety of literary forms such as poetry, drama, nonfiction, short stories, and novels. The course presents literature as a reflection of culture and the history of ideas.

LIT 244 World Literature **4-0-4**
Prerequisite: ENGL 112
Study of selected readings in world literature. Content may change from quarter to quarter. Course may be taught as either (1) a survey of Western and non-Western literature or (2) a focused study of topics such as African-American literature, Pan-American literature, Non-Western literature, or some combination thereof.

LIT 316 Literature and Technology **4-0-4**
Prerequisite: ENGL 112
Course examines connections between the literary and technological worlds. Emphasizes the manner in which all genres of literature reflect the problems, concerns, and solutions posed by technology.

LIT 340 Science Fiction **5-0-5**
Prerequisite: ENGL 112
Study of selected works of science fiction both by mainstream writers and by those specializing in the genre. Emphasizing science fiction as a bridge between technology and human values, the course deals with such themes as nonhuman intelligence, man in space, the future of society, and the promises and dangers of technology.

LIT 391-395 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Consent of the department head
Special topics in literature. Offered by the department at its discretion.

Mathematics

MATH 109 College Algebra **5-0-5**
Prerequisite: Completion of the Mathematics Placement Test
Symbolic manipulation; linear and higher degree equations; exponents and radicals. Mixture and rate problems. Algebraic fractions. A grade "C" or better is required for course credit.

MATH 111 Precalculus I **5-0-5**
Prerequisites: "C" or better in MATH 109, completion of the Mathematics Placement Test
Functions and functional notation. Solutions of equations. The elementary functions. Graphs of standard functions and equations. A grade of "C" or better is required for course credit.

MATH 112 Precalculus II **5-0-5**
Prerequisites: "C" or better in MATH 111, completion of the Mathematics Placement Test
Identities and equations; functional equations and graphs. More on the elementary functions. Complex numbers and polar coordinates.

MATH 253 Calculus I **5-0-5**
Prerequisites: MATH 112, completion of the Mathematics Placement Test
A study of the fundamentals of calculus, including the differentiation and integration of algebraic functions. Applications include rectilinear motion, maxima and minima, areas, volumes, centroids, fluid pressure, and work.

MATH 254 Calculus II **5-0-5**
Prerequisite: MATH 253
A continuation of MATH 253. Topics include differentiation and integration of transcendental functions, integration formulas and procedures, an introduction to series, partial differentiation, and multiple integration.

MATH 255 Calculus III **5-0-5**
Prerequisite: MATH 254
Topics include limits, improper integrals, a comprehensive treatment of sequences and series, polar coordinates and the calculus of vector-valued functions in the plane.

MATH 260 Probability and Statistics **5-0-5**
Prerequisite: MATH 253
A basic course in probability and statistics. Topics include expectation, independent and conditional probability, combinations and permutations, organization and analysis of data, standard probability distributions, hypothesis testing. The emphasis is on those techniques and methods which are applicable at the engineering technology level.

MATH 268 Probability **5-0-5**
Prerequisite: MATH 255
A mathematically oriented course in probability. Topics include combinations and permutations, counting methods, various probability distributions. Successful completion of MATH 268 and MATH 360 provides a suitable background for the level 2 Actuarial Examination.

MATH 306 Differential Equations I **3-0-3**
Prerequisite: MATH 254
Covers methods of solving ordinary differential equations of first and second order. Applications to engineering technology problems are stressed.

MATH 307 Differential Equations II **3-0-3**
Prerequisite: MATH 306
A continuation of MATH 306. The following topics are discussed in terms of their application to physical problems: simultaneous differential equations, the Laplace transform, solutions to differential equations using series, partial differential equations, boundary-value problems and Fourier series.

MATH 310 Matrix Algebra **3-0-3**
Prerequisite: MATH 253
Addition and multiplication of matrices. Diagonalization and inverses. Certain special forms.

MATH 312 Linear Algebra **5-0-5**
Prerequisites: MATH 310, MATH 356
An axiomatic treatment of real vector spaces. Bases, subspaces, linear tranformations, and related topics.

MATH 320 The Real Line **3-0-3**
Prerequisite: MATH 254 or consent of the department head
Properties of the real line as a basis for analysis. Open and closed sets, limit points and sequences, compactness.

MATH 321 Advanced Calculus I **5-0-5**
Prerequisites: MATH 356, MATH 320 or consent of the department head
An introductory course on the theoretical basis of analysis. Limits, continuity, formal definitions of the derivative and integral.

MATH 322 Advanced Calculus II **5-0-5**
Prerequisite: MATH 321
A continuation of MATH 321. Uniform continuity, compact covering theorem, composite functions.

MATH 335 Numerical Methods I **4-3-5**
Prerequisites: CS 105, MATH 254
Methods of numerical computation using the modern computer. Topics include floating point arithmetic, Newton's method, Gaussian Quadrature, cubic splines, error control. Understanding the nature and limitations of each method is emphasized.

MATH 345 Discrete Mathematics **5-0-5**
Prerequisites: MATH 253, CS 105
An introduction to the fundamentals of discrete mathematics. Topics include logic, induction and recursion, relations, counting, graphs and trees, and finite-state machines.

MATH 356 Calculus IV **5-0-5**
Prerequisite: MATH 255
A continuation of MATH 255. Topics include the calculus of vector-valued functions in 3-space, with associated analytic geometry, and calculus of functions of two and three variables. Included are gradient, maxima and minima, multiple integrals, and line integrals.

MATH 360 Statistics **5-0-5**
Prerequisite: MATH 268
A mathematical course in statistics. Topics include moment generating functions, random variables, sampling, and inference. Successful completion of MATH 268 and MATH 360 provides a suitable background for the level 2 Actuarial Examination.

MATH 375 Statistics and Society **4-0-4**
Prerequisite: MATH 253
An overview of the use and methods of statistics with special emphasis on the impact of statistics on modern society: statistical methods, decisions based on statistics, fallacies and errors, and the limitations of the statistical method.

MATH 391-395 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Junior standing
Individual study of selected topics in mathematics offered to the student who is interested in creative work.

MATH 406 Advanced Engineering Mathematics **4-0-4**
Prerequisite: MATH 307
Topics include Fourier series, Sturm-Liouville problem, boundary value problems for partial differential equations, applications of Legendre polynomials, and Bessel functions.

MATH 407 Vector Analysis **3-0-3**
Prerequisite: MATH 356
Scalar and vector fields, the del operator, curl and divergence, line integrals, conservative fields and potentials, surface integrals. Applications to electromagnetic fields and to heat and fluid flow.

MATH 420 Analytic Geometry and Vector Methods **3-0-3**
Prerequisites: MATH 253, knowledge of BASIC, FORTRAN, or PASCAL
A study of algebraic methods of manipulating points and figures in two- and three-dimensional space. The emphasis is on those techniques and ideas which have application in computer graphics.

MATH 440 Modern Algebra **5-0-5**
Prerequisites: MATH 356, MATH 312
A first course in abstract algebra. Topics include operations, the concept of homorphism, and a standard approach to groups, rings, and fields.

MATH 451 Applications of Mathematics I **3-0-3**
Prerequisites: MATH 268, MATH 307, MATH 310, MATH 322
A study of the applications of mathematics to problems of business, industry, and science. A series of individual problems will be studied with an emphasis on the formulation and solution of problems using known mathematics.

MATH 452 Applications of Mathematics II **3-0-3**
Prerequisite: MATH 451
A continuation of MATH 451.

MATH 485 Numerical Methods II **3-0-3**
Prerequisite: MATH 335
A continuation of MATH 335. Topics include Euler's method, Taylor series methods, complex numbers.

MATH 491-495 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Senior standing
Individual study of selected topics in mathematics offered to the student who is interested in creative work.

MATH 504 Mathematical Structures for Computer Science **5-0-5**
Prerequisite: Permission of the Mathematics Department or the Computer Science Department
A course for graduate students in Computer Science with a limited background in mathematics. Topics include: logic, induction and recursion, relations, counting, graph and trees, finite state machines.

Mechanical Engineering Technology (MET)

MET 101 Introduction to Mechanical Engineering Technology **2-0-2**
An introduction to career opportunities in the Mechanical Engineering Technologies; familiarization with college and departmental policies, curriculum, and facilities.

MET 111 Manufacturing Processes **5-0-5**
This course provides an introduction to industrial manufacturing with a mechanical technology point of view. Manufacturing processes for converting raw materials into products are evaluated. An examination of a wide variety of machine tools, manufacturing processes and materials will provide an understanding of their applications and limitations.

MET 113 Engineering Graphics I **3-3-4**
An introduction to engineering drawing. Use of instruments, linework and lettering, geometric construction, orthographic projection, layout, computer aided design, and engineering drawing conventions are studied.

MET 115 Descriptive Geometry **3-3-4**

Prerequisite: MET 113

The graphic development of spatial relationships of points, lines, planes, and surfaces is studied. Topics include intersections of geometric elements and primary and secondary auxiliary views. Emphasis is placed upon a thorough understanding of projection principles so the visualization of exact space cent and laminar flow in conduits are emphasized. Flow measureent, turbomachinery and open channel flow application problems are covered. The systems approach is practiced in analyzing the application of flow measuring devices, piping, pumps, and turbines.

MET 117 Engineering Graphics II **3-3-4**

Prerequisites: MET 101, MET 115

This course is a continuation of topics introduced in MET 113, MET 115, and problems in dimensioning, threads and fasteners, conventional representation of manufacturing designs, computer aided design, and working drawings.

MET 142 Metal Cutting Operations I **1-3-2**

Lectures cover metal cutting speed, shear angles, machine tools, and safety practices. Different machining operations for various practices, shapes, desired finishes, size control, and production efficiency are studied. Included is a fundamental machining laboratory to acquaint students with problems and practices involved in metal cutting.

MET 143 Metal Cutting Operations II **1-3-2**

Prerequisite: MET 142

Lectures cover tool grinding, precision measurement gauges and their use in production, types of gears and methods of manufacture, milling operations, and metal finishing. The laboratory demonstrates the principles involved in metal cutting.

