

J. Keown

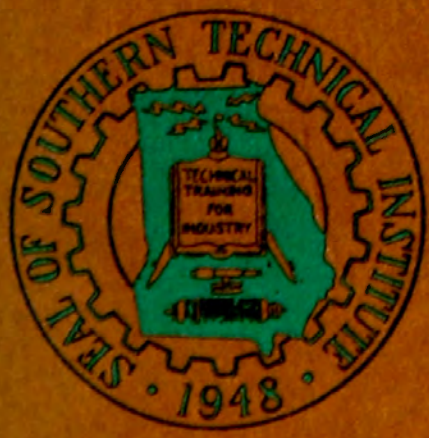
Catalogue
and Bulletin
1967-1968

Southern
Technical
Institute

MARIETTA, GEORGIA

a unit of the
Engineering Extension Division

GEORGIA INSTITUTE
OF TECHNOLOGY



Campus Visitors

Southern Tech welcomes visitors to its campus and even urges prospective students to visit the school and make a tour of all facilities. Though no appointment is essential, prior notification of the anticipated visit will be helpful. Since all buildings except residence halls are closed from 12 noon on Saturday until 8:00 A.M. on Monday, a visit within the week (8:00 A.M. to 5:00 P.M.) will be more beneficial and meaningful. A staff member is on duty in the Administration Building on Saturday morning, except on official school holidays, to greet students and other callers and give desired information and literature about the Institute.

(See inside back cover for location of campus)



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Engineering Extension Division

GEORGIA INSTITUTE
OF TECHNOLOGY

THE SOUTHERN TECHNICAL INSTITUTE IS an accredited, two-year, co-educational, boarding, technical college offering the Associate degree in

- *AIR CONDITIONING ENGINEERING TECHNOLOGY
- *ARCHITECTURAL ENGINEERING TECHNOLOGY
- *CIVIL ENGINEERING TECHNOLOGY (SURVEYING AND CONSTRUCTION OPTION)
- *CIVIL ENGINEERING TECHNOLOGY (STRUCTURAL MATERIALS AND DESIGN OPTION)
- *ELECTRICAL ENGINEERING TECHNOLOGY
ELECTRICAL ENGINEERING TECHNOLOGY (ELECTRONIC COMPUTER AND CONTROL OPTION)
- *GAS ENGINEERING TECHNOLOGY
- *INDUSTRIAL ENGINEERING TECHNOLOGY
- *INDUSTRIAL ENGINEERING TECHNOLOGY (MANAGEMENT OPTION)
- *MECHANICAL ENGINEERING TECHNOLOGY
TEXTILE ENGINEERING TECHNOLOGY

No scholastic work offered by Southern Tech is available through correspondence or extension.

**Engineers' Council for Professional Development accredited Technical Institute curricula. The curricula not indicated as accredited have not yet been submitted for accreditation.*

Southern Tech is also accredited as a special-purpose institution by the Southern Association of Colleges and Schools.

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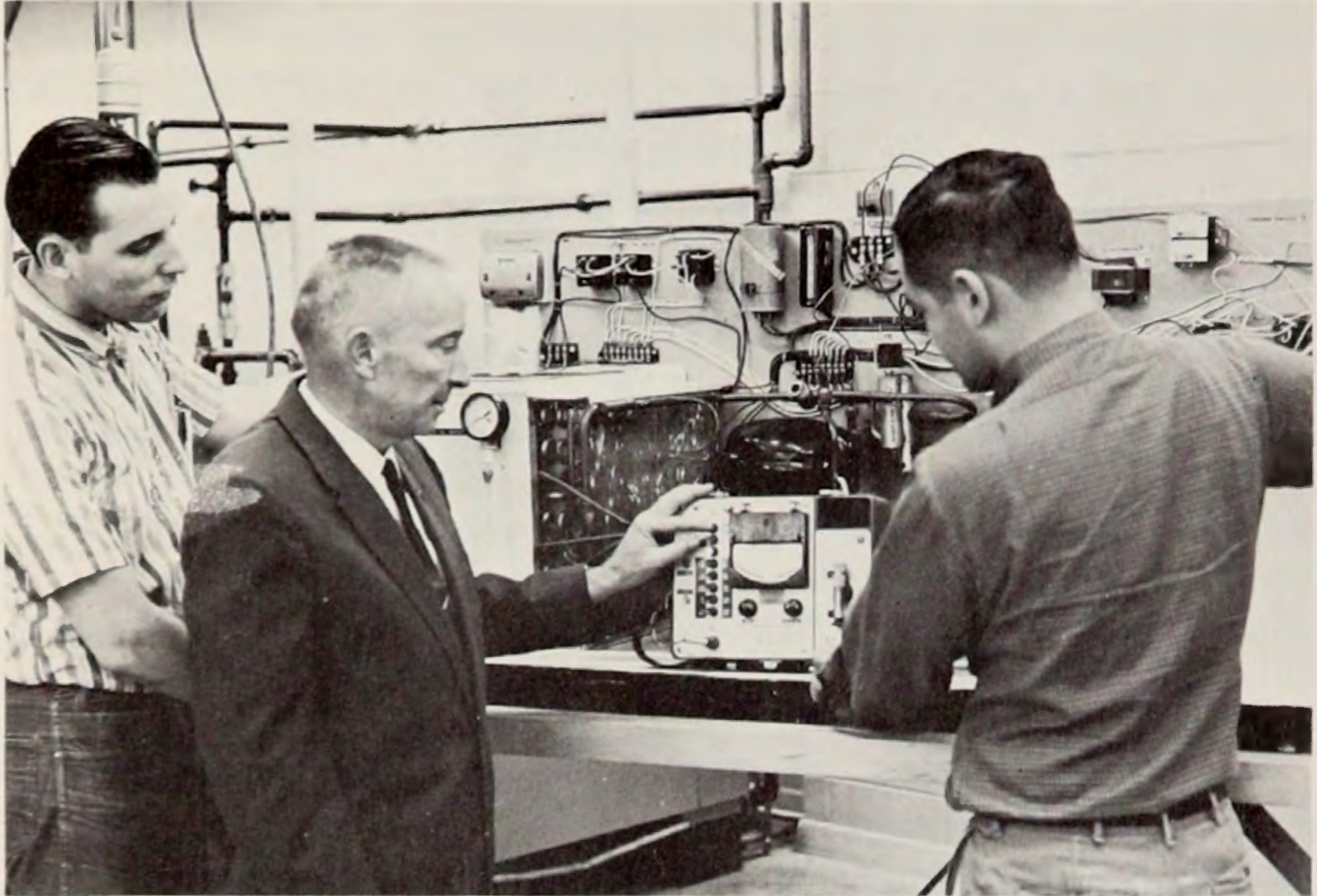
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Engineering technicians must observe, test, and check accurately.

THE WHY OF SOUTHERN TECH

The Engineering Technician and Southern Tech

The engineering technician is the newest member of the engineering team composed of the scientist, the engineer, the engineering technician, and the craftsman. His addition to the team resulted from the impatience of the 20th century. Prior to World War II, the lapse of time between a scientific discovery and its application was approximately six to ten years. Today our technology is moving so fast that in many cases this lapse time has been reduced to three to six months or less.

This increasing pressure to move more quickly from experiment to product requires engineers to witness, interpret, and make use of scientific discoveries almost as they occur. This change in engineer's work requires engineering education to be more and more in the area of advanced mathematics and the physical sciences and less and less in applied or operational engineering fields. Today an engineer's work is generally concerned with research, development, or design rather than with applied or operational engineering work.

Because the engineering arts and skills are essential to industry, the American Society for Engineering Education has sponsored the technical-institute program with curricula designed to fill the educational gap caused

by the change in the engineer's work. The technical institute trains men to take over much of the applied or operational engineering work formerly done by large segments of the engineering profession, thus freeing engineers for work requiring a more advanced scientific and mathematical background.

The engineering technician is concerned with the production, operational, and sales aspects of engineering and industry, and he performs specific tasks which are functional parts of the engineering or scientific activities. Such work usually embraces a specialized field of research, design, development, or construction; or of control and operation of production facilities and manpower. The performance of such work is based on (a) knowledge of the underlying scientific, engineering, and mathematical principles related to the specialized field of work and (b) the application of established scientific techniques and methods toward the solution of problems encountered in the field of specialization—i.e., the engineering and industrial know-how of the field.

Although many colleges accept transfer credit, the technical-institute program is not intended as a feeder channel into the junior and senior levels of a college or university. The program is not comparable to the first two years of a four-year engineering program; it is much more than that in some important respects and less in others. Its direction and emphasis are significantly different. The technical-institute program is designed to give the student a high degree of proficiency in his chosen field of technology, solidly supported by a sound working knowledge of the mathematics, English, basic sciences, and technical principles involved in that field.

Accelerating developments in all phases of technology are continually increasing the need and demand for highly qualified technicians. The President's Committee for Scientists and Engineers estimated that colleges are now graduating fewer than one-sixth the required number of highly skilled scientific and engineering technicians through accredited or approved courses in the United States.

For this reason graduates from technical-institute courses are in great demand. To date, Southern Tech has graduated over 3,800 engineering technicians. Starting salaries for these graduates are not only excellent but have increased year by year. Graduates with several years of industrial experience in many instances hold positions equal, or nearly equal, to positions held by professional engineering graduates who have similar industrial experience.

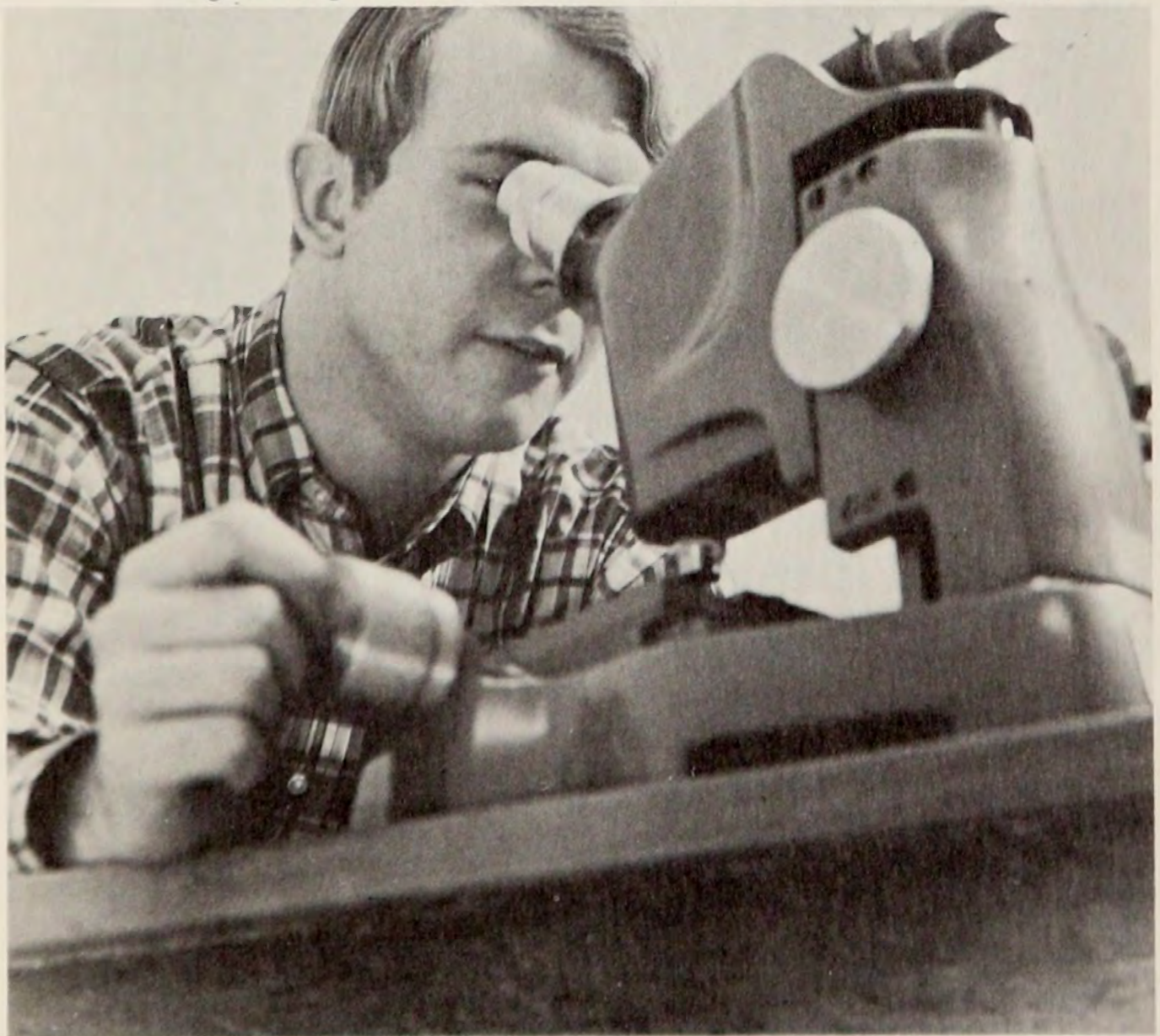
Southern Tech is the two-year technical institute division of the Georgia Institute of Technology. The school was established at the request of the Associated Industries of Georgia to serve the critical need for engineering technicians in Georgia industry.