MET 144 Metal Joining **1-3-2**

Lectures cover various types of welding techniques (both gas and electrode), safety practices, filler material, efficiency of joining operations, types of welding machines, types of welding electrodes, testing, stress formation and distortion, and symbols used in the welding industry. Laboratory exercises stress the principles involved in metal joining.

MET 210 Machine Sketching **3-3-4**

Prerequisite: MET 113

Freehand sketching of machine parts with pencil is covered. Sketches are made in orthographic, isometric, and oblique projections, as well as in true perspective. Dimensioning and shading of sketches is included.

MET 301 Fluid Mechanics **5-0-5**

Prerequisites: MATH 254, MET 323 or CET 213

A study of the fundamentals of fluid statics and fluid dynamics including fluid properties, manometry, hydrostatic forces on submerged plates, continuity of fluid flow and fluid flow principles. The course includes the theory and application of the energy and momentum equations. Applications of turbulent and laminar flow in conduits are emphasized. Flow measurement, turbomachinery and open channel flow application problems are covered. The systems approach is practiced in analyzing the application of flow measuring devices, piping, pumps, and turbines.

MET 314 Engineering Materials **4-3-5**
Prerequisites: CHEM 201, MET 373, PHYS 201 or PHYS 221
A study of metallic and nonmetallic materials used in design including characteristics, properties and methods of conducting common tests and interpreting results. The laboratory includes heat treating, mechanical testing, and microscopic study.

MET 319 Thermodynamics I **5-0-5**
Prerequisites: MATH 253, PHYS 203 or PHYS 223
Covers the fundamentals of thermodynamics. Use of gas tables is introduced. Property relations for ideal gases and incompressible liquids are introduced. Application of the First and Second Laws to closed and open systems is studied. Heat engines, refrigerators, heat pumps, availability and irreversibility are studied.

MET 320 Thermodynamics II **4-0-4**
Prerequisite: MET 319
Covers thermodynamics with applications. Otto and Diesel internal combustion cycles, gas turbine cycles, compressors, refrigeration, air-conditioning, and combustion processes are studied.

MET 321 Technical Illustration **3-3-4**
Prerequisite: MET 210
Rendering of pictorial drawings for reproduction. Various media and techniques are introduced and the emphasis is placed upon pen and ink drawings of technical subjects.

MET 322 Thermodynamics **5-0-5**
Prerequisites: MATH 253, PHYS 203 or PHYS 223
A study of the fundamental laws of thermodynamics and the properties of substances. Basic application of thermodynamics in the study of internal combustion engines, compressors, gas turbines, refrigeration, air-conditioning, and combustion processes are studied. (This course may not be taken for credit by MET students).

MET 323 Statics **4-0-4**
Prerequisites: PHYS 201 or PHYS 221, MATH 254 or concurrently
The calculation of forces and moments acting on machine parts, frames and structures. The equilibrium of force systems, shear and moment diagrams, and friction are studied.

MET 324 Strength of Materials **3-2-4**
Prerequisites: MET 323 or CET 213, MET 373
A study of stress and strain in tension, compression, bending, and torsion. Mohr's circle of stress, and column action are studied. Centroids and combined loading are covered.

MET 325 Machine Design I **3-2-4**
Prerequisites: MET 117, MET 314, MET 324
Covers design of machine elements for Power Transmission. It includes the study of gears, belts, pulleys, lubrication, bearings, clutches, brakes, chains, power screws, and geartrains. The laboratory includes preparation of an extensive design project.

MET 326 Dynamics **4-0-4**
Prerequisite: MET 323
A study of the mechanics of particles, work and energy, momentum, rigid bodies, and vibrations.

MET 328 Kinematics of Machinery **2-3-3**
Prerequisites: MET 326, CS 103 or CS 105 or CS 215 or CS 200
The analysis of the motion, velocity and acceleration of mechanical mechanisms. Both analytical and graphical solutions are covered.

MET 330 Survey of Metrology **2-3-3**
Prerequisites: IET 336, MET 113
Principles of metrology and the relationship of accurate measurement to design practice and production processes are studied. The principles of geometric dimensioning and tolerancing, nondestructive testing, and the use of standards are introduced. The laboratory illustrates applications of precision measurement devices. (This course may not be taken for credit by MET students).

MET 332 Metrology **3-3-4**
Prerequisites: MET 111, MET 117, MET 142
Principles of metrology and the relationship of accurate measurement to design practice and production processes are studied. Principles and applications of geometric dimensioning and tolerancing are thoroughly covered. The use of standards, nondestructive testing, and design and utilization of various precision measurement instruments are addressed. The laboratory illustrates applications of precision measurement devices.

MET 333 Numerical Control I **2-3-3**
Prerequisites: MET 111, MET 113, MET 143, CS 103 or CS 105 or CS 200 or CS 215
An introduction to numerical control as applied to drilling, milling, and turning operations. It includes preparation of programs for computer integrated manufacturing operations. Emphasis is placed on manual programming using a "G-code" based language. Computer programs are then utilized to operate an automated manufacturing machine.

MET 341 Tool Design I **2-4-4**
Prerequisites: MET 143, MET 314, MET 332, MET 324 or concurrently
Factors involved in large quantity production machine processes are covered. Types of jigs and fixtures, methods of gauging work, ease of operation, and methods of assembly are studied. Production costs are estimated as a basis for selection of machine parts and methods of production.

MET 346 Refrigeration **4-0-4**
Prerequisite: MET 320 or MET 322
The theory and application of refrigeration are studied. The thermodynamic analysis of refrigeration cycle, load calculations and selection of components of refrigeration systems are covered.

MET 347 Air-Conditioning I **4-0-4**
Prerequisite: MET 319 or MET 322
The basic principles of commercial and residential air conditioning are covered. The calculation of heating and cooling loads and the use of the psychrometric chart are covered.

MET 348 Air-Conditioning II **5-0-5**
Prerequisite: MET 347
A continuation of the study of the principles required for the design of heating, ventilating, and air conditioning (HVAC) systems initiated in Air-Conditioning I. The student is introduced to pertinent topics in HVAC, such as equipment selection, design of piping and duct systems, air conditioning systems, energy estimating methods, energy conservation options, indoor air quality, energy codes, and automatic controls. Concepts are applied through design problems.

MET 355 MicroCAD Systems **2-4-4**
Prerequisite: MET 113 or consent of the department head
An introduction to 2-D and 3-D microcomputer-based Computer-Aided Drafting and Design. Projects explore the capabilities, strengths, and weaknesses of different systems.

MET 373 Instruments Laboratory **1-3-2**
Prerequisite: ENGL 232
Covers the principles and applications of industrial instrumentation including pressure gauges, vacuum gauges, thermometers, manometers, orifices, airflow indicators, and other industrial and laboratory instruments. Also provides experience in developing experimental data into effective laboratory reports.

MET 391-395 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Consent of the department head
A special course of study for the student interested in creative work.

MET 417 Advanced Computer Modeling, Analysis, and Design **3-3-4**
Prerequisites: MET 117, MET 325
Advanced topics in computer-aided design (CAD) including parametric design and parametric solid modeling are introduced. Analysis techniques including finite element modeling and analysis (FEM/FEA) and dynamic analysis are applied to the computer models. Transfer of model data into downstream processes such as computer-aided manufacturing (CAM) is discussed and illustrated. All of these topics are applied in a major design project.

MET 426 Machine Design II **3-2-4**
Prerequisites: MET 324, MET 325
Covers design of machine elements for structural integrity, reliability and economy. Problems are assigned dealing with applications of advanced strength of materials to machine design. The laboratory includes preparation of an extensive design project.

MET 428 Dynamics of Machinery **3-2-4**
Prerequisite: MET 328
A study of the forces in mechanical mechanisms with applications to machine elements. The laboratory includes preparation of an extensive design project.

MET 433 Industrial Instrumentation and Controls **2-3-3**
Prerequisites: MET 301, MET 320, MET 373 or consent of the department head
An introduction to process control systems for industrial applications. A survey of measuring devices, control units and source instruments is presented. Selection of industrial process control instrumentation for industrial applications is examined.

MET 435 Robot Applications **2-4-4**
Prerequisites: CS 103 or CS 105 or CS 215 or CS 200, ECET 306 or ECET 384
A general survey of the application of industrial robots to manufacturing processes. The laboratory includes the programming of robots for manufacturing operations and materials handling.

MET 436 Automation Control Systems **3-2-4**
Prerequisites: MET 333, ECET 386 or senior standing for non-MET majors and consent of the department head
The technology for integrating automation equipment for use in manufacturing processes is covered. Students design demonstrations and complete projects involving the interfacing of numerical control machines, flexible automation devices, and material handling systems. Computers and current software are used. Programming techniques, sensory techniques, as well as identification systems are investigated. Ladder logic and Programmable Logic Controller (PLC) programming are introduced.

MET 438 Numerical Control II **3-3-4**
Prerequisites: MET 117, MET 333
A continuation course in tooling and programming for Computer Numerical Controlled (CNC) machines. Programming for 3 and 4 axis milling machines and lathes is covered. Lectures include integration of NC planning and programming. Automatically Programmed Tools (APT), CAD/CAM NC programming and communications and computer networking fundamentals for Direct Numerical Control (DNC). Discussions include CAM software comparisons and other machine tool applications for CNC. Laboratory projects include lathe and mill programming in conversational and CAM software languages.

MET 440 Tool Design II **3-2-4**
Prerequisites: MET 314, MET 341
Basic principles of the design of tools for material removal are studied. Blanking, bending, forming, drawing, casting, joining, and inspection processes are covered. Applied laboratory exercises illustrate the course material through a case study approach.

MET 441 Manufacturing Operations **4-0-4**
Prerequisite: MET 341
Covers the organization and systems of manufacturing operations including facilities, supplies and materials, procedures, processes, cost analysis and control, product development, economic decisions and human decisions.

MET 450 Manufacturing Systems Design Project **2-3-3**
Prerequisites: MET 333, MET 435 or consent of the department head
The Manufacturing Design Project is the capstone course for the MET Manufacturing Option. Projects are assigned based on interests, equipment, and software availability and the specific background of the student. Conduct of the projects requires planning, scheduling, engineering, implementation, and documentation for segments of a manufacturing process. Students are encouraged to "design and build" utilizing skills learned from the courses completed in the Manufacturing Option.

MET 460 Introduction to Mechanical Vibrations **4-0-4**
Prerequisites: MET 326, MATH 306
Theory of mechanical vibrations with applications to machinery. Includes periodic motion, torsional vibrations, vibration isolation, damping, absorbers, and uniform beams. Single degree of freedom through multiple degrees of freedom with free and forced motions. Lectures, problem solving and class demonstration/experiments.

MET 472 Plant and Power Applications **4-0-4**
Prerequisites: MET 301, MET 320
A study of the applications of fluid mechanics, thermodynamics and heat transfer to industrial process plants. It covers selection of pumping, fan, piping and system, and heat exchanger equipment.

MET 473 Power Laboratory **1-3-2**
Prerequisites: MET 301, MET 319 or MET 322, MET 373
Provides the student with an in-depth review of current methodology on the taking of data, data analysis, compilation of results, and technical report writing. Covers the selection and use of the proper apparatus for measuring the parameters of mechanical, hydrauic, pneumatic, and related systems.

MET 491-495 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Consent of the department head
A course for special study by students interested in creative work.

Modern Foreign Languages (MFLA)

MFLA 191-195 Special Topics **variable credit-1 to 5 hours**
A course for individualized instruction of modern foreign languages other than Spanish or French.

MFLA 291-295 Special Topics **variable credit-1 to 5 hours**
A course for special study of modern foreign language or literature.

Philosophy

PHIL 230 Survey of Philosophical Thought **4-0-4**
Prerequisite: ENGL 110
An exploration of the nature of philosophy. The course addresses such topics as knowledge and belief, God and the problem of evil, freedom and determinism, language and meaning, and appearance and reality.

Physics

PHYS 101 Physical Science **5-0-5**
A study of topics chosen from mechanics, inorganic chemistry, and other physical sciences. Students who have prior credit for PHYS 201 or PHYS 221 will not be allowed to register for this course.

PHYS 201 Mechanics **4-3-5**
Prerequisite: MATH 112
An introduction to mechanics. Subject matter includes systems of units, conditions for equilibrium, translational and rotational motion, Newton's laws of motion, gravitation, work, energy, momentum, uniform circular motion, elasticity, and statics and dynamics of fluids. Laboratory exercises supplement classroom work.

PHYS 202 Electricity, Magnetism, and Modern Physics **4-2-5**
Prerequisites: PHYS 201 or PHYS 221, MATH 253 or concurrently

An introduction to electromagnetic theory and its simpler applications and to modern physics. Subject matter includes electrostatic forces, fields and potential, circuit elements and their behavior, magnetic fields of currents, alternating and direct current circuits, electromechanical devices, electromagnetic waves, quantum physics, relativity, and atomic and nuclear physics. Laboratory exercises supplement the class room work.

PHYS 203 Heat, Sound, and Light **4-2-5**
Prerequisites: PHYS 201 or PHYS 221, MATH 253

An introduction to the theories of heat, sound, and light and their simpler applications. Subject matter includes thermometry, calorimetry, heat transfer, simple harmonic motion and waves, reflection and refraction of light, mirrors, lenses, optical devices, interference, diffraction, and polarization. Laboratory exercises supplement classroom work.

PHYS 221 Mechanics **4-2-5**
Prerequisite: MATH 253

A calculus-based introduction to mechanics. Subject matter includes systems of units, conditions for equilibrium, translational and rotational equilibrium, Newton's Laws of motion, gravitation, work, energy, momentum, uniform circular motion, elasticity, and statics and dynamics of fluids. Laboratory exercises supplement the classroom work. This course may be substituted for PHYS 201 in any curriculum, but credit will not be allowed for both PHYS 201 and PHYS 221.

PHYS 222 Electromagnetism and Relativity **4-2-5**
Prerequisites: MATH 254, PHYS 221

A calculus-based introduction to electromagnetic theory, applications of electromagnetism, and special relativity. Subject matter includes electrostatic forces, fields and potential, circuit elements and their behavior, magnetic fields of currents, alternating and direct current circuits, electromechanical devices, electromagnetic waves, and special relativity. This course may be substituted in any curriculum for PHYS 202, but credit will not be allowed for both PHYS 202 and PHYS 222.

PHYS 223 Heat, Sound, Light, and Quantum Physics **4-2-5**
Prerequisites: MATH 254, PHYS 221

An introduction to the theories of heat, sound, and light and their simpler applications, and to modern physics.. Subject matter includes thermometry, calorimetry, heat transfer, first and second laws of thermodynamics, simple harmonic motion and waves, reflections and refraction of light, mirrors, lenses, optical devices, interference, diffraction, polarization, quantum physics, and atomic and nuclear physics. This course may be substituted in any curriculum for PHYS 203 but credit will not be allowed for both PHYS 203 and PHYS 223.

PHYS 321 Intermediate Mechanics **5-0-5**
Prerequisites: PHYS 221, MATH 306

A survey of Newtonian dynamics of particles and systems of particles, including Lagrange's equations, central force systems, and the theory of small vibrations.

PHYS 322 Intermediate Electricity and Magnetism **5-0-5**
Prerequisites: MATH 306, PHYS 222
A survey of fundamental principles of electricity and magnetism, including electrostatic fields, magnetic fields of steady currents, and time-dependent electromagnetic fields.

PHYS 323 Fourier Optics **4-0-4**
Prerequisite: PHYS 322
A discussion of Physical Optics using Fresnel-Kirchhoff integral equation and Abby theory of image formation including a discussion of polarization and coherence. Maxwell's equations serve as the basis for the development of Physical Optics.

PHYS 341 Intermediate Laboratory I **1-3-2**
Prerequisites: PHYS 222, PHYS 223
A laboratory designed to develop skills in automated data acquisition, in computer simulation of physical processes, and in the analysis of experimental data. This course makes extensive use of microcomputers.

PHYS 342 Intermediate Laboratory II **1-3-2**
Prerequisites: PHYS 222, PHYS 223
A selection of experiments from various branches of physics which continue the development of experimental techniques begun in PHYS 341.

PHYS 343 Intermediate Laboratory III **1-3-2**
Prerequisites: PHYS 222, PHYS 223
A selection of experiments from various branches of physics which continue the development of experimental techniques begun in PHYS 341.

PHYS 350 Introduction to Computational Physics **2-3-3**
Prerequisites: PHYS 222, PHYS 223
An introduction to computational physics problem solving using Windows based Mathcad. Topics include equation-solving, the use of vectors and matrices, 2-D and 3-D graphics, differential equation solving, analysis and simulation of physical processes. Both numeric and symbolic methods are covered.

PHYS 371 Modern Physics I **4-0-4**
Prerequisite: PHYS 202 or PHYS 222
An introduction to the concepts and calculations involved in understanding the structure of matter and the world of the quantum. Topics include the Planck theory of radiation, particle/wave duality, Schroedinger equation solutions for simple potentials, and properties of the one-electron atom.

PHYS 372 Modern Physics II **4-0-4**
Prerequisite: PHYS 371
The development and application of quantum principles to atomic, molecular, and nuclear structure. This course includes material on spectroscopy and scattering.

PHYS 373 Relativity **3-0-3**
Prerequisite: PHYS 202 or PHYS 222
A thorough exposition of the principles of Special Relativity and an introduction to the General Theory of Relativity.

PHYS 374 Introduction to the Physics of Elementary Particles **3-0-3**
Prerequisites: PHYS 202 or PHYS 222, PHYS 203 or PHYS 223
This course offers a first introduction to the physics of elementary particles, emphasizing physical concepts rather than mathematical techniques. Topics include production and detection of elementary particles, the ordering of elementary particles, the eight-fold way, the quark model, symmetries, and strong, electromagnetic, and weak interactions.

PHYS 380 Chemical Physics **3-0-3**
Prerequisites: PHYS 371, MATH 306
Applications of modern quantum mechanics to the description of atomic and molecular systems. Topics will include one-electron and multi-electron atoms and molecular orbital theory. This course is identical to CHEM 380. Credit will not be allowed for both CHEM 380 and PHYS 380.

PHYS 390 Descriptive Astronomy **3-0-3**
Prerequisite: PHYS 201 or PHYS 221
A survey of the solar system, stars, nebulae, galaxies, stellar evolution, and cosmology. Observing sessions complement the classroom work.

PHYS 391-395 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Junior standing
Special topics selected by the department. Offered on a demand basis.

PHYS 421 Quantum Physics **5-0-5**
Prerequisite: PHYS 371
A systematic development of quantum mechanical laws, emphasizing analytical and numerical solutions to Schrodinger's equation.

PHYS 422 Advanced Electromagnetism **4-0-4**
Prerequisite: PHYS 322
A study of electromagnetic fields in matter, and of electromagnetic waves and their propagation. Emphasis will be given to calculational techniques.

PHYS 423 Thermal Physics **5-0-5**
Prerequisite: PHYS 223
A study of the principles of thermal equilibrium, physical statistics, irreversible processes, and the approach to equilibrium.

PHYS 424 Solid State Physics **5-0-5**
Prerequisites: PHYS 222, PHYS 223
Application of quantum mechanics to molecules and solids including such topics as molecular bonding, spectra of diatomic molecules, binding forces and bonding theory in solids, and application to solid state devices.

PHYS 441 Advanced Laboratory I **0-6-2**
Prerequisite: PHYS 342 or PHYS 343
A selection of experiments from current physics research which continue the development of experimental techniques from PHYS 341, 342, 343. This course will be writing intensive and will require extensive formal reports.