Qualifications Necessary for Success in Technical-institute Training

Because of the complex technical and industrial areas served by the engineering technician, the technical-institute student must be carefully selected. Graduation from a good accredited high school is, of course, essential. Graduation alone, however, is not sufficient assurance of a student's success in a technical-institute program of study. He should also possess the following qualities, which are reliable predictors of scholastic achievement and success in this level of technical education:

1. *An overall, average or above-average record in four years of high-school work*
2. *Aptitude for, skill in, and interest in mathematics (especially algebra), science (especially physics), and English*
3. *Some mechanical aptitude and manual dexterity*
4. *Ability to grasp the theory of applied engineering*
5. *Genuine interest in and enthusiasm for some technical field*
6. *Determination and willingness to work hard*
7. *Ability to work with and influence other people*

Engineering technicians learn to use much scientific equipment.



Buildings and Equipment

In 1961 Southern Tech moved from Chamblee to Marietta into a completely new school plant of eight attractive, modern buildings situated on a beautiful 120-acre landscaped campus eighteen miles north of Atlanta on Highway 41.

To these facilities was added in the Spring of 1965 a new, modern, completely air-conditioned, four-story residence hall for men. This building houses 186 students and on the first floor has a 500-capacity dining hall. A second four-story, air-conditioned dormitory was completed in the fall of 1965 and occupied by 300 students. A combination gymnasium-auditorium building is now complete and in use.

Construction of a new library building is underway. This two-story structure will accommodate over 50,000 volumes and will have a seating capacity of approximately 300. Additional facilities will include a seminar room and computer, typing, and microfilm rooms. Terrazo flooring, carpeting, and a spacious lobby will contribute to making the new library the most beautiful building on the campus.

The present library is located in the Laboratory Building. The current collection of 8,000 volumes, 222 periodicals, pamphlets, government publications, and maps is expanding rapidly. Two-thirds of the collection is concentrated in the scientific and engineering fields; however, the library also has carefully selected fiction and general non-fiction books. The library is open 70 hours a week with a professional librarian on duty to assist students in the use of library resources. The library also provides low-cost copying service.

In addition to the campus library, students are entitled to full borrowing privileges from the Georgia Tech Library. Interlibrary loan service is available upon request.

Dormitory 1



Architect's Rendering of the Library Building.



Architect's Rendering of the Gymnasium-Auditorium.



CALENDAR FOR 1967

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ACADEMIC CALENDAR, 1967-68

Fall Quarter, 1967

- September 25—Registration for "new" (beginning) and "old" (returning) students. Orientation for beginning students.
 September 26—Orientation continues for beginning students.
 September 27—Classes begin for all students. Late registration fees apply.
 September 29—Last day for registration. Last day for adding a subject.
 October 13—Last day for dropping a subject without penalty.
 November 3—End of deficiency report period.
 November 24—Subjects dropped after this date draw "WF's."
 *November 23-November 26—Thanksgiving recess.
 December 15—End of term.
 *December 16-January 2—Christmas recess.

Winter Quarter, 1968

- January 3—Registration.
 January 4—Classes begin.
 January 5—Late registration fees apply.
 January 5—Last day for registration. Last day for adding a subject.
 January 19—Last day for dropping a subject without penalty.
 February 9—End of deficiency report period.
 February 23—Subjects dropped after this date draw "WF's."
 March 15—End of term.
 *March 16-24—Spring recess.

Spring Quarter, 1968

- March 25—Registration.
 March 26—Classes begin.
 March 27—Late registration fees apply.
 March 29—Last day for registration. Last day for adding a subject.
 April 12—Last day for dropping a subject without penalty.
 May 3—End of deficiency report period.
 May 17—Subjects dropped after this date draw "WF's."
 June 7—End of term.
 June 8—Graduation exercises.

Summer Quarter, 1968

- July 1—Registration.
 July 2—Classes begin.
 July 3—Late registration fees apply.
 *July 4—Holiday.
 July 5—Last day for registration. Last day for adding a subject.
 July 19—Last day for dropping a subject without penalty.
 August 9—End of deficiency report period.
 August 23—Subjects dropped after this date draw "WF's."
 *September 2—Labor Day Holiday.
 September 13—End of term.
 September 23—Registration for Fall Quarter, 1968.

*Official school holidays.

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CAREY WILLIAMS, Greensboro, Georgia, State-at-Large
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January 1, 1962 - January 1, 1969

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January 13, 1964 - January 1, 1971

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*On leave

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GENERAL INFORMATION

History

The Southern Technical Institute has been in existence as a two-year, boarding, co-educational, technical college for almost twenty years, thirteen and a half years of which were spent at its previous location on the old Atlanta Naval Air Station facilities in Chamblee, Georgia. With the full support of the Associated Industries of Georgia, the Georgia Institute of Technology, and the Board of Regents of the University System and after many months of curriculum-building conferences, and much work on the physical plant, The Technical Institute, as the school was called then, opened its door to its first students on March 24, 1948.

Several achievements in Southern Tech's twenty years of phenomenal growth, progress, and success are noteworthy: the change in name from The Technical Institute to the Southern Technical Institute; the right to award the Associate in Engineering degree to all graduates; national accreditation of curricula by the Engineers' Council for Professional Development; regional accreditation by the Southern Association of Colleges and Schools as a special purpose institution; recognition of Southern Tech by the U. S. Department of Education as an institution of higher learning; the increase in the number of students from 116 to 1,340, the faculty from 10 to nearly 60, laboratories from three to 40, and curricula offerings from seven to 11; the development and maintenance of a very effective student job-placement service; and the acquisition of a new campus and school plant in Marietta, Georgia.

Southern Tech has trained and sent to excellent positions in industry over 3,800 graduate engineering technicians, who are performing indispensable services. This achievement in itself is a most meritorious one and justifies the Institute's existence a hundred fold. An equally significant, influential service, however, has resulted from Southern Tech's role in the Southeast as a pilot school in technical education at the institute level. Southern Tech has served as a model for other technical institutes in the area, and members of Southern Tech's administrative staff and faculty have on numerous occasions served as consultants when other technical institutes were in the planning stage. Furthermore, Southern Tech personnel have been most instrumental in "spreading the word" about technical institute education.

Living Accommodations

Never before in its twenty-year history has Southern Tech been better equipped to offer its students the comfortable, convenient, almost luxurious living accommodations that are now available. Two new, brick, four-story, air-conditioned residence halls make this possible.

Versatile is the word for Dormitory 1, which went into operation at the beginning of the spring quarter, 1965. This building includes a kitchen, a cafeteria, a television room, a spacious lounge, a large, sound-proof study room, and a laundry—all located on the first floor. The other three floors are living quarters for 186 students.

Dormitory 2, occupied for the first time in September, 1965, is much larger and has space, furnishings, and services for 300 students. Every room in both structures is designed for only two students and is equipped with single beds, built-in desks, closets, storage areas, chairs, mirrors, study tables, wastebaskets, window draperies in Dormitories 1 and Venetian blinds in Dormitory 2, and fluorescent lights. Central air-conditioning and heating plants serve every room.

Another significant feature about the STI residence halls is their convenient location—on the immediate campus, in the midst of things, and within a few minutes walk to the most distant point of work or study.

The student must provide himself with a mattress cover, a mattress pad, towels, sheets for a single bed, a pillow, pillow cases, blankets, and a bedspread. The student might like to bring pictures and rugs. The only electrical appliances permitted are electric razors, radios, and clocks.

For \$28.00 per school year of three quarters a local linen supply company will provide on a rental basis two sheets, one pillowcase, and two bath towels each week.

A Caution—Southern Tech mattresses are somewhat oversize, a fact which might make some difference in the size of bedclothes. The dimensions are a 39-inch width, an 80-inch length, and a 6½-inch depth.

Prior to occupancy each student who lives in an STI residence hall must make a \$25.00 key and security deposit to cover loss of his key or any specific damage to his room other than the normal wear and tear. An application for a room will be sent the student when he is notified, of his acceptance.

SPECIAL NOTE—All single students attending the Southern Technical Institute for the first time (new enrollees) and not living at home will be required to live in an STI residence hall. Because of the excellent living conditions, superior study facilities, convenience to all areas of the campus, freedom from transportation worries, and the advantages accruing from supervision, students who have attended the Institute previously **and who have attained the status of senior** are urged to stay in a school dormitory, if space is available. They, however, have the option of living in an STI residence hall or of finding their own living accommodations.

Requests of new enrollees (freshmen and transfers) who desire to live with relatives residing within commuting distance of Southern Tech will be given consideration if the student's parents grant their permission in writing to the Southern Tech Dean of Students. The letter must state spe-

cifically the relative's name, address, and telephone number and the relationship between the relative and the student.

Furnished and unfurnished apartments of various sizes and prices are also available to married students within three quarters of a mile from the campus in Marietta Place. Since all applications must be filed and financial arrangements made with The Marietta Housing Authority, all correspondence relative to living accommodations for married students should be addressed to Executive Director, Marietta Housing Authority, P. O. Box 366, Marietta, Georgia. Before the student can be assigned an apartment, he must prove to the Executive Director that he is a bona fide applicant for admission to the Southern Technical Institute. A \$25.00 key and security deposit is also required of married applicants. Send the deposit to the Marietta Housing Authority Office, not to STI.

Married students may also find living accommodations in the Pine Forest Apartments, 2122 Claymore Drive, Marietta. A note to the manager will bring detailed information and an application form.

Boarding Facilities

Southern Tech's dining hall, which serves its meals cafeteria style, is beautiful, new, and modern in every respect. Its capacity is 500 people. Students may obtain in it three meals a day five days a week. No meals will be served on Saturdays, Sundays, or official school holidays as listed in the catalogue. Room and board will be sold as a unit, so that they may be provided at the lowest possible price. They may be purchased for \$230.00 per quarter.

For the convenience of students and their parents, a deferred payment plan is offered which permits the \$230.00 to be paid in three installments. The first payment of \$155.00 is due on registration day. Two monthly payments of \$37.50 must be paid within the next two months.

Tuition and Fees

	Matriculation	Tuition	Activity	Medical	Quarter Total	Annual Total
Residents of Georgia	\$95.00	None	*\$9.00	\$3.50	\$107.50	\$322.50
Non-Residents of Georgia .	\$95.00	\$110.00	*\$9.00	\$3.50	\$217.50	\$652.50

Resident students taking fewer than twelve quarter hours of work pay \$8.00 per quarter hour, and non-resident students pay \$17.00 per quarter hour. These part-time students are not charged medical and student-activity fees.