PHYS 442 Advanced Laboratory II **0-6-2**
Prerequisite: PHYS 342 or PHYS 343
A selection of experiments from current physics research which continue the development of experimental techniques from PHYS 341, 342, 343. This course will be writing intensive and will require extensive formal reports.

PHYS 443 Capstone Physics Project **0-6-2**
Prerequisite: Approved petition for graduation
Students will complete a capstone physics project during one of the last two quarters on campus. The content and subject of this project will be negotiated between the student and the faculty supervisor of the project.

PHYS 480 Science Seminar **1-0-1**
Prerequisites: PHYS 202 or PHYS 222, PHYS 203 or PHYS 223
Lectures on various subjects in the fields of the sciences and mathematics. Each session includes a question-and-discussion period. Subjects vary, and the students have a voice in choosing the topics to be covered.

PHYS 491-495 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Junior standing
Special topics selected by the department. Offered on a demand basis.

PHYS 522 Applied Electromagnetic Theory **5-0-5**
Prerequisites: Graduate standing, PHYS 222
A study of the application of Maxwell's Equations in integral and differential forms to problems of interest to ECET graduate students.

PHYS 523 Lasers, Fourier Optics, and Holography **5-0-5**
Prerequisites: Graduate standing, PHYS 222, PHYS 223
A survey of the types of lasers and the application of lasers to engineering problems of interest to ECET graduate students.

PHYS 524 Applied Solid State Physics **5-0-5**
Prerequisites: Graduate standing, PHYS 222
Applications of solid state physics to electronic devices such as diodes, transistors, LEDs, LCDs, and solid state lasers.

PHYS 591-595 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Graduate standing
Special topics selected by the department. Offered on a demand basis.

Political Science

POLS 240 American Government **4-0-4**
A study of the structure and function of the federal government from its historical antecedents to its contemporary challenge.

POLS 241 Introduction to International Issues **4-0-4**
An introduction to international relations covering such issues as diplomacy, nuclear politics, war, secret intelligence, revolution, international development, debt, and dependence.

POLS 242 Introduction to Comparative Government **4-0-4**
An examination of the organization and operation of governments in the nations of Europe, Asia, Latin America, and Africa.

POLS 341 Contemporary World Politics **4-0-4**
Prerequisite: HIST 222
Examines existing world trouble spots through an analysis of their historical backgrounds and the current international system. Students will devise their own policy analyses and recommendations for resolving various conflicts of international interest.

Psychology

PSYC 230 Introduction to Psychology **4-0-4**

An introduction to the methods, theories, and research findings in psychology. The course examines the influence of biological, cognitive, and social factors on behavior.

PSYC 391-395 Special Topics **variable credit-1 to 5 hours**

Prerequisite: Consent of the department head

Special topics in psychology, offered by the department on a demand basis.

Pulp and Paper Technology (PPT)

PPT 200 Introduction to Pulp and Paper Technology **1-0-1**

This course introduces students to the pulp and paper industry, increases student awareness of its presence, and focuses on career opportunities that the industry presents. The student is also given an overview of the scientific and technical areas, and professional development pursuits that must be mastered in order to function successfully and to experience personal satisfaction and reward in this industry.

PPT 320 Kraft Pulp Manufacture and Process Technology **5-0-5**

Prerequisites: CHEM 201, CHEM 202, CHEM 321, MET 301, MET 322 or consent of the department head

This course is the first in a series of courses concentrating on the production of pulp and paper. The Kraft process is studied in detail as one method of pulp production. The concepts of unit operations, material and energy balances, and the relationship of closed, interacting stream flows are taught. Methods of analyzing, following, and controlling the pulping operations are covered.

PPT 330 Kraft Chemical Recovery Operations **4-0-4**

Prerequisite: PPT 320 or consent of the department head

Chemical recovery is a major part of Kraft pulping, and it utilizes technologies that are separate from and in addition to the fundamental pulping operations. Chemical recovery is studied here in detail. The unit operations used in chemical recovery and the technologies for their operation and control are covered.

PPT 340 Kraft Paper Manufacture and Process Technology **5-0-5**

Prerequisites: CHEM 201, CHEM 202, CHEM 321, MET 301, MET 322 or consent of the department head

This course teaches the fundamental science of papermaking, as well as the technology to accomplish sheet formation and the sheet properties desired. It begins with stock preparation and the practice of wet-end chemistry. The papermaking processes are taught, beginning with sheet formation, and continuing with pressing, drying, surface sizing, winding, and calendering. The operation and care of supporting machine equipment (drive, vacuum, and broke systems) are also covered.

PPT 350 Pulping Methods and Products **3-0-3**

Prerequisite: PPT 320 or consent of the department head

There are several chemical, mechanical, and mechanical and combined chemical methods for transforming wood into marketable pulp. This course presents an overview of these various methods. Specifically, it provides an introductory knowledge of the major pulping processes in use today; examines the considerations in selecting a pulping method, explores the relationships of the pulping methods to the surrounding industrial environment, and analyzes the factors that will shift pulping practices in the future.

PPT 360 Fiber Analysis, Pulp and Paper Testing **0-3-1**

Prerequisite: PPT 320 or consent of the department head

This course gives the student experience in the collection of operational test data and provides insight into technical support operations. Topics covered include: the microscopic identification and examination of fibers; the chemical testing of pulp, specifically, the degree of cooking; the production and testing of hand sheets; and the physical testing of paper.

PPT 410 Coating, Finishing, and Specialty Products **4-0-4**

Prerequisites: PPT 320, PPT 340 or consent of the department head

Marketable uses of paper products require surface modifications to render enhanced properties, such as improved smoothness, better printability, more whiteness, different colors, more gloss and variations in water resistance or water absorption. This course teaches the current state of the art of coating, finishing, and specialty processes in use today to produce paper products in their final marketable form.

PPT 420 Power Production Operations **3-0-3**

Prerequisites: PPT 320, PPT 330, PPT 340 or consent of the department head

Pulp and paper production facilities produce all of the steam and most of the power required for the plant. This course is an introduction to the operation of a power facility and it teaches the interactions of power generation with the pulp and paper operations which it drives.

PPT 430 Environmental Control and Chemical Safety **4-0-4**

Prerequisites: CHEM 300, PPT 320, PPT 330, PPT 340 or consent of the department head

This course teaches the laws and regulations on which environmental control actions are based and provides an in-depth study of pollution control equipment and mill operating strategies to meet environmental requirements. The course also teaches the procedures for obtaining environmental control permits and how to recognize when permits are needed. Procedures for safe handling, storage, and use of chemicals are discussed.

Quality Assurance (QA)

QA 501 Methods of Analysis **5-0-5**

A study of the analytic processes required to identify, document, and define requirements and limitations for any operating system. Class work will focus on identifying and describing existing manufacturing and service systems. Methods available for system improvement will be investigated.

QA 511 Statistics for Quality Assurance **5-0-5**

Descriptive statistics for discrete and continuous variables, probability distributions, confidence intervals and hypotheses testing, elementary control charts for variables and attributes, the design of acceptance sampling plans, analysis of variance, and regression and correlation analysis.

QA 512 Inspection Systems Design **5-0-5**

Prerequisite: QA 511

Understanding inspection systems, measurement principles, and limitations. Included are acceptance sampling plans such as Mil-Std-105/Z1.4, Mil-Std-414/Z1.9, Mil-Std-1235; Dodge-Romig; and stipulated risk, chain, sequential, and continuous plans.

QA 520 Teams, Quality and Productivity **5-0-5**

The development and use of team based management strategies for improving productivity and quality. Concepts such as self-contained work cells, self-managed work teams, and adult motivation will be studied.

QA 530 Technical Training Methods **5-0-5**

Adult learning theory, the development and management of training programs, presentation techniques, instructional aids, and assessment will be investigated.

QA 601 Total Quality **5-0-5**

A study of the functions and responsibilities of the quality organization. TQM concepts, quality function deployment, and the tools for continuous improvement are analyzed for sequence of use and application. An emphasis will be placed on process analysis.

QA 611 Advanced Statistical Applications **5-0-5**

Prerequisite: MATH 260

The application of advanced statistical methodologies to the analysis and solution of quality and management problems, including probability theory, control charts, sampling, regression analysis, and design of experiments. The focus is on statistical process control and related quality technologies.

QA 612 Advanced Experimental Design **5-0-5**

Prerequisite: QA 611

Analysis of statistical experimental design strategies. Planning of experiments for the best strategy and objectives. The use of existing computer applications packages will be stressed.

QA 621 Quality Administration and Productivity **5-0-5**

Prerequisite: QA 601

An in-depth examination of current theory and techniques in human resource management as it applies to quality assurance. Emphasis is placed on design and performance aspects of a system wide quality assurance function. Topics include description of human resource management techniques as well as procedures for evaluating their overall effectiveness and contribution to production quality. Issues and techniques pertaining to effective recruitment, selection, training, motivation, and performance evaluation of personnel will be considered.

QA 651 Total Quality Concepts for Educators **5-0-5**

An overview of Total Quality Management beliefs and philosophy. The course will introduce the basic customer-focused concepts required of the organization that desires to continue competing in the world market place. Attention will be given to the development of appropriate curriculum to assist in the academic implementation of the principles. (NOTE: This course may not be taken for academic credit by MSET - QA Concentration students).

QA 652 Statistical Quality Control Methods for Educators **5-0-5**

The use of fundamental statistical methods for problem solving and process control will be emphasized. Numerous examples of the application of statistical methods in business and society will be utilized. The course will focus on applications and uses of statistics rather than on the computational aspects. Attention will be given to the development of appropriate curriculum to assist in the academic implementation of the methods studied. (NOTE: This course may not be taken for academic credit by MSET - QA Concentration students).

QA 691-695 Independent Research in Quality **variable credit-1 to 5 hours**

Students may arrange to study and perform independent research on a topic approved by a graduate faculty member. An appropriate research paper will be required and the student may be required to make an oral presentation to faculty, graduate students, and/or quality professionals.