Matriculation, tuition, student activity, and medical fees of veterans enrolled under P.L. 815 are paid by the Veterans Administration in accordance with the terms of that law.

Summary of Expenses

The following summary is based upon an academic year of three quarters in attendance by a regular student carrying as many as twelve hours of

*Effective at the beginning of summer quarter 1967.

scholastic work, remedial or credit.

	Resident of Georgia	Non-Resident of Georgia
Matriculation, tuition, other fees.....	\$ 322.50	\$ 652.50
Room and board five days a week.....	690.00	690.00
Board, Saturdays, Sundays, and holidays.....	220.00	220.00
Books and supplies (\$45.00 a qtr.).....	135.00	135.00
Slide rule and drawing instruments.....	40.00	40.00
Key and security deposit (refundable).....	25.00	25.00
	\$1432.50	\$1762.50

The rates for fees, board, and room are subject to change at the end of any quarter.

Since Southern Tech does not operate a laundry, the cost of the student's laundry is not included in the prices stated on page 16.

The cost of a slide rule and a set of drawing instruments is a one-time cost. After the student has purchased these items of equipment in his first quarter, no additional outlay for them will be necessary.

Officials of Southern Tech regret that the school is not permitted to extend to parents and students the privilege of deferred payments of expenses with the exception of room and board cost. The cost of fees, tuition, room rent, books and supplies, etc., is therefore, due on the day the student registers. All checks should be made payable to the Southern Technical Institute.

Matriculation Deposit

A matriculation deposit of \$25.00 is required of all "new" (beginning) students when they submit their applications for admission. This deposit serves as an added assurance that the student fully intends to enroll, and it reserves a place for him in the quarter he intends to matriculate. If the student does enroll, the \$25.00 is returned to him on registration day; if he does not, it is refundable, *provided he makes a written request for it sixty days before the registration date of the quarter he was to enter Southern Tech.*

After the sixty-day period has begun, the \$25.00 is refundable only if Southern Tech has refused him admission because of scholastic deficiencies (low SAT scores, poor overall record, lack of entrance units). The student's failure to file all admissions papers on time is not grounds for refunding the \$25.00.

A request to transfer the \$25.00 matriculation deposit to a later quarter may be made only once; and the request, in writing, must be received by the registrar sixty days before the original date the student was to enroll. A late request or failure to register for the quarter to which the request is granted will result in forfeiture of the \$25.00.

The check for this \$25.00 deposit should be made payable to the Southern Technical Institute, and it should state specifically that it is for—Matriculation Deposit.

Key and Security Deposit

A \$25.00 key and security deposit must be made by all single students desiring to live in an STI dormitory and all married students wishing to live in a Marietta Housing Authority apartment. To assure a reservation in a Southern Tech residence hall, the single student must send the deposit, along with an official application (room reservation card), to the Southern Technical Institute as soon as he is accepted for admission. No action can be taken on an application for a room unless the \$25.00 deposit accompanies the application (reservation card). Married students make their deposits with the Marietta Housing Authority *and not with Southern Tech.*

The Key and Security deposit is refundable at the end of the school year or at such time when the student may withdraw from school, provided he was officially enrolled in Southern Tech, turns in his apartment key, and has not been responsible for damage to his living facilities. If the student reserves living accommodations, makes the \$25.00 key and security deposit, and does not enroll, the deposit is refundable, *provided he cancels his application for a room in writing at least 30 days before the official registration date of the quarter he was to enter.*

The check for this \$25.00 deposit should be made payable to the Southern Technical Institute, and it should state specifically that it is for—Key and Security Deposit.

Late Registration

A late registration fee of \$3.00 for the first day and \$1.00 for the second and third days, the total amount not to exceed \$5.00, will be charged. Exceptions to this regulation will be made for proved emergencies or for sickness certified by doctor's statements.

Other Fees

Each member of the senior class must pay a diploma fee of \$5.00 before graduating.

Examinations at other than the regular examination times will be granted in exceptional cases and only by faculty action. A fee of \$2.00 will be charged in all such cases.

Every student who parks his automobile on the campus is required to pay a parking fee of \$3.00 per year to assist in defraying the expense of parking decals and of maintaining security officers to enforce parking and safety regulations for the common good.

Refund of Fees

No portion of the student activity fee or the medical fee is refundable. Refund of tuition, room rent, and other educational fees will be made only upon official, written application for withdrawal and in accordance with the following schedule.

Students who formally withdraw within one week following the scheduled registration date are entitled to a refund of 80% of the fees paid for that quarter.

Students who formally withdraw during the period between one and two weeks after the scheduled registration date are entitled to a refund of 60% of the fees paid for that quarter.

Students who formally withdraw during the period between two and three weeks after the scheduled registration date are entitled to a refund of 40% of the fees paid for that quarter.

Students who formally withdraw during the period between three and four weeks after the scheduled registration date are entitled to a refund of 20% of the fees paid for that quarter.

Students who withdraw after a period of four weeks has elapsed from the scheduled registration date will be entitled to no refund of any part of fees paid for that quarter.

Refunds for cost of meals are prorated when a student withdraws and do not fall under the schedule given above.

Definition of Legal Residence

To be considered a legal resident of Georgia for the purpose of registering at the Southern Technical Institute, a student must establish the following facts to the satisfaction of the registering officers:

(1) A student who is under 21 years of age at the time he seeks to register or re-register at the beginning of any quarter will be accepted as a resident student only upon a showing by him that his supporting parent or guardian has been legally domiciled in Georgia for a period of at least twelve months immediately preceding the date of registration or re-registration.

(2) In the event that a bona fide legal resident of Georgia is appointed as the guardian of a non-resident minor, such minor will not be permitted to register as a resident student until the expiration of one year from the date of the appointment, and then only upon proper showing that such appointment was not made to avoid the non-resident fee.

(3) If a student is over 21 years of age, he must show that *bona fide* residence in Georgia was established at least one year prior to the registration date. Any period of time during which a person is enrolled as a student in an educational institution in Georgia may not be counted as a part of the year's residence herein required when it *appears that the student came into the state and remained in the state for the primary purpose of attending a school or college.*

Veterans Program

The school is approved for the training of veterans under P.L. 815 (Service Connected Disability) and P.L. 89-358 (Veterans Readjustment Benefits Act of 1966) and for the training of sons of disabled or deceased veterans under P.L. 634. Veterans and sons of veterans seeking to qualify for training under these bills should apply directly to the nearest Veterans Administration Office for additional information.

Monthly subsistence checks are paid by the government directly to the P.L. 815 veteran or the mother of the qualified war orphan, and the veteran or the mother is personally responsible to the school for expenses incurred by the student. Recipients of the financial assistance, however, do not begin to receive checks until at least a month and a half after the student is enrolled. The P.L. 634 and P.L. 358 enrollees should, therefore, come prepared to pay in advance for all fees, books and supplies, and room and board. The school bills the VA for the P.L. 815 student's fees and books and supplies.

SOME QUESTIONS AND ANSWERS

"What should I bring with me?" Students should remember to bring bed linens (four sheets, two pillowcases, a bedspread*), a mattress cover, two blankets, a pillow; towels; a bathrobe; a desk lamp; and any other personal items which would add to the comfort, convenience, and attractiveness of their room—radio, rugs, pictures, etc., but no record players or TV's.

A local linen supply company will provide on a rental basis two sheets, one pillowcase, and two bath towels each week for three quarters for \$28.00. Details concerning this service will be mailed directly to each student after acceptance.

"What do Southern Tech students wear?" STI students dress informally. Some few do wear suits; many choose slacks, shirt, and warm jackets; others find khaki or denim trousers and matching shirt appropriate and acceptable. Every student should bring clothing suitable for wear in shops and labs.

"Are Southern Tech students granted draft deferments?" Institute students are subject to the same draft deferment regulations governing other college students over the nation. As long as the student carries enough work to qualify him as a full-time student and as long as he makes normal, satisfactory progress toward his degree he will be deferred.

"Does Southern Tech operate a laundry for its students?" No, the school does not operate a laundry, though the coin-operated washing machines in Dormitory 1 are helpful, economical, and popular. Commercial firms make scheduled pickups and deliveries to the dormitories for dry cleaning and laundry; or the student may take advantage of the linen service mentioned above for some of his needs.

"Are student automobiles permitted on the campus?" STI students are permitted to keep automobiles on the campus as long as they operate them safely, courteously, and moderately. If this principle is violated, privilege of keeping the car at school will be denied.

*Southern Tech mattresses are somewhat oversize. These are the dimensions: 39 inches wide, 80 inches long, and 6½ inches deep.

Furthermore, all student automobiles must be officially registered with the Dean of Students and each owner assigned a specific operator's permit before the car can be driven on the campus.

"When are my fees and other expenses due?" Fees (\$107.50) for residents of Georgia and \$110.00 additional for non-residents, cost of books and supplies (\$45.00 per quarter exclusive of drawing instruments and the slide rule), and the initial payment of the cost of room and board (see the schedule on page 16) are payable in advance on registration day. A \$25.00 key and security deposit is also required of all students living in a STI residence hall and of married students in a Marietta Housing Authority unit. Automobile owners who expect to park on the campus must be prepared to pay the required \$3.00 for the parking permit.

"What exams are required for entrance?" With the exception of the College Board SAT, no examinations to determine whether a student will or will not be admitted are required. Results of the CEEB Achievement Tests in Intermediate Mathematics (Level I-Standard) and in English, now required of entering freshmen and transfers, will be used to determine aptitude and ability in basic algebra and English, and remedial courses in these subjects are provided for those not meeting minimum requirements.