QA 703 Quality Cost and Supplier Evaluation **5-0-5**

Prerequisite: QA 601

A detailed analysis of cost reductions involved in continuous improvement. A study to determine cost of preventing defects, appraisal cost, and the cost of failures. Supplier evaluation, including quality audits, is reviewed to establish capability. The concept of partnerships is explored.

QA 712 Quality Systems Simulation **5-0-5**

Prerequisite: QA 611

The application of simulation to quality systems. Topics covered include fundamental simulation modeling techniques, random sampling procedures and methods of estimating performance measures from simulation outputs. Emphasis will be upon hands-on simulation of various quality systems using PC based simulation languages.

QA 715 Applied Systems Reliability **5-0-5**

Prerequisite: QA 611

Analysis of appropriate probabilistic models for system reliability, including the exponential, Weibull, normal, and lognormal distributions; life prediction techniques, reliability test program plans, failure mode and effect analysis, Markov models, and maintainability concepts.

QA 722 Human Factors in Quality Assurance **5-0-5**

Prerequisite: QA 601

A comprehensive survey of human factors theory, research, and applications which are of particular relevance to quality assurance. A systems framework will be utilized, emphasizing feedback and interrelations among systems components. Emphasis will be placed on operator constraints in the design of work processes, workplaces, and instrumentation.

QA 725 Quality Systems Design **5-0-5**
Prerequisites: ENGL 540, QA 621
The development of the quality organization, systems, and procedures, necessary for effective participation in world markets. Creating and documenting methods and procedures is stressed.

QA 731 Measurement and Testing Techniques **5-0-5**
Prerequisite: QA 601
An in-depth discussion of equipment, principles, and techniques of measurement assurance.

QA 735 Graduate Seminar **5-0-5**
Prerequisites: QA 601, QA 611, or permission of instructor
The course is designed to cover various topics within the field of quality assurance which are not taught in other courses. These topics might include acceptance sampling, risk analysis, SPC training methods, and others. Students are expected to make formal presentations in teams.

QA 771-775 Project **variable credit-1 to 5 hours**
Prerequisites: QA 611, QA 621
The goal of all students enrolled in this course is to complete a project under the guidance of an assigned professor. It is the culminating learning experience of the program and includes a significant written report. To meet the standards established by the faculty, the project must demonstrate a rigorous scientific approach, use a clearly documented theoretical framework, and demonstrate application to the quality profession. The project is expected to require two quarters (a minimum of 10 quarter hours) to complete.

QA 781-785 Project **variable credit-1 to 5 hours**
Prerequisite: Must be taken in the last quarter of the student's program
Students will perform a research project on some aspect of quality assurance. The student's faculty advisor must approve the research. Students are to demonstrate their abilities in problem identification, research, and written presentation in the thesis.

Religion

RELG 240 World Religion **4-0-4**
Survey of world religions including Hinduism, Buddhism, Islam, Judaism, Christianity, and possibly others. Attention will be paid to historical development, basic tenets, and impact on culture.

Social and International Studies (SIS)

SIS 350 Contemporary International Economic issues **4-0-4**
Prerequisite: ECON 230
Examines national and international issues and policies that affect the world's economy, including factors influencing trade, development, and commerce. Reviews historical development with special emphasis on contemporary problems and policies.

SIS 360 Comparative Culture **4-0-4**

Prerequisite: Proficiency in Second Language or consent of the department head

Compares cultures of the Pacific Rim, the Americas, the Middle East, Europe, and Africa with that of the United States with the purpose of diminishing cultural conflict. Includes life-issues of a culture: ceremonies and customs of birth, death, marriage, dating, meals, body language, etc. Lab simulations provide students with experience in dealing with culturally-conflictive situations.

SIS 370 International Issues in Science and Technology **4-0-4**

Examines the technical, social, and moral issues raised by current advances in international science and technology with special attention to comparative studies, technology transfer, and technological imperialism. Historical case studies allow students to develop perspective and analytical skills that are then applied to a broad range of contemporary issues. Approved for credit toward the upper-division concentration in A&S. Credit will not be allowed for both SIS 370 and A&S 370.

SIS 391-395 Special Topics **variable credit-1 to 5 hours**

Special topics in international issues. Offered by the department on a demand basis.

SIS 400 Regional Studies **4-0-4**

Focuses on the political, economic, and social forces within a particular region of the world. The region of study will depend upon the instructor and may include Latin America, Western Europe, Eastern Europe and Russia, the Middle East, and the Far East. A significant study abroad experience (e.g. a quarter or more) may substitute for this course with department approval.

Social Sciences

SOCS 391-395 Special Topics **variable credit-1 to 5 hours**

Prerequisite: Consent of the department head

Special topics in the social sciences. Offered by the department at its discretion.

Spanish

SPAN 121 Elementary Spanish I **4-3-5**

For students with no knowledge of Spanish. Provides students with a foundation in elementary Spanish grammar through an intensive oral approach. The development of aural comprehension and the ability to express thought orally in simple sentences are the primary objectives. Attention given to reading Spanish prose and to writing simple sentence patterns.

SPAN 122 Elementary Spanish II **4-3-5**

Prerequisite: SPAN 121 or consent of the department head

Designed for students who have completed Elementary Spanish I or who have completed one year of high school Spanish or one term of college Spanish. The aims of the course are further development of oral and aural skills, the reading of adapted materials, and the increased accuracy of writing skills through further grammatical study.

SPAN 240 Intermediate Spanish **3-3-4**
Prerequisite: Prior experience or study in Spanish
The course concentrates on further development of listening and speaking skills, pronunciation and syntax, and reading and discussions of aspects of Hispanic life and cultures.

Speech

SPCH 240 Public Speaking **3-3-4**
A general course in public speaking designed for students without experience. The course deals with effective delivery techniques; methods for handling nervousness, movement, and projection; and the development of different types of speeches. This course does not deal with professional presentations.

Surveying

SURV 200 Construction Measurements **3-6-5**
Prerequisite: MATH 112
Use and care of engineers level, transit, and tape; leveling, traversing, stadia, contours, horizontal and vertical field layouts for buildings; reading and interpreting site survey maps. (No credit for CET majors and those with credit for SURV 222).

SURV 221 Elementary Surveying **2-6-4**
Prerequisites: CET 150, MATH 112
Care and use of engineer's level, transit and tape, leveling, traversing, stadia, contours, building layouts, interpretation and plotting of field notes of topographic surveys, closure and area computations.

SURV 222 Route Surveys **3-3-4**
Prerequisites: CS 103 or CS 215, MATH 253 , SURV 221
A study of simple circular curves, compound and reverse curves, and metric curves; spiral transition curves; vertical curves; profile levels; cross sections; slope stakes; and earthwork. The laboratory time is used for computation and field layout of curves, earthwork problems, profile levels, cross-sections, superelevation computations, and the setting of slopestakes.

SURV 250 Hydrology for Surveyors **5-0-5**
Prerequisite: MATH 111
A study of hydrology and hydraulics necessary to the performance of basic computations necessary for small basin site development. Closed conduit flow, open channel flow, TR55 methods, and the rational method are covered. (Not for credit for CET students.)

SURV 323 Land Surveys **3-6-5**
Prerequisite: SURV 222
Theory and practice of land surveying, subdivision, filing and recording deeds; U.S. Systems and Georgia Land Lot System of land subdivision; boundary laws; plane coordinate systems; use of optical reading-type instruments with internal EDMs, computers and commercial software to reduce notes and machine plot drawings.

SURV 324 Topographic and Contour Surveying **2-6-4**
Prerequisite: SURV 222
Use of more advanced surveying instruments and methods; field work for precise triangulation and topographic maps; use of plane table and optical reading-type instruments with internal EDMs in conjunction with computers and commercial software to machine plot topographic survey; altimetry; precision optical-type instruments; triangulation; base-line measurements using calibrated tape; and use of astronomical observations for azimuth determination.

SURV 325 Construction Surveying **2-4-4**
Prerequisite: SURV 222
Problems in the field layouts for various structures, such as bridges, dams, tunnels, buildings, canals, docks, utilities, etc.

SURV 328 Legal Aspects of Surveying **5-0-5**
Prerequisite: SURV 222
A study of legal aspects of surveying, including statute and common laws related to boundary surveys and locations; the various systems of surveying in common use, such as metes and bounds, U.S. Public Lands; examination of current legal principles; surveyor's legal rights and responsibilities.

SURV 391-395 Special Topics **variable credit - 1 to 5 hours**
Prerequisites: Junior standing, consent of the department head
Special topics offered on a demand basis.

SURV 403 Cartography **2-4-4**
Prerequisite: SURV 324
A study of maps, charts, and map projection systems, cartographic compilation, map revisions, color separations, inking and scribing techniques, photolitho processes, computer mapping.

SURV 404 Survey Adjustments **3-0-3**
Prerequisite: SURV 222
A study of the errors made in surveying and their adjustments. Error propagation and location. Statistical evaluation of survey computational errors and their adjustments to give the most nearly correct results. Calculations to change from Plane Surveys to Geodetic Surveys.

SURV 421 Photogrammetry **3-2-4**
Prerequisite: SURV 222
The preparation of maps and charts from aerial photographs. The course acquaints the student with the basic knowledge a practicing surveyor or engineer should know about aerial mapping. Flight planning, photo interpretation, stereoscopic measurements, displacement calculations, mosaic construction, ground controls, and specifications are covered.

SURV 423 Geodesy with GPS Applications **3-2-4**
Prerequisite: SURV 222
Size and shape of the earth, geometry of the reference ellipsoid; study of satellite orbits with emphasis on applications of global positioning (GPS) surveying.

SURV 425 Advanced Surveying **3-6-5**
Prerequisite: SURV 222
Theory and use of total station and detachable electronic distance-measuring equipment, optical reading-type instruments, trilateration, geodesy, plane and spherical coordinates, map projections, precise leveling, error analysis, optical tooling, recovery and use of federal and state monuments for large area survey planning.