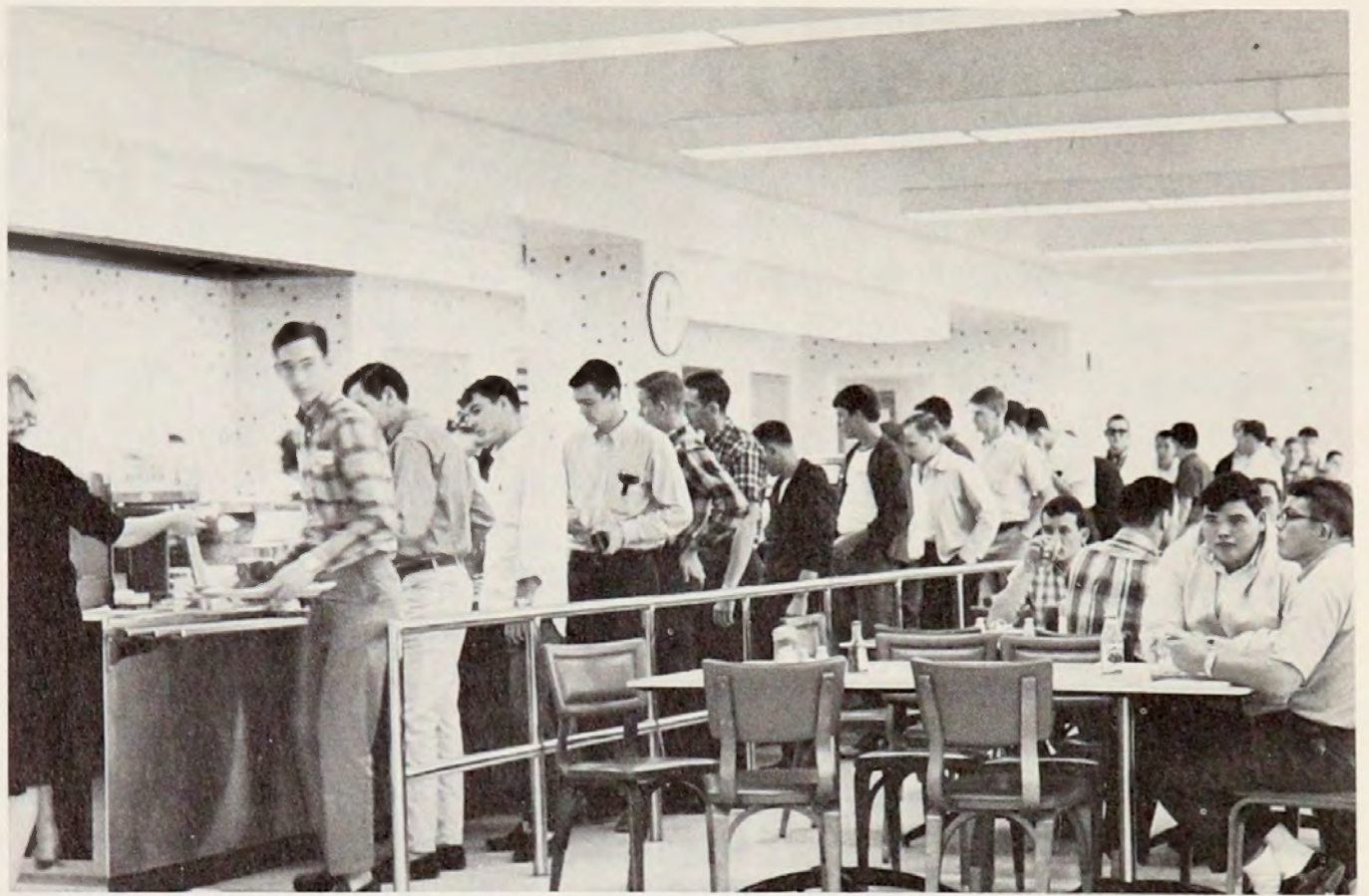
"Do other colleges accept Southern Tech work for credit?" Yes, many of them do. First, however, the student should understand that, though Southern Tech is a college, its work is not designed as the first two years of any other college's four-year program. Engineering schools accept a varying but limited amount of transfer work from technical institutes—all on an individual basis. Many colleges with A.B. and B.S. curricula, however, accept from one quarter to two years of credit, the exact amount depending upon the quality of the work and the course of study the student chooses to pursue in the four-year college.

"Can I succeed at Southern Tech?" Yes, if you

1. Were average or above-average in high school
2. Have proved interest, aptitude, and ability in mathematics, English, and science
3. Can grasp the theory of applied engineering
4. Are enthusiastic about technical work
5. Are determined and willing to work hard.

"When should I report for registration?" All beginning students are expected on the STI campus by 10 A.M. of the first day in the quarter.

For the convenience of students who must travel long distances to reach Marietta, the Southern Tech dormitories are open at noon on the Saturday prior to registration on the following Monday. Upon presentation of a Certificate of Acceptance or a receipt for the key and security deposit, Dormitory Supervisors are authorized to assign early arrivals a room.



The Cafeteria

Students learn to use the library



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ACADEMIC REQUIREMENTS

Requirements for Admission

A qualified student may enroll in the Southern Technical Institute at the beginning of any quarter—fall, winter, spring, or summer. If, however, he enters in any quarter other than the fall, the school can not assure him that he can complete the six quarters' work in eighteen months' time, because of scheduling difficulties which are likely to arise.

To be accepted for admission, applicants must be graduates of accredited high schools or have passed satisfactorily the General Educational Development (GED) Tests. Also they should have credit for two high-school units of algebra, one of plane geometry, two of science (general science, biology, chemistry, or physics), and four of English. In addition, all applicants must have taken the College Entrance Examination Board Scholastic Aptitude Test (Verbal and Mathematical) and the CEEB Achievement Tests in Mathematics (Level I—Standard) and in English Composition and have submitted scores to the Southern Tech Registrar.

Results of the Achievement Tests in Mathematics and English will be used (1) to help determine more about the student's ability and knowledge in mathematics and English and (2) to guide members of the STI staff in correctly placing students in remedial, regular credit, or advanced sections in these fields. Some students are not ready for college algebra, even though they may have credit for two units of algebra. If test results prove that a student's knowledge is inadequate, he will be required to schedule and pass a quarter of non-credit, remedial algebra before attempting college algebra. Transfers whose first courses in college English and mathematics are accepted for credit by Southern Tech are exempted from the CEEB Achievement Tests in English and Intermediate Mathematics.

At least one unit of algebra is required for admission. For those students who lack a year of algebra or of plane geometry or of both but who qualify otherwise, pre-freshman courses in algebra and geometry are available. Furthermore, if a student is deficient in English or in science, he may make up his deficiency through a one-quarter, remedial course in English or in science at Southern Tech after being admitted.

College Preparatory Quarter

For those students who cannot qualify for admission because of low high-school grades, below-acceptance SAT scores, or who otherwise wish to strengthen their preparation for college work, a pre-tech quarter of study is offered during the summer. This quarter of work is not an abbreviated session; it is eleven weeks in length, the same as that of the other three terms in the Southern Tech academic year. Furthermore, the cost of this period of study is also the same as that of other quarters.

The student will study Math. 10 (Preparatory Algebra), Math. 6 (Plane Geometry), Eng. 10 (Preparatory English), and Phys. Science 100 (A Survey of Physical Science). Only Phys. Sci. 100 carries college credit.

If the student achieves a grade of "C" in each of these subjects, he will be admitted to credit work in the following fall quarter.

Students who seek admission to the Preparatory Quarter in the summer must file with the STI admissions office all the papers required of a student entering credit work. These are set forth below under "Admissions Requirements." Also he must have taken all the required tests and had scores sent to STI. No one will be accepted for the Preparatory Quarter unless he has credit for at least one unit of algebra.

CEEB Tests

The College Entrance Examination Board's Scholastic Aptitude Test (SAT) and its Achievement Tests will be administered in 1967-68 on a Saturday, in every instance, in the following months: December, January, March, May, and July. To avoid the payment of a late fee, the student must make application for the tests at least four weeks before the date of their administration.

Further information about these tests may be obtained from the student's high school principal or counselor or by writing the College Entrance Examination Board, P.O. Box 592, Princeton, N. J. 08540 or Box 1025, Berkeley, California 94701.

Supplying information, administering and grading the tests, and furnishing the school the scores are functions and services of the CEEB; the student, therefore, will save time by writing directly to the Board for an application and its *Bulletin of Information*.

A CAUTION—Applicants for the winter and the spring quarters must be very sure to take the CEEB tests in time for the Institute to receive the scores and to notify the student of the results before registration day. The College Board requires nearly a month to grade the tests and get scores to the colleges. This means that a student cannot wait until December to take the SAT and the Achievement Tests if he plans to enter Southern Tech in January, because test results will not reach STI until after registration day. He must take the tests in July. The same will happen if the spring-quarter applicant waits until March to take the tests. He should take the tests in January.

Consequently a winter quarter applicant must take the tests not later than July and a spring quarter applicant cannot wait later than the January testing if he hopes to qualify for the spring quarter.

Admission Requirements

Applicants for admission to the Southern Technical Institute day and evening classes must submit to the Registrar the following:

1. *An Application for Admission, complete in every detail.*
2. *A \$25.00 matriculation deposit.*
3. *A recent photograph.*
4. *Student's Social Security number.*
5. *A high school transcript, if a graduate; if not a high school graduate, a high school transcript and an official copy of satisfactory scores on the General Education Development (GED) Tests.*
6. *A complete college transcript, if the applicant has had previous college work.*
7. *CEEB test scores on (1) Scholastic Aptitude Test, (2) Achievement Test in Intermediate Mathematics (Level I—Standard), and (3) Achievement Test in English. Required of all beginners and transfers except foreign students.*
8. *A VA Certificate of Eligibility of all veterans entitled to assistance from the G.I. Bill.*
9. *Doctor's certificate of health (from family physician).*

Filing of Papers

No application will be accepted after twenty days before the registration date of the quarter the student desires to enroll.

Students applying for admission for a fall quarter are urged not to wait later than March of their senior year to take the CEEB Scholastic Aptitude Test and the Achievement Tests. Also they should make every effort to file an application and submit other entrance requirements by April 15 of their final year. A high school transcript including all work but that of the student's last semester is a most vital document in determining acceptance or rejection and must be submitted before any action can be taken. Obtaining transcripts, high school and college, is the student's responsibility. Have them sent directly to the STI Registrar.

There is reserved to every institution of the University System of Georgia 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 courses of study for which the applicant wishes to enroll and the right to reject any applicant who fails to meet such tests satisfactorily.

Advanced Standing

Students may be admitted for advanced standing by transfer from other technical institutes and colleges, or from universities. To transfer, the subjects must be of "C"-grade quality and must parallel closely subjects in the student's Southern Tech curriculum.

An official transcript of the student's previous college work must be submitted at least twenty days before the registration date of the quarter the student plans to enter Southern Tech.

Freshman Placement in Mathematics

The Mathematics Department of the Southern Technical Institute has established the following criteria for the placement of entering freshmen in its mathematics courses:

MATH 110—Integrated Algebra and Trigonometry—Requirements: At least two units of high school algebra and a score of not less than 545 on the CEEB Achievement Test in Mathematics (Level I-Standard).

MATH 111—College Algebra—Requirements: At least two units of high school algebra and a score between 400 and 545 on the CEEB Achievement Test in Mathematics (Level I-Standard).

MATH 10—Remedial Algebra—Requirements: At least one unit of high school algebra or two units of high school algebra and a score under 400 on the CEEB Mathematics Achievement Test (Level I-Standard).

It should be noted that Math. 110 is the required course for the Electrical Engineering Technology Program; and if the entering Electrical student is placed in any other mathematics course, he must allow for seven quarters to complete the normal six-quarter course.

Similarly placement into Math. 10 or Math. 6 (Plane Geometry) will usually require an additional quarter in school for all students having this deficiency.

Though there have been exceptions, the placement policy outlined above has proved to be very satisfactory; also it provides the opportunity to the student with an inadequate mathematics background to make up any deficiency and meet the requirements expected of him in his next more advanced course in mathematics.

Requests for individual exceptions to the criteria stated above should be addressed to the Southern Tech Registrar. If exceptions are granted, the students involved proceed into their requested mathematics program at their own risk. Also every request for an exception must be accompanied by written permission from the student's parents.

Grade Reports

Reports on unmarried students under 21 are mailed to parents soon after the close of each academic quarter. Reports are also sent to parents at mid-quarter, if the students are failing in any subject. If a student is passing all subjects, no report is made on his work until the end of the quarter.

Minimum Class Sizes

No classes will be scheduled in service subjects (English, drawing, physics, mathematics, chemistry, and a number of specialized subjects serving

more than one curriculum) with enrollments of fewer than twelve students; other subjects will not be offered with enrollment of fewer than ten.

Rules and Regulations

Every student is obligated to become thoroughly acquainted with *The Green Hornet*, student handbook of the Southern Technical Institute, the contents of which are just as official as those of this catalogue. From this booklet he will gain vital information concerning attendance, grades, point averages, conduct, withdrawal from school, activities, etc.

Students are also responsible for all official announcements which appear in "The Weekly Bulletin" and *The Engineering Technician*, student monthly newspaper.

STI Evening Classes

In the summer of 1964 a consolidation was effected which brought together into one continuous 8 A.M. to 10 P.M. program the scholastic work offered by the Southern Technical Institute Day School and the Institute work previously offered in the evenings by the Engineering Extension Division of the Georgia Institute of Technology. Now all technical institute work offered in Georgia Tech's plan of technical education is organized, taught, and supervised by the Southern Tech staff, faculty, and administration.

The Registrar's office of Southern Tech handles all applications and other requirements for admission and keeps the records of all institute students, Day and Evening. Furthermore, entrance and graduation requirements are the same for students in both divisions; and the same degree, the Associate in Engineering, is awarded to Day School and Evening School graduates. Prospective students who desire to study in the evenings should, therefore, be guided by the academic and admission requirements as set forth in the Southern Technical Institute catalogue; and they should address all correspondence, admission papers, and other requirements to the Registrar, Southern Technical Institute, Marietta.

Applicants to the Day School and to the Evening Classes now use the same set of admission papers, those of the discontinued Evening School having been replaced.

On the first two days of each quarter complete registration of Evening School students is conducted from 9 A.M. to 8:30 P.M. on the Marietta Campus.

Six of the eleven curricula offered at Southern Tech in the day time may be studied and completed in the evening. These curricula are Architectural Engineering, Civil Engineering, Electrical Engineering, Industrial Engineering, Management Option Industrial Engineering, and Mechanical Engineering Technologies. The estimated completion time for one of these courses in the evening is four years, if the student attends regularly quarter after quarter and experiences no failures.

College preparatory subjects are offered at night only when there are enough students to justify classes. A student who lacks high-school units in these subjects may make them up in the STI summer quarter or at the Department of Continuing Education summer quarter at Georgia Tech.

A schedule of each quarter's subject offerings is available upon request about the middle of the quarter prior to the one in which the student is interested. A copy may be obtained from the Southern Tech Registrar or the Co-ordinator, Southern Technical Institute Evening Division, Marietta, Georgia.

THE COOPERATIVE PLAN

Southern Tech offers a school-sponsored Cooperative Plan in all of its eleven curricula to provide financial aid for the student and to give him practical experience in industry. This plan requires the student to take the six-quarter curriculum for his department as outlined in the "Courses of Study" section of this catalogue, but he alternates school and work quarters over a period of thirty-three months. Thus, the Cooperative student completes six quarters of schooling and five quarters of experience in industry.

The Selective Service System specifies that a student may qualify for draft deferment as a Co-op student only if his work program is related to his field of study, approved by the Co-op Coordinator, and confirmed by letter by the industry with which he is to work. A work program can be initiated either by the efforts of the student with a home-town firm or by the Co-op Coordinator.

Also, to qualify for the Co-op plan, a student must (1) be physically sound, (2) be seventeen years old, (3) meet all STI scholastic entrance requirements, and (4) complete at least one quarter of credit work at Southern Tech with a "C" average or better. (Some STI Co-op Plans require more than one quarter of scholastic study before the student can go to his assigned job.) Having met these four requirements, he is then eligible to enter his first quarter of work in industry. The student must maintain a "C" average overall to remain on the Co-op Plan. If he is dropped from the program, he is not eligible for reinstatement as a Co-op student. Also, as would be expected, he must perform his work to the satisfaction of his employer if he is to remain on the Co-op Plan.

Tuition, fees, and other expenses are the same for Cooperative students per quarter of attendance as for regular students. Every effort will be made to find satisfactory employment for the student in or near his home town, so that he can profit from the savings effected through living at home.

At present a large number of Civil Engineering Technology students are enjoying the benefits of the Co-op Plan worked out in the summer of 1957 between the Southern Technical Institute and the State Highway Department of Georgia.

Other companies offering Co-op Plans include the Georgia Power Company, Western Electric Company, Lockheed-Georgia Company, Oxford Manufacturing Company, a number of textile industries, and many home-town firms.

Southern Tech is continually expanding the program. Since the Placement Director is also the Coordinator of Cooperative Courses, his contacts with industry make the plan easily accessible to both industry and students. Additional information may be obtained from Coordinator of Cooperative Courses, Southern Technical Institute, Marietta, Georgia.

Graduation Requirements

A student is eligible for graduation when he (1) has satisfactorily completed the required number of hours specified by the curriculum of the course in which he is specializing, (2) has achieved the necessary scholastic point average (1.80), (3) has paid all required fees, fines, and other financial obligations owed the school, and (4) has filed with the Registrar the official "Petition for Admission to Candidacy for a Degree."

Southern Tech awards an Associate in Engineering Degree to each student who satisfactorily completes the required program of study for his chosen field as outlined in this catalogue.

Only one graduation exercise a year is held—that in June, at the end of the spring quarter.

The Degree

Southern Technical Institute

Marietta



Georgia

This Certifies That

Robert Eugene Henderson

having satisfactorily completed the engineering technician's course of study authorized by the Board of Regents of the University System of Georgia and prescribed by the Georgia Institute of Technology for the Southern Technical Institute, is hereby awarded

the degree of

Associate

in

Industrial Engineering Technology

Given under our hands, this 13th day of June, 1964

E. D. Harrison

President, Georgia Institute of Technology

L. V. Johnson

Director, Engineering Extension Division

J. L. McQuinn

Director, Southern Technical Institute

L. Y. Bryant

Registrar, Southern Technical Institute

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Orientation

In order to aid new students in a successful beginning of their work, the Dean of Students conducts an orientation meeting during the first week of each quarter. The first two days of the fall quarter are devoted to registration and orientation for beginning and transfer students. The orientation meeting is held on the afternoon of the first registration day each fall and on the second day of registration week of each of the other quarters.

At the orientation meeting the Dean of Students, the Registrar, the Counselor, and other school officials explain rules and regulations and other things that new students should know. Students who require more than routine orientation may go to the Counselor's office for guidance and counseling on general problems and to the department head's office for academic counseling.

Discipline

There is no direct supervision of students at Southern Technical Institute, but everyone who enters the school is expected to conduct himself in such a manner as not to interfere with the efficiency of the educational program and not to reflect upon the reputation of the institution.

Serious infractions of rules and regulations or serious misconduct, on or off the campus, will result in appropriate disciplinary action by the Dean of Students and may result in dismissal from school.

Housing and Food Services

The two air-conditioned dormitories and the cafeteria described on pages 14, 15, and 16 compare favorably with similar facilities on any other college campus in the state. The Georgia Tech College Inn also operates a snack bar in Building 3 from 9:00 A.M. to 3:00 P.M., Monday through Friday.

Health Care

The medical fee paid by the student entitles him to clinical services for minor illnesses by doctors at the Kennestone Hospital in Marietta. The facilities of the hospital on the main campus of the Georgia Institute of Technology are available for the use of Southern Tech students who require temporary hospitalization.

Free service does not apply to the following: major surgery, elective surgery, specialist's care, orthopedic appliances, special laboratory examinations, special nurses, medications, hospitalization in cases of the more serious contagious diseases, or ill students who elect to remain outside the infirmary. In these instances the student's parent or guardian is responsible for such added expenses.

Scholarships, Part-Time Jobs, and Loans

Although the Southern Technical Institute's ways and means of financial assistance to worthy students are somewhat limited, the school does have the following types of financial aid to offer or recommend.

REGENTS' STATE SCHOLARSHIP: This direct grant is restricted to residents of Georgia and requires proof of high-level academic achievement and strict documentation of financial need. Both incoming freshmen and students already enrolled are eligible. No repayment is asked if the student works within the state immediately following graduation. In meeting this stipulation, a year's employment in Georgia is required for each \$1000 granted or fraction thereof. The maximum amount of aid for those in two-year colleges is \$500 annually.

STATE SCHOLARSHIP-LOAN: To place college within the reach of every qualified person in Georgia is the aim of this program. Funds are disbursed through participating lending institutions after the applications have been approved by the college, the bank, and the Georgia Higher Education Assistance Corporation, which guarantees the loan.

The two requirements are (1) that the applicant must be a resident of the State of Georgia and (2) that he must be in college or have received his acceptance. The loan maximum for a freshman is \$900 and for sophomores \$1000. Repayment is made after graduation, and no interest is charged while the student is in college.

NATIONAL DEFENSE STUDENT LOANS: Through the National Higher Education Act of 1965 students may borrow money from the federal government to meet college costs. Applications must be submitted two months before the beginning of the quarter in which they wish to receive aid. Simple interest on the unpaid balance is set at three percent a year. The repayment period starts one year after the borrower ceases to be a full-time student, and the loan, including interest, is repaid in ten equal amounts.

CIVIC CLUB SCHOLARSHIP-LOANS: Certain civic clubs and service organizations in the Marietta area have set up a number of scholarship-loan programs for Southern Tech students. The only requirements are (1) demonstrated need for financial assistance and (2) two quarters in attendance at Southern Tech with a minimum overall average of "C."

This aid is usually \$100 a quarter, and the total amount is repaid after graduation. Money which is paid back within a year is interest-free, and five percent is charged after that time. All of the money must be repaid within eighteen months following graduation.

OTHER SCHOLARSHIPS: Frequently other scholarships are offered. These, however, are not of the permanently established, yearly recurring type,

but are available only in years when their donors honor Southern Tech by awarding them to outstanding, deserving students.

FEDERAL WORK-STUDY PROGRAM: Under the provisions of Title I, Part C, of the Economic Opportunity Act of 1964, eligible students may earn part of their college expenses through part-time employment on the campus in such positions as dormitory assistants, clerical aides, laboratory assistants, and library aides. Student employment is limited to 15 hours a week. This work-study may be combined with any of the loans or scholarships mentioned above.

For additional information concerning STI scholarships write to the Director of Student Aid, Southern Technical Institute, Marietta, Georgia.

PART-TIME CAMPUS JOBS: A few part-time jobs do exist on the Southern Tech campus. These, however, are limited in number and are restricted because of the nature of the work to be done. The majority of the jobs are of the type which require students more advanced in their study at Southern Tech than first-year men are. Many students do, however, work off-campus, though school officials discourage beginning students from doing so.

LOANS: To those who must have financial assistance to enter and remain in school, Southern Tech recommends The Pickett and Hatcher Educational Fund, Box 2128, Columbus, Georgia, a reliable concern which lends thousands of dollars each year to men and women who are determined to obtain a college education.

GEORGIA TECH LOAN FUND: Southern Tech students facing a financial crisis are eligible to apply for the needed assistance to the Georgia Tech Loan Fund. It must be understood that the obtainable loan is limited to \$100.00, that it is granted only in emergencies, and that it must be repaid by the end of the quarter in which it is borrowed.

GAS FUEL TECHNOLOGY FOUNDATION: Under the new plan of financial assistance recently established by the Gas Fuel Technology Foundation, a student can borrow up to the full amount of his tuition and fees for six quarters at no interest until one year after he terminates his training in the Gas Engineering Technology course. Beginning one year after the termination of the Gas Engineering Technology course, the loan will bear interest at the rate of five percent per annum. The student is allowed a period of five years after completion of the course in which to repay the loan.

Information on how to secure one of these loans may be obtained from the Registrar, Southern Technical Institute, Marietta, Georgia.

CO-OP PLAN: One of the best means of financial assistance offered by Southern Tech is the opportunity to participate in one of its school-sponsored co-op plans. These plans are operative in all STI curricula.

Placement Service

The Placement Service is available to all Southern Technical Institute graduates and candidates for graduation. The emphasis is directed toward placing students in their last quarter of study, but the service is also available any time after graduation. The chief function of the Placement Bureau is to guide and direct the student in obtaining the job most suitable for his individual abilities, likes, and dislikes.

This service includes maintaining active contact with approximately 4800 national concerns; keeping available for the students informative booklets, brochures, and industrial directories; arranging group and individual job interviews; and giving advice to the prospective graduate on any phase of job seeking.

As time permits, the Placement Bureau also helps students who need part-time work. Frequently calls come in from employers who seek student help. The Placement Office welcomes these and passes the opportunities on to students who have registered with the Bureau for part-time employment.

Affairs of the Placement Bureau are carried on by a full-time director and an assistant. Their services are available at regularly scheduled hours.

Counseling Service

The student-faculty relationship at Southern Tech is based upon the friendly applied philosophy that every student is an individual, that all students occasionally have problems, and that no teacher, department head, dean, or other member of the administration is ever too busy to help students solve their problems.