SURV 491-495 Special Topics **variable credit - 1 to 5 hours**
Prerequisites: Senior standing, consent of the department head
Special topics offered on a demand basis.

Technology Management (TMGT)

TMGT 101 Introduction to Management **5-0-5**
Broad analysis of the many facets of management; including the fundamentals of management and organization, managing people and production, marketing management and strategies, contemporary business and their responsibility, and management careers. Will also present student with strategies for developing personal, academic, and technology-management career directed goals.

TMGT 201 Financial Accounting **3-0-3**
This course deals primarily with accounting techniques and principles of measuring assets, liabilities, revenue, expenses, and earnings of manufacturing, retailing, and service operations.

TMGT 202 Managerial Accounting **5-0-5**
Prerequisite: TMGT 201
This course deals with the procedures and concepts of computing and allocating cost for reporting, pricing, planning and control, and internal decision making. It will focus mainly on the principles and techniques dealing with merchandise and manufacturing costing, job order and process costing, standard and conventional costing, and make or buy decisions.

TMGT 205 Introduction to Computer Business Applications **3-6-5**
An introduction to word processing, spreadsheets, and other business applications using the personal computer. The course includes an introduction to the personal computer and operating system.

TMGT 235 Macro-Economics **5-0-5**
An analysis of the economics of production in American society. Particular emphasis is given to the study of fiscal and monetary policies, and to the study of the impact of government upon the functioning of these industries. Topics include marginal productivity analysis, graphic models, national income analysis, and the importance of the labor market in American industry.

TMGT 240 Micro-Economics **5-0-5**
Prerequisite: MATH 111
This course deals principally with economic theories of consumer behavior and business decision-making. Concepts which will be studied include competitive environment; consumer equilibrium point; supply and demand curves; production and cost functions; determinations of optimum quantity, price profit, costs, and other relevant decision variables.

TMGT 315/500 Management and Organizational Behavior **5-0-5**
This course integrates the study of management principles and practices with the study of human behavior within organizations. The focus will be upon techniques and applications of management theory which result in worker productivity and organizational effectiveness.

TMGT 320/545 Basic Business Finance **3-0-3**
Prerequisite: TMGT 201
An introductory course on financial analysis, sources and uses of funds, management of assets, short and long run financial strategy and interpretation of financial data as these relate to the process of business decision-making.

TMGT 330/560 Marketing Principles **3-0-3**
A study of marketing functions, agencies, pricing theory, cooperative associations, types of middlemen, marketing policies, methods of advertising and salesmanship, and the development of brands and trademarks.

TMGT 345/555 Legal Environment **3-0-3**
An introduction to the legal system as it applies to commercial transactions and a study of the law of contracts and torts. Ethical issues in business will also be addressed.

TMGT 350/510 Managerial Statistics **5-0-5**
Prerequisite: MATH 253
An introduction to the application of probability and statistics to business. Provides statistical techniques needed for managerial decision making. Course content includes descriptive statistics, statistical distribution, probability theory, hypotheses testing.

TMGT 355 Total Quality Management **5-0-5**
This course focuses primarily on the concepts, principles, methodologies, and implementation of Total Quality Management and continuous improvement. Through a continuous campus improvement project and/or an external industry project, the student shall gain experience at the direct application of the course material.

TMGT 360 Management Science **5-0-5**
Prerequisite: TMGT 350
A survey course of many of the analytical techniques available to the decision process. The student is introduced to operations research and systems analysis techniques; including solving problems involving probability, statistics, sampling, inventory, allocation, replacement, linear and nonlinear programming, and dynamic programming.

TMGT 391-395 Special Topics **variable credit-1 to 5 hours**
Prerequisite: Junior standing
Special topics offered by the department on a demand basis.

TMGT 418 Business Strategy **5-0-5**
Prerequisites: TMGT 315, TMGT 320
An examination of the process of managing the total organization. Emphasizes innovations in structure, product, markets, and long-term organizational commitments as these relate to organizational success.

TMGT 420/575 Production, Operations, and Management Information Systems I **5-0-5**
Prerequisites: TMGT 315, TMGT 350
A study of decision making for modern production and operations activities. Emphasizes various manufacturing processes and concepts including robotics, Computer Integrated Management Systems (CIMS), Statistical Process Control (SPC), Just In Time (JIT) Inventory Systems.

TMGT 425 Production, Operations, and Management Information Systems II **5-0-5**

Prerequisite: TMGT 420

A continuation of the first course. The emphasis is placed on the effect of production and operations management decisions on the firm's strategic direction. Advanced topics such as using the Theory of Constraints to evaluate POM decisions and using Information Technology tools to develop manufacturing systems requirements will be introduced.

TMGT 430 Project Management **5-0-5**

Prerequisite: TMGT 315

This course will provide a comprehensive, balanced view, one which emphasizes both the behavioral and quantitative sides of project management. A study of the systems philosophy, systems development process, human organizations and behavior, methods and procedures, and managing systems will provide the background necessary for managers to "do" project management.

TMGT 440 Issues in International Management **5-0-5**

Prerequisites: TMGT 320, TMGT 330

This course is designed to provide students with better understanding of the key issues, legal and socioeconomic environments, opportunities, challenges, and managerial processes that are unique to international business.

TMGT 470 Human Resources Management **5-0-5**

Prerequisite: TMGT 315

The course introduces the technical and legal aspects of human resources management. Topics include: human resource planning, recruitment, selection, training and development, performance appraisal, compensation, labor relations, occupational health and safety, and the evaluation of human resources management programs.

TMGT 480 Technology Management **5-0-5**

Prerequisite: TMGT 315

This course focuses on the management of technologies within organizations. Specific topics include the management of innovation, technological development, research and development, the justification and strategic implications of new technologies, and the development of a technological strategy. The management of both manufacturing and information technologies will be emphasized.

TMGT 490 Technology and Public Issues **5-0-5**

An examination of the impact of private enterprise decisions on the commonweal. Consideration will be given to various technology policy topics and to ethical considerations in business decision-making.

TMGT 491-495 Special Topics **variable credit-1 to 5 hours**

Prerequisite: Senior standing

Special topics offered by the department on a demand basis.

TMGT 540 Financial Accounting **3-0-3**

Designed to familiarized the student with effective techniques for design and utilization of financial control systems required for effective management of resources.

TMGT 585 Micro-Macro Economics **5-0-5**

This course overviews economic theory providing approximately equal coverage of fiscal, monetary policies, and governmental impact, on the one hand, and consumer behavior and business decision-making on the other hand.

TMGT 601 Management Communications **5-0-5**

An examination of major communication challenges faced by technical professionals in management. Four main subject areas are addressed: writing skills, oral presentations, interpersonal communication, and research skills.

TMGT 605 Managerial Economics **5-0-5**

Prerequisites: TMGT 510 or equivalent, TMGT 585 or equivalent

Managerial economics focuses heavily on applied microeconomic issues. At its core is a value maximizing objective for the firm. Included in the course work will be traditional topics associated with microeconomics: analysis of demand, production, cost, market structure, pricing and capital budgeting.

TMGT 615 Technology Management **5-0-5**

Prerequisite: TMGT 500 or equivalent

A comprehensive study of the management of technology within organizations. Includes focus on innovation, technology development, research and development, risk assessment, project management, technology transfer, technology integration, and evaluation of effectiveness. Ethical concerns and international considerations will also be emphasized.

TMGT 625 Human Relations Development **5-0-5**

Prerequisite: TMGT 500 or equivalent

The focus of this course is upon developing a full understanding of the nature of the working relationship which exists between management and the workers within a productive enterprise. Provides an overview of the historical and legal nature of these relationships, and develops recommendations for establishing and maintaining constructive relationships between these two interest groups. Ethical considerations in human relations will be highlighted.

TMGT 635 Operations and Decision Management I **5-0-5**

Prerequisites: TMGT 510, TMGT 575 or equivalent

This course focuses on the operations strategy of the firm, which specifies how the firm will employ its production capabilities in support of the corporate mission of the firm. Students will also be exposed to instruction in the design, operation, and control of production systems.

TMGT 636 Operations and Decision Management II **5-0-5**

Prerequisite: TMGT 635

A continuation of Operations and Decision Management I. Emphasis placed on strategic management and productivity as it relates to Operations Management. Course will focus on formulation and implementation of the Operations Management activities in a practical situation. Specific applications identified and developed.

TMGT 645 Technology Policy **5-0-5**

Prerequisite: TMGT 555

An examination of the impact of technology decisions of private enterprise upon the public at large, and of the impact of governmental technology policies upon private enterprise. Ethical considerations in technology decision-making will also be examined.

TMGT 650 Project Management **5-0-5**

Prerequisites: TMGT 500, TMGT 510 or equivalent

A study of project planning, organizing, and control concepts and techniques. Coverage will include project plans and specifications, Work Breakdown Structures (WBS), the Critical Path Method (CPM), the Program Evaluation and Review Technique (PERT), bar (Gantt) charting, and time/resource management. The student will also be exposed to organizational structures, leadership and management theory and practice, and conflict resolution skills, as these apply to the management of projects.

TMGT 660 Entrepreneurship **5-0-5**

Prerequisites: TMGT 500, TMGT 545, TMGT 560 or equivalent, TMGT 605

This course addresses the management challenges associated with starting and successfully running a new venture. It provides students with an opportunity to apply the theories and tools that they have learned elsewhere in the curriculum to the venture creation process.

TMGT 665 Issues in International Management **5-0-5**

Prerequisites: TMGT 500, TMGT 545, TMGT 560 or equivalent, TMGT 605

This course deals with cultural, institutional, economic, and financial environments characteristic of international markets. It will focus on strategic and operational plans that managers must undertake in formulating international business activities.

TMGT 670 Employment and Labor Relations **5-0-5**

Prerequisite: TMGT 500 or equivalent

This course will cover employment practices and employment law in unionized and non-unionized settings. The focus will be on decision making and administrative issues for managers.

TMGT 691-695 Independent Research **variable credit-1 to 5 hours**

Prerequisite: TMGT 500 or equivalent

Course covers special topics of interest to the student. Course credit and topic are arranged between instructor and student.

TMGT 700 Strategic Management **5-0-5**

Prerequisites: TMGT core courses, TMGT 601, TMGT 605, TMGT 615, TMGT 635

Exposes the student to the process of strategic decision-making. Emphasis is placed on analyses of both the external environment and the internal characteristics of the firm, as these relate to the determination of the long-term character of the enterprise. Case studies will be reviewed, and several classroom presentations will be made by distinguished industrial executives and leaders.

TMGT 785 Master's Thesis **5-0-5**

Prerequisites: TMGT core courses, TMGT 601, TMGT 605, TMGT 615, TMGT 635

The student will develop a major research report highlighting abilities in the areas of problem identification, research, and presentation, and which demonstrates command of subject matter covered under their course of study.

Administration, Faculty, and Staff

The University System of Georgia

The University System of Georgia includes all state-operated institutions of higher education in Georgia - 4 universities, 2 regional universities, 13 senior colleges, 15 junior colleges. These 34 public institutions are located throughout the state.

A 16-member constitutional Board of Regents governs the University System; which has been in operation since 1932. Appointments of Board members are made by the Governor, subject to confirmation by the State Senate. The regular term of Board members is seven years.

The Chairperson, the Vice Chairperson, and other officers of the Board are elected by the members of the Board. The Chancellor, who is not a member of the Board, is the chief executive officer of the Board and the chief administrative officer of the University System.

The overall programs and services of the Univesity System are offered through three major components: Instruction; Public Service/Continuing Education; Research.

INSTRUCTION consists of programs of study leading toward degrees, ranging from the associate (two-year) level to the doctoral level, and certificates.

Requirements for admission of students to instructional programs at each institution are determined, pursuant to policies of the Board of Regents, by the institution. The Board establishes minimum academic standards and leaves to each institution the prerogative to establish higher standards. Applications for admission should be addressed in all cases to the institutions.

PUBLIC SERVICE/CONTINUING EDUCATION consists of non-degree activities, primarily, and special types of college-degree-credit courses.

The non-degree activities are of several types, including such as short courses, seminars, conferences, lectures, and consultative and advisory services, in a large number of areas of interest.

Typical college-degree-credit public service/continuing education courses are those offered through extension center programs and teacher education consortiums.

RESEARCH encompasses investigations conducted primarily for discovery and application of knowledge. These investigations cover matters related to the educational objectives of the institutions and to general societal needs.

Most of the research is conducted through the universities; however, some of it is conducted through several of the senior colleges.

The policies of the Board of Regents provide autonomy of high degree for each institution. The executive head of each institution is the President, whose election is recommended by the Chancellor and approved by the Board.

State appropriations for the University System are requested by, made to, and allocated by the Board of Regents. Matriculation and nonresidential tuition fees for all institutions are set by the Board. All resident students pay matriculation fees; out-of-state students pay nonresident tuition in addition to matriculation. Fees for student services and activities are established by each institution, subject to the Board's approval.

University System of Georgia
244 Washington Street, S.W.
Atlanta, Georgia 30334

Institutions of the University System of Georgia

h-On Campus Student Housing Facilities
Degrees Awarded: A-Associate; B-Bachelor's; J-Juris Doctor;
M-Master's; S-Specialist in Education; D-Doctor's;
cD-Doctor's offered in cooperation with a University System University,
with degree awarded by the University

Universities

Athens	University of Georgia—h; A,B,J,M,S,D
Atlanta	Georgia Institute of Technology—h; B,M,D
Atlanta	Georgia State University—A,B,J,M,S,D
Augusta	Medical College of Georgia—h; A,B,M,D

Regional Universities

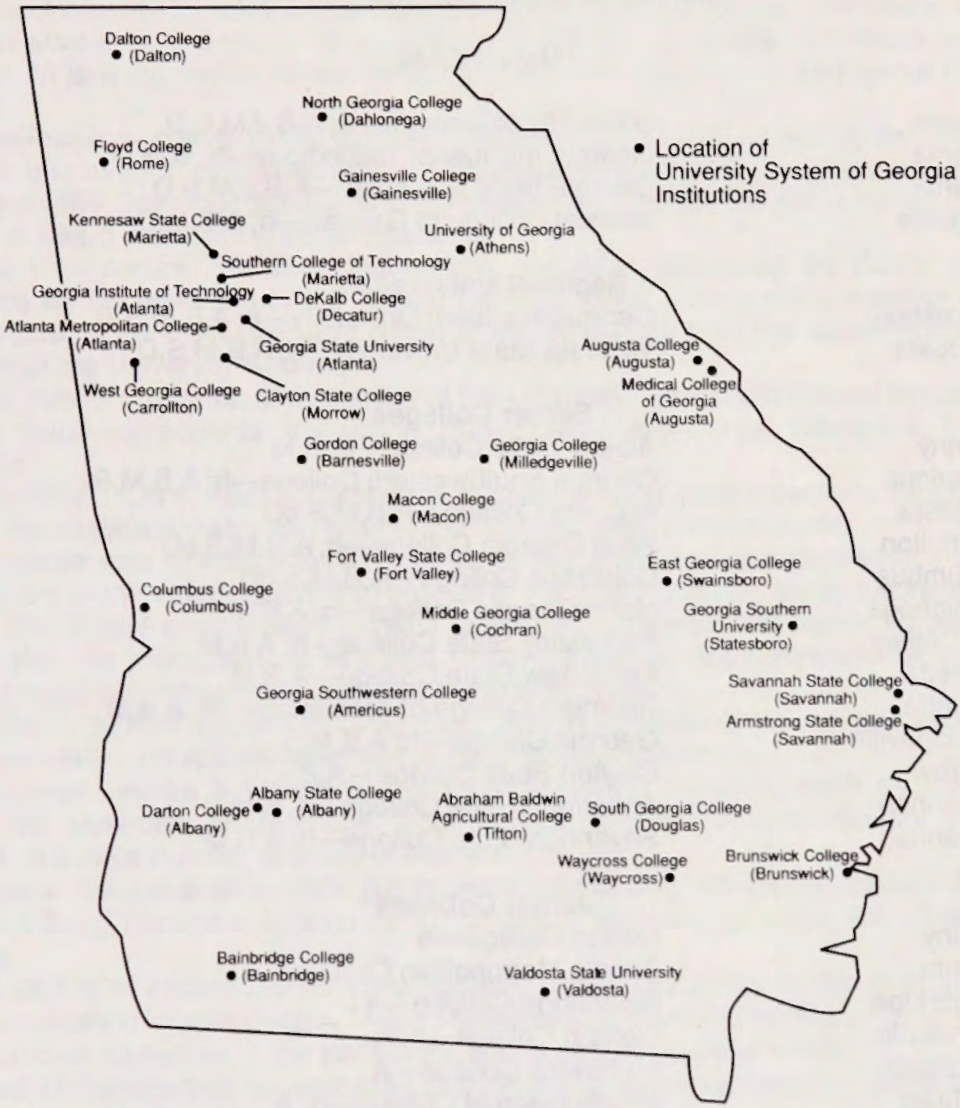
Statesboro	Georgia Southern University—h; A,B,M,S,D
Valdosta	Valdosta State University—h; A,B,M,S,D

Senior Colleges

Albany	Albany State College—h; B,M
Americus	Georgia Southwestern College—h; A,B,M,S
Augusta	Augusta College—A,B,M,S,cD
Carrollton	West Georgia College—h; A,B,M,S,cD
Columbus	Columbus College—A,B,M,S,cD
Dahlonega	North Georgia College—h; A,B,M
Fort Valley	Fort Valley State College—h; A,B,M
Marietta	Kennesaw State College—A,B,M
Marietta	Southern College of Technology—h; A,B,M
Milledgeville	Georgia College—h; A,B,M,S
Morrow	Clayton State College—A,B
Savannah	Armstrong State College—A,B,M,S
Savannah	Savannah State College—h; A,B,M

Junior Colleges

Albany	Darton College—A
Atlanta	Atlanta Metropolitan College—A
Bainbridge	Bainbridge College—A
Barnesville	Gordon College—h; A
Brunswick	Brunswick College—A
Cochran	Middle Georgia College—h; A
Dalton	Dalton College—A
Decatur	DeKalb College—A
Douglas	South Georgia College—h; A
Gainesville	Gainesville College—A
Macon	Macon College—A
Rome	Floyd College—A
Swainsboro	East Georgia College—A
Tifton	Abraham Baldwin Agri. College—h; A
Waycross	Waycross College—A


Location of University System of Georgia Institutions
Dalton College (Dalton)
North Georgia College (Dahlonega)
Floyd College (Rome)
Gainesville College (Gainesville)
Kennesaw State College (Marietta)
University of Georgia (Athens)
Southern College of Technology (Marietta)
Georgia Institute of Technology (Atlanta)
DeKalb College (Decatur)
Atlanta Metropolitan College (Atlanta)
Georgia State University (Atlanta)
Augusta College (Augusta)
Medical College of Georgia (Augusta)
West Georgia College (Carrollton)
Clayton State College (Morrow)
Gordon College (Barnesville)
Georgia College (Milledgeville)
Macon College (Macon)
Fort Valley State College (Fort Valley)
East Georgia College (Swainsboro)
Columbus College (Columbus)
Middle Georgia College (Cochran)
Georgia Southern University (Statesboro)
Savannah State College (Savannah)
Armstrong State College (Savannah)
Georgia Southwestern College (Americus)
Albany State College (Albany)
Darton College (Albany)
Abraham Baldwin Agricultural College (Tifton)
South Georgia College (Douglas)
Waycross College (Waycross)
Brunswick College (Brunswick)
Bainbridge College (Bainbridge)
Valdosta State University (Valdosta)