Southern Tech employs a professionally trained, full-time counselor. His office is located in the Administration Building and is easily accessible to the students. Here he is available by appointment for testing, orientation, and academic, vocational, and special problems counseling. The job of the counselor is to help the students of Southern Tech get a better idea of their potentialities and capabilities and to bring about a better relationship with the world about them. New students are urged to come by and get acquainted.

Upon registration, every student is assigned to the head of the degree-granting department in which he is to do his major scholastic work. This man serves as the student's course adviser; and he is responsible for scheduling the student, following his scholastic progress, and assisting him if he encounters difficulty. The teachers at Southern Tech are helpful, and they spend many hours of their time in coaching and tutoring students who need additional help.

Close cooperation between student and teacher and the freedom granted the student to drop in on his teacher, course adviser, dean, the director, or the counselor to talk over a problem are two of the major contributing factors in the success Southern Tech has enjoyed throughout its existence.

The Bookstore

For the convenience of the students, the Georgia Tech College Inn operates a well-stocked bookstore on the Southern Tech campus. Text-books, supplies, stationery, toilet articles, and many other items the student will need may be purchased here.

The Post Office

A branch United States post office in Building 3 provides mail service on the campus. There are post office boxes for all students, and every student is expected to check his box regularly for official communications from the school as well as for other mail.

EXTRACURRICULAR ACTIVITIES

Not all of a student's time at Southern Tech is spent in scholastic pursuits in the classroom, in homework, and in laboratories. In fact, officials of the Southern Technical Institute believe so strongly in the benefits of extracurricular activities that they urge every student to participate in them. These student activities are most helpful in developing good health, the social graces, well-rounded personalities, and dependable leadership. They offer the student wholesome diversion from classroom, shop, and laboratory, and give him opportunities for creative self-expression. They build school spirit, keep it buoyant, and serve to unify administration, instructors, and students into one enthusiastic, loyal group. The Southern Technical Institute sponsors an athletic program, a school paper, a yearbook, social events, and worth-while student organizations.

Publications

Students who are interested in publications may become members of the staffs of the student newspaper and the yearbook. *The Engineering Technician*, a monthly newspaper, and the *Technician's Log*, a yearbook published each June, are sponsored and produced by students. These publications offer excellent opportunities for writers, cartoonists, and advertising salesmen to acquire valuable experience and to extend their interests into activities outside their courses of study.

Athletics

The athletic program has been developed in two separate phases, intramural and intercollegiate. Intramural competition is between departments and includes basketball, volleyball, tennis, golf, and softball. A trophy is presented to the winning department at the end of the year. An All-Campus team is selected in all the major sports.

Intercollegiate competition is conducted with schedules in varsity and freshman basketball, baseball, golf, and tennis. An athlete who earns a letter in an intercollegiate sport is eligible for membership in the Monogram Club. This club has as its purpose the development of sportsmanship

and athletics at Southern Technical Institute. One phase of this is in the sponsorship of the intramural program, where the varsity athletes act as department coaches and game officials for all intramural competitions.

Completion and utilization in 1966 of Southern Tech's new gymnasium will stimulate more widespread interest in the Institute's athletic program, expand its facilities, and provide for greater student participation in the school-sponsored activities. Basketball will again become a major intramural sport, and new tennis courts on the STI campus should increase the popularity of this game. Other available facilities will be a baseball diamond, a softball diamond, and a volleyball court.

Campus Organizations

At least seventeen different campus organizations exist at Southern Tech for the purpose of providing fellowship and fun, information, and opportunities for training in leadership and in social and personal development. Each student has his departmental club: Air Conditioning's Eta Alpha Gamma, Architectural's Alpha Beta Sigma, Civil's Sigma Chi Tau, Electrical's Epsilon Pi Chi and IEEE (Institute of Electrical and Electronics Engineers), Gas Engineering's Gamma Phi Kappa, IET's Delta Tau Phi, Mechanical's Alpha Mu Sigma and ASTM (American Society of Tool and Manufacturing Engineers), and Textile's Sigma Delta Phi. These clubs provide opportunities for participation in creative projects, intramural sports, and such social functions as fish fries, barbecues, picnics, and dances. Visiting speakers, many of whom are specialists in their fields, inform the club member along his line of interest.

In addition, a student may become a member of several live, progressive, campus-wide organizations, depending upon his interests and qualifications—the Camera Club, the Ham Club, the International Club, the Society for the Advancement of Management (SAM), the Toastmasters International, Circle "K," the Baptist Student Union, and the American Society of Tool & Manufacturing Engineers (A.S.T.M.E.)

Superior scholastic achievement is recognized by membership in the Tau Alpha Pi National Honor Society, the original chapter of which was founded on the Southern Tech campus. Athletic achievement is honored through membership in the Monogram Club. A student may be elected to represent his department on the Student Council, STI's student government organization. As a member, he may take part in controlling elections, supervising student activities, chartering student organizations, and conducting group meetings.

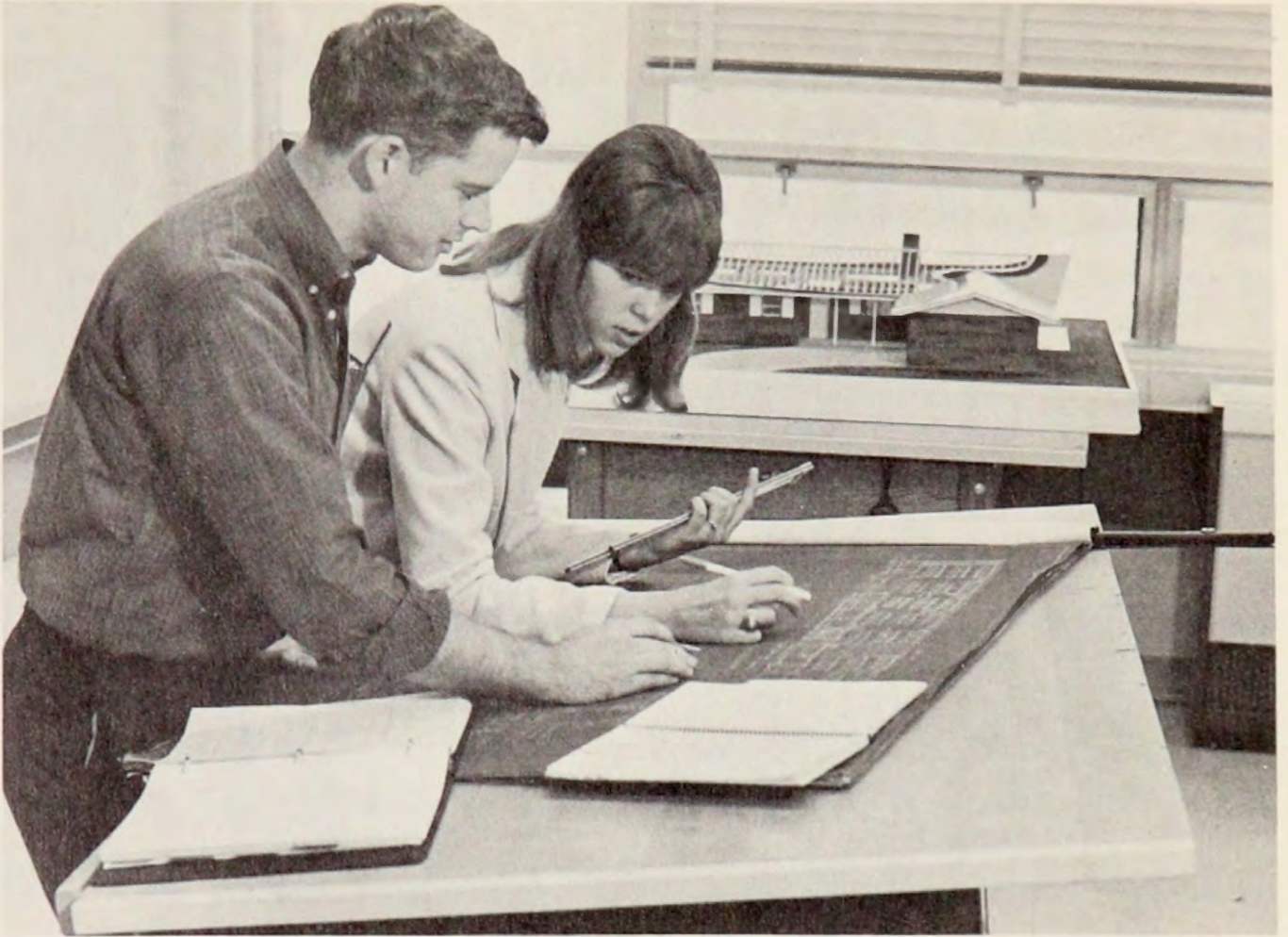


It's not all work



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Architectural Engineering Technology



*COURSES OF STUDY

The Southern Technical Institute offers courses of study in the following ten technical fields:*

- Air Conditioning Engineering Technology**
- Architectural Engineering Technology**
- Civil Engineering Technology (Surveying & Construction Option)**
- Civil Engineering Technology (Structural Materials and Design Option)**
- Electrical Engineering Technology (Electronics Option)**
- Electrical Engineering Technology (Electronic Computer & Control Option)**
- Gas Engineering Technology**
- Industrial Engineering Technology**
- Industrial Engineering Technology (Management Option)**
- Mechanical Engineering Technology**
- Textile Engineering Technology**

These curricula have in common a number of features which deserve to be emphasized. First, all eleven are the same in length—six quarters of approximately eleven weeks each, or two academic years of three quarters. All courses are about the same in scholastic difficulty, and all require above-average scholastic aptitude. Every curriculum is so built that the student must spend approximately seventy percent of his time in the study of theory and thirty percent in laboratory application. This combination of the theoretical and the practical assures that the graduate technician possesses not only a sound, thorough, rather extensive knowledge of the principles of applied engineering in the field of his specialization but also an adequate knowledge of the work of the skilled craftsman as well.

Every STI curriculum, furthermore, makes certain that the student studies subject material in four distinct though related areas:

1. The **COMMUNICATION SKILLS** of engineering drawing, speaking, writing, interpreting and transmitting technical data and reports, and reading electrical circuit diagrams, blueprints, and the like.
2. The **BASIC SCIENCES** of mathematics, chemistry, and physics.
3. **SUPERVISORY AND MANAGEMENT TRAINING**—essential to many graduates who enter the ranks of professional management and, therefore, need to know how to coordinate men and materials in achieving maximum production.
4. A **TECHNICAL SPECIALTY**—that body of subject matter which is peculiar to each STI curriculum and which contributes so much toward the student's becoming a technical specialist.

Finally, all eleven curricula lead to the Associate in Engineering degree as their graduation credential.

In the pages which follow, each course of study is outlined and all subjects are described briefly.

*Students on the Cooperative Plan are required to follow the same curricula as outlined for regular students.

AIR CONDITIONING ENGINEERING TECHNOLOGY

The expanding air conditioning industry has become one of the largest in the country. In addition to the residential and commercial comfort air conditioning, there is a constantly growing application to industrial processing.

The air conditioning course is designed to train engineering technicians to plan, select and supervise installation, operation, and maintenance of heating, air conditioning, and refrigerating equipment. Basic courses in chemistry, physics, mathematics, drawing, human relations, public speaking, and technical writing are included.

Graduates of the course have excellent job opportunities leading to responsible positions in an expanding industry.

A more detailed description of each subject is given in the back of this catalogue.