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Bennett, David M., Professor Emeritus, Civil Engineering Technology
Burton, Walter E., Professor Emeritus, Electrical and Computer Engineering Technology
Carter, Robert C., Professor Emeritus, Electrical Engineering Technology
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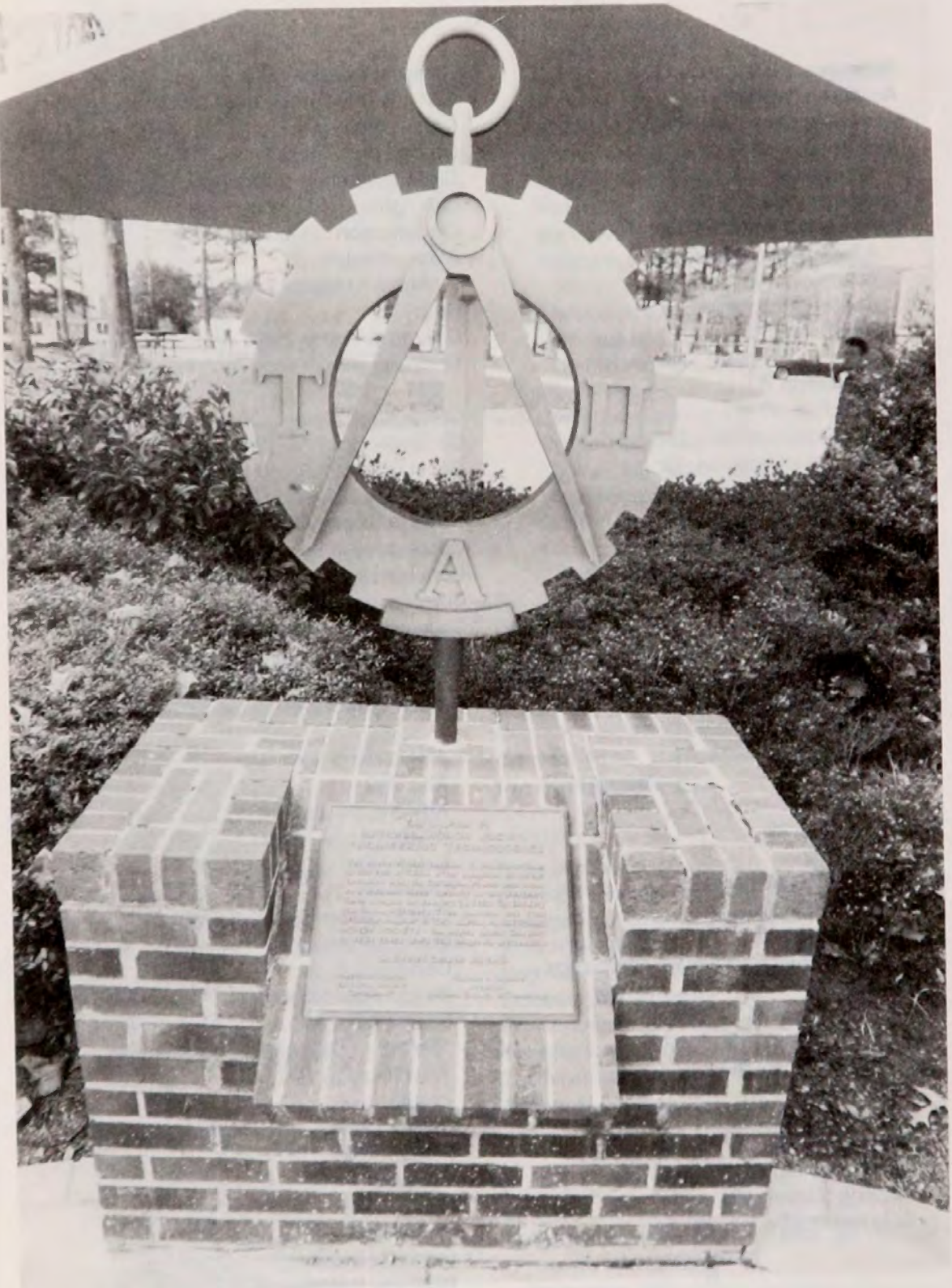
Taylor, Leonard H., Head and Professor Emeritus, Mechanical Engineering Technology
Vaughn, Wilton W., Professor Emeritus, Architectural Engineering Technology
Youngblood, Ralph P., Professor Emeritus, Mathematics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Campus Map Legend

A Wilson Student Center
- Bookstore
- Cafeteria
- Counseling Center
- Minority Affairs
- Post Office
- Student Activities

B Administration Building
- Admissions
- Assistant Vice President-Academic Affairs
- Development & College Relations
- President
- Public Relations
- Registrar
- Veteran Affairs
- Vice President-Academic Affairs
- Vice President-Business and Finance
- Vice President-Student Affairs

C Library

D Classroom Building
- Humanities and Technical Communication Department
- IET Department
- Mathematics Department
- Planning and Assessment
- School of Arts and Sciences

E Laboratory Building
- Information Technology
- Physics, Chemistry, and Biological Sciences Department

F Continuing Education Center

G Electrical Building
- ECET Department
- Social and International Studies Department

H Academic Building
- Computer Science Department
- Construction Department
- Learning Resource Center
- Microcomputer Support
- School of Management

I Architecture Building
- School of Architecture

K Mechanical Building
- MET Department

L Modular Buildings
- Georgia Youth Science and Technology Center

M Apparel/Textile Manufacturing Center
- ATET Department
- Center for Quality Excellence
- School of Technology

S Howell Hall
- Career Services

V Norton Hall
- Business Services
- Cashier
- Clinic
- Financial Aid
- Personnel
- Student Housing

EP Plant Operations Building

ET Storage Building

EV Shop Building

EX Public Safety Building
- Public Safety
- Procurement

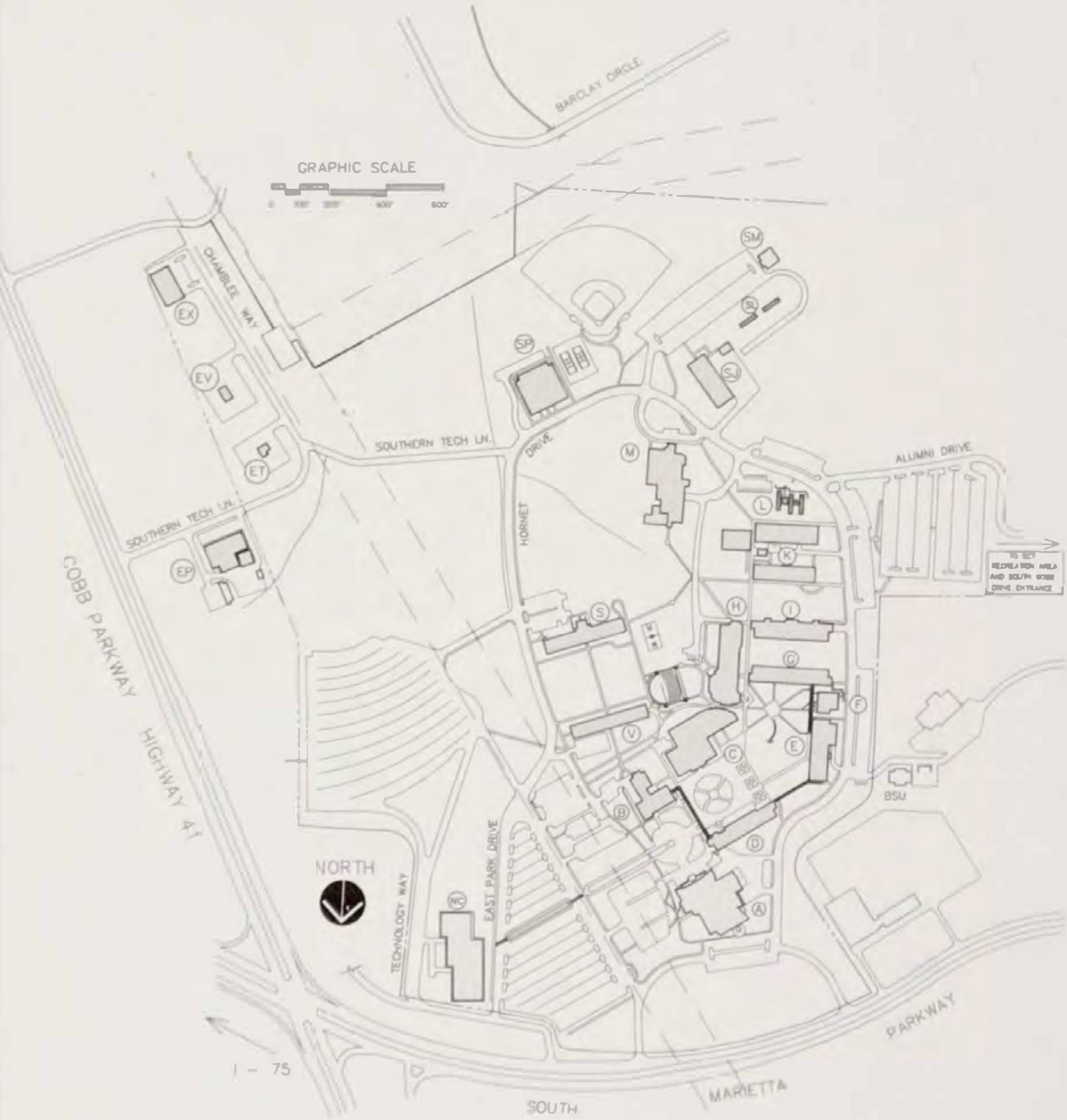
NC Recreation andWellness Center

SJ CET Building
- CET Department

SL Project Trailers

SM Wilder Communications Center

SP Intercollegiate Athletic Facility



Southern College of Technology
Campus Map

Quantity: 20,000
Cost: $22,000

SouthernTECH
SOUTHERN COLLEGE OF TECHNOLOGY
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