FIRST YEAR

First Quarter	C—L—T
Chem. 112 (Gen. Chemistry)	5—3—6
Draw. 111 (Engr. Draw. I)	0—6—2
Eng. 111 (Comp. & Rhet.)	3—0—3
I.E.T. 112 (Ind. Psy. & Hum. Rel.)	3—0—3
Math. 111 (Algebra)	5—0—5
Total	16—9—19

Second Quarter	C—L—T
A.C.E.T. 141 (Tech. Msmts.)	2—3—3
Draw. 112 (Engr. Draw. II)	0—6—2
G.E.T. 113 (Theory of Gases)	3—0—3
Math. 112 (Trigonometry)	5—0—5
Phys. 131 (Mechanics)	5—3—6
Total	15—12—19

Third Quarter	C—L—T
A.C.E.T. 112 (Elec. Controls)	5—0—5
G.E.T. 122 (Gas Util. I)	5—3—6
Math. 114 (Analyt. & Calc.)	5—0—5
Phys. 132 (Electricity)	3—3—4
Total	18—6—20

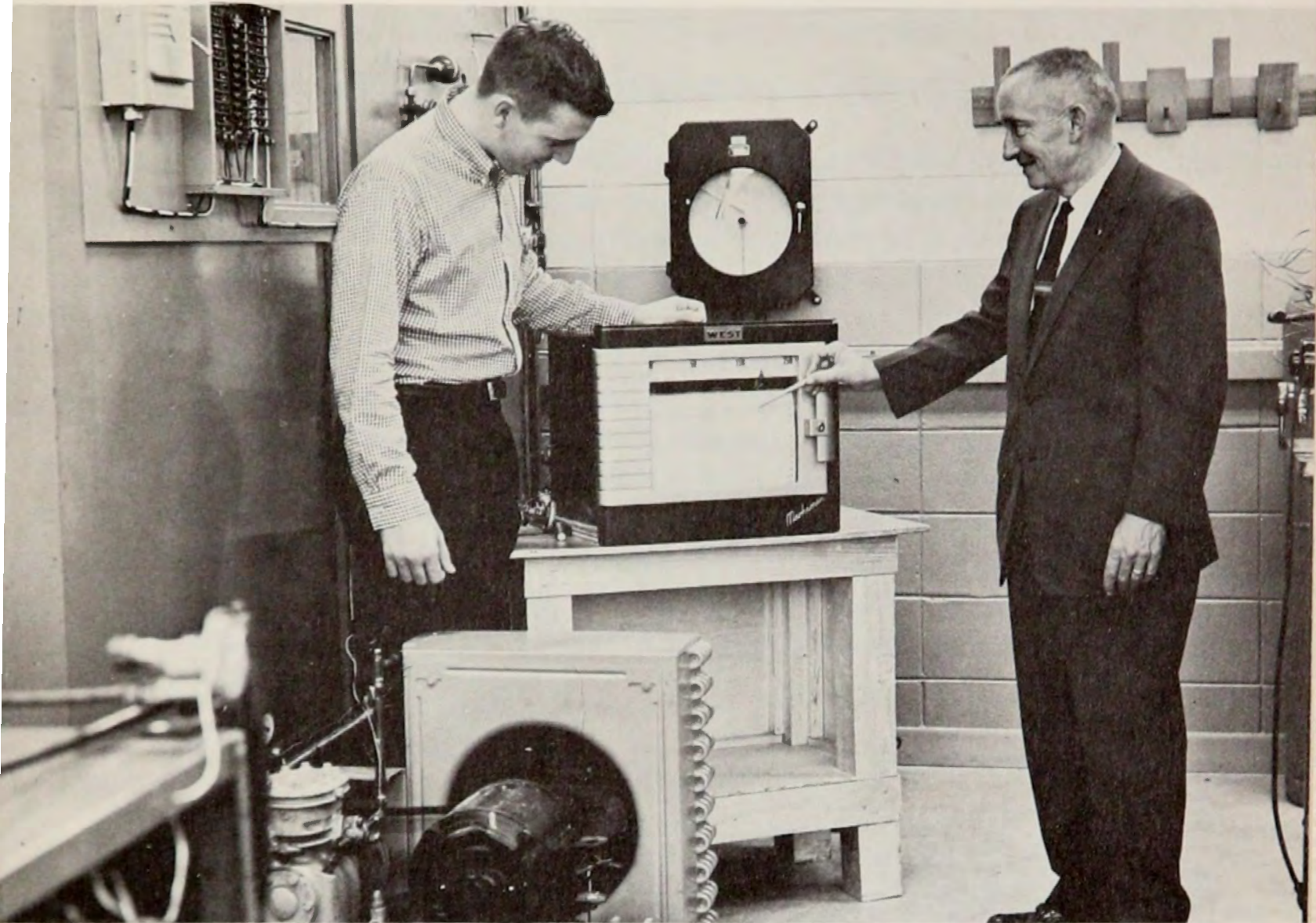
SECOND YEAR

Fourth Quarter	C—L—T
A.C.E.T. 224 (Res. AC)	5—3—6
A.C.E.T. 231 (Refrig. I)	3—3—4
Eng. 112 (Comp. & Rhet.)	3—0—3
M.E.T. 217 (Thermo. I)	3—0—3
Phys. 133 (Ht., Snd., Lt.)	3—3—4
Total	17—9—20

Fifth Quarter	C—L—T
A.C.E.T. 225 (Air Cond. I)	5—3—6
A.C.E.T. 232 (Refrig. II)	3—3—4
Eng. 221 (Public Speaking)	3—0—3
I.E.T. 243 (Business Law)	3—0—3
M.E.T. 218 (Thermo. II)	2—0—2
Phys. 134 (Modern Physics)	2—0—2
Total	18—6—20

Sixth Quarter	C—L—T
A.C.E.T. 226 (Air Cond. II)	5—3—6
A.C.E.T. 227 (Air Cond. Des.)	0—6—2
A.C.E.T. 212 (Control Sys.)	5—3—6
Eng. 231 (Tech. Writing)	3—0—3
I.E.T. 261 (Seminar)	1—0—1
Total	14—12—18

Under quarters C equals Class Hours, L equals Laboratory Hours, and T equals Total Credit.



Analyzing equipment for recording pressure and temperature.

**Positions Now Held By STI Graduates
of Air Conditioning**

Technical Sales Representative (Sales Engineer)

Heating System Designer

Assistant to Consulting Engineer

Heating Contractor

Manager of Service Department Training

Air Conditioning Layout Draftsman

Service Engineer

Refrigeration Instructor

Laboratory Technician (Refrigeration)

Controls Technician

ARCHITECTURAL ENGINEERING TECHNOLOGY

Architectural Engineering Technology is concerned with the design, supervision, and construction of homes, factories, schools, stores, and municipal projects. The work is at once creative and practical; the student is taught to design, draw plans, and follow through with construction details and methods.

Emphasis is placed on construction practices, which include such subjects as building specifications and codes, blueprint reading, building design, and costs and estimates. Basic subjects such as physics, mathematics, English, human relations, technical writing, and public speaking are included.

Successful graduates in this course are presented with many varied job opportunities in architectural and engineering offices and with building contractors and manufacturers of building materials.

A more complete description of each subject is given in the back of this catalogue.

FIRST YEAR

First Quarter	C—L—T
A.E.T. 141 (Arch. Wkg. Dr.)	3—0—3
A.E.T. 142 (Bldg. Mats.)	3—0—3
Draw. 111 (Engr. Drawing)	0—6—2
Eng. 111 (Comp. & Rhet.)	3—0—3
I.E.T. 112 (Ind. Psy. & Hum. Rel.)	3—0—3
Math. 111 (Algebra)	5—0—5

Total 17—6—19

Second Quarter	C—L—T
A.E.T. 126 (Desc. Geometry)	2—6—4
C.E.T. 113 (Engr. Mech.)	2—0—2
C.E.T. 123 (Elem. Surv. I)	1—3—2
Math. 112 (Trigonometry)	5—0—5
Phys. 131 (Mechanics)	5—3—6

Total 15—12—19

Third Quarter	C—L—T
A.E.T. 127 (Graphics)	3—9—6
A.E.T. 231 (Arch. History)	3—0—3
C.E.T. 114 (Str. of Mat.)	3—3—4
Eng. 112 (Comp. & Rhet.)	3—0—3
Math. 114 (Analyt. & Calc.)	5—0—5

Total 17—12—21

SECOND YEAR

Fourth Quarter	C—L—T
A.E.T. 217 (Steel & Timber St.)	3—3—4
A.E.T. 222 (Bldg. Design)	3—9—6
C.E.T. 125 (Arch. Surveying)	0—3—1
C.E.T. 216 (Ind. Struc. Anal.)	3—0—3
Eng. 221 (Public Speaking)	3—0—3
Phys. 132 (Electricity)	3—3—4

Total 15—18—21

Fifth Quarter	C—L—T
A.E.T. 218 (Reinf. Conc. St.)	3—3—4
A.E.T. 224 (Bldg. Design)	3—9—6
A.E.T. 243 (Bldg. Equip.)	3—0—3
C.E.T. 213 (Struc. Drafting)	0—6—2
Phys. 133 (Ht., Sound., Lt.)	3—3—4
I.E.T. 261 (Seminar)	1—0—1

Total 13—21—20

Sixth Quarter	C—L—T
A.E.T. 219 (Ult. Load Struc.)	3—0—3
A.E.T. 223 (Bldg. Design)	3—9—6
A.E.T. 244 (Estimating)	3—3—4
C.E.T. 212 (Struc. Drafting)	0—6—2
Eng. 231 (Tech. Writing)	3—0—3
Phys. 134 (Modern Phys.)	2—0—2

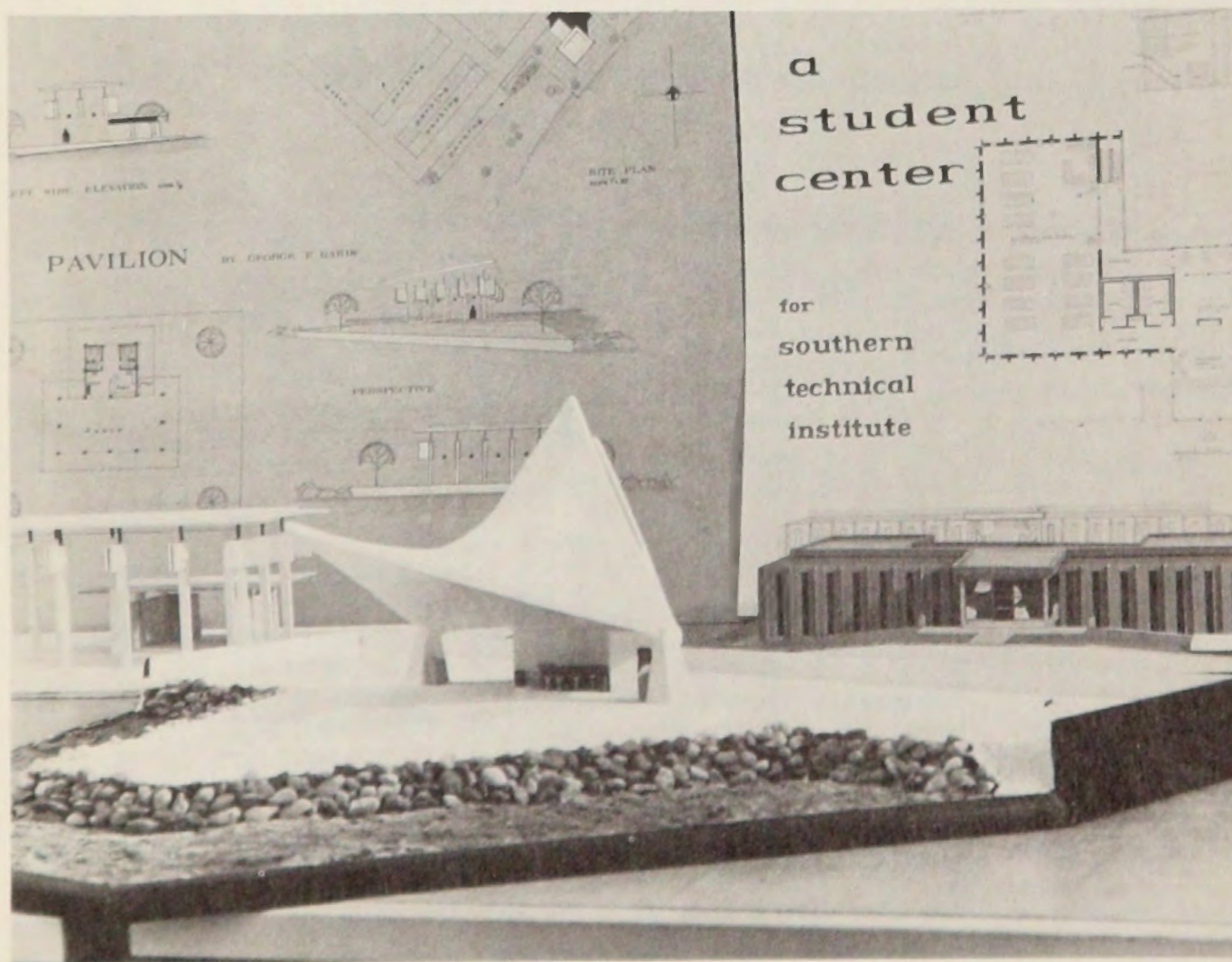
Total 14—18—20

Under quarters C equals Class Hours, L equals Laboratory Hours, and T equals Total Credit.

**Positions Now Held By STI Graduates
of Architectural Engineering Technology**

Engineering Draftsman
Estimator-Expediter
Factory Representative
General Contractor
Superintendent and Estimator
Structural Draftsman
Architectural Engineer
Building Contractor
Junior Engineer
Engineering Assistant
Architectural Draftsman
Architectural Draftsman and Estimator
Building Materials Salesman
Building Inspector
Appraiser and Inspector
Licensed Architect

A.E.T. Students Learn Creative Design



a
student
center
for
southern
technical
institute

CIVIL ENGINEERING TECHNOLOGY

*Surveying and Construction Option

The general field of Civil Engineering Technology is one of the broadest of the technological curricula. It includes many fields which, although not directly Civil Engineering Technology subjects, require a knowledge of Civil Engineering Technology and the principles of this subject. The civil engineering technician is a versatile person. He is a surveyor and a construction man, not only on buildings but on hydroelectric projects, flood control work, highway and railroad construction, airports, sewerage and water supply systems, locks, dams, tunnels, aqueducts, and similar projects. It is the purpose of this course to qualify the student in any of these various fields so that he can handle his position with a minimum of supervision.

A more complete description of each subject is given in the back of this catalogue.

FIRST YEAR

First Quarter	C—L—T
Chem. 112 (Gen. Chem.)	5—3—6
C.E.T. 100 (Off. Prac.)	0—3—1
C.E.T. 123 (Elem. Sur. I)	1—3—2
Draw. 111 (Engr. Draw I)	0—6—2
Eng. 111 (Comp. & Rhet.)	3—0—3
Math. 111 (Algebra)	5—0—5
Total	14—15—19

Second Quarter	C—L—T
C.E.T. 113 (Engr. Mech.)	2—0—2
C.E.T. 124 (Elem. Surv. II)	2—6—4
C.E.T. 214 (Mat. Testing)	1—3—2
Math. 112 (Trigonometry)	5—0—5
Phys. 131 (Mechanics)	5—3—6
Total	15—12—19

Third Quarter	C—L—T
C.E.T. 114 (Str. of Mat.)	3—3—4
C.E.T. 122 (Route Surveying)	3—6—5
C.E.T. 132 (Hwy. Const.)	2—3—3
C.E.T. 232 (Heavy Const.)	2—3—3
Math. 114 (Analyt. & Calc.)	5—0—5
Total	15—15—20

SECOND YEAR

Fourth Quarter	C—L—T
A.E.T. 142 (Bldg. Mats.)	3—0—3
C.E.T. 223 (Land Surv.)	2—6—4
C.E.T. 243 (Hydraulics)	3—0—3
C.E.T. 244 (W & S Systems)	1—3—2
Eng. 112 (Comp. & Rhet.)	3—0—3
Math. 115 (Computer Prog.)	0—3—1
Physics 133 (Ht., Sound, Light)	3—3—4
Total	15—15—20

Fifth Quarter	C—L—T
A.E.T. 244 (Estimating)	3—3—4
C.E.T. 213 (Struct. Draft)	0—6—2
C.E.T. 215 (Soil Mechanics)	2—3—3
C.E.T. 224 (Top., Cont., Surv.)	2—6—4
Eng. 221 (Public Spkg.)	3—0—3
Phys. 132 (Electricity)	3—3—4
Total	13—21—20

Sixth Quarter	C—L—T
C.E.T. 225 (Adv. Surv.)	2—3—3
C.E.T. 233 (Const. Est.)	1—3—2
C.E.T. 251 (Photogrammetry)	0—6—2
Eng. 231 (Tech. Writing)	3—0—3
I.E.T. 112 (Ind. Psy. & Hum. Rel.)	3—0—3
I.E.T. 243 (Business Law)	3—0—3
I.E.T. 261 (Seminar)	1—0—1
Phys. 134 (Modern Physics)	2—0—2
Total	15—12—19

Under quarters C equals Class Hours, L equals Laboratory Hours, and T equals Total Credit.

*Students entering in the summer quarter will probably require seven quarters to complete six courses in surveying.



Civil students spend much time in the field.

**Positions Now Held By STI Graduates of
Civil Engineering Technology**

Instrument Man, Recorder, Party Chief on Survey parties
Assistant to the City Engineer
Assistant to Professional Civil Engineer
Photogrammetric Technician
Cartographer
Topographer
Topographic Draftsman
Structural Draftsman
Concrete Laboratory Technician
Inspector or Estimator on Heavy Construction Jobs
Subdivision Designer
Licensed Professional Surveyor

CIVIL ENGINEERING TECHNOLOGY

Structural Materials and Design Option

With the advent of the new concepts in structural shapes, the structural area of the field of Civil Engineering has grown to a degree that requires greater knowledge of design and advanced techniques of construction. Because of the great demand for technicians in this field, Southern Tech has expanded its Civil Engineering Technology Course to include a Structural Option. This option will prepare the graduate more specifically for those positions that involve the design, plan preparation, construction, and the inspection of the more modern structures built today.

Since the first three quarters of the Civil Engineering Technology options are the same, a student may elect, after his first year in Civil Engineering Technology, to pursue the field in which his interests lie.

FIRST YEAR

First Quarter	C—L—T
Chem. 112 (Gen. Chem.)	5—3—6
C.E.T. 100 (Off. Prac.)	0—3—1
C.E.T. 123 (Elem. Surv. I)	1—3—2
Draw. 111 (Engr. Dr. I)	0—6—2
Eng. 111 (Comp. & Rhet.)	3—0—3
Math. 111 (Algebra)	5—0—5
Total	14—15—19

Second Quarter	C—L—T
C.E.T. 113 (Engr. Mech.)	2—0—2
C.E.T. 124 (Elem. Surv. II)	2—6—4
C.E.T. 214 (Mat. Testing)	1—3—2
Math. 112 (Trigonometry)	5—0—5
Phys. 131 (Mechanics)	5—3—6
Total	15—12—19

Third Quarter	C—L—T
C.E.T. 114 (Str. of Mat.)	3—3—4
C.E.T. 122 (Route Surveying)	3—6—5
C.E.T. 132 (Hwy. Const.)	2—3—3
C.E.T. 232 (Heavy Const.)	2—3—3
Math. 114 (Analyt. & Calc.)	5—0—5
Total	15—15—20

SECOND YEAR

Fourth Quarter	C—L—T
A.E.T. 142 (Bldg. Materials)	3—0—3
A.E.T. 217 (Steel & Timber St.)	3—3—4
C.E.T. 213 (Struc. Drafting)	0—6—2
C.E.T. 216 (Ind. Struc. Anal.)	3—0—3
Eng. 112 (Comp. & Rhet.)	3—0—3
Math. 115 (Computer Prog.)	0—3—1
Phys. 133 (Ht., Sound, Lt.)	3—3—4
Total	15—15—20

Fifth Quarter	C—L—T
A.E.T. 218 (Reinf. Conc. St.)	3—3—4
A.E.T. 244 (Estimating)	3—3—4
C.E.T. 215 (Soil Mechanics)	2—3—3
C.E.T. 243 (Hydraulics)	3—0—3
Eng. 221 (Public Spkg.)	3—0—3
Phys. 132 (Electricity)	3—3—4
Total	17—12—21

Sixth Quarter	C—L—T
C.E.T. 217 (Struc. Design)	3—3—4
C.E.T. 212 (Struc. Drafting)	0—6—2
Eng. 231 (Tech. Writing)	3—0—3
I.E.T. 112 (Ind. Psy. & Hum. Rel.)	3—0—3
I.E.T. 243 (Business Law)	3—0—3
I.E.T. 261 (Seminar)	1—0—1
Phys. 134 (Modern Phys.)	2—0—2
Total	15—9—18

Under quarters C equals Class Hours, L equals Laboratory Hours, and T equals Total Credit.



A modern testing laboratory is necessary in structural engineering technology.



ELECTRICAL ENGINEERING TECHNOLOGY

Electronics Option

At the time Southern Tech was founded, there was a marked difference between electronics and electric power. With the advancement of electrical science, however, this difference has greatly diminished.

To provide the flexibility to fill the wide variety of jobs available to our graduates, Southern Tech has developed a core curriculum in electronics shown below. However, a student whose primary interest is electric power or communications and telephony may substitute for these courses marked with an asterisk the appropriate courses shown on page 51. This arrangement allows the student to acquire the broad electrical background he needs, and still gain special proficiency in a special area. For electronic computer and control option see pages 52-53.

FIRST YEAR		SECOND YEAR	
First Quarter	C-L-T	Fourth Quarter	C-L-T
Drawing 111 (Engr. Dr. I)	0-6-2	E.E.T. 200 (Semiconductor Cir. & Dev.)	5-3-6
English 100 (Lang. & Logic)	3-0-3	E.E.T. 202 (Electric Circuits)	5-3-6
**Math. 110 (Algebra & Trig.)	5-0-5	English 231 (Tech. Writing)	3-0-3
M.E.T. 141 (Intro Mtl. Fab.)	1-3-2	Math. 115 (Computer Prog.)	0-3-1
Physics 131 (Mechanics)	5-3-6	Phys. 134 (Modern Physics)	2-0-2
Total	14-12-18	Total	15-9-18
Second Quarter	C-L-T	Fifth Quarter	C-L-T
E.E.T. 100 (Elec. & Mag. Fields)	5-3-6	E.E.T. 204 (Pulse Circuits)	3-3-4
English 111 (Comp. & Rhet.)	3-0-3	E.E.T. 205 (Electronic Cir. & Appl.)	3-3-4
Math. 114 (Analyt. & Calc.)	5-0-5	E.E.T. 206 (Elec. Machinery)	3-3-4
Physics 133 (Ht., Sound, Lt.)	3-3-4	E.E.T. 207 (Elec. Transmission)	5-3-6
Total	16-6-18	Total	14-12-18
Third Quarter	C-L-T	Sixth Quarter	C-L-T
E.E.T. 101 (Cond. In Materials)	3-0-3	*E.E.T. 208 (Antennas & Microwaves)	5-3-6
E.E.T. 102 (Electric Circuits)	3-3-4	*E.E.T. 209 (Ind. Electronics)	3-3-4
E.E.T. 103 (Electronic Cir. & Dev.)	3-3-4	*E.E.T. 215 (Electronic Cir. & Appl.)	3-3-4
English 112 (Comp. & Rhet.)	3-0-3	English 221 (Public Speaking)	3-0-3
Math. 213 (Calculus)	5-0-5	I.E.T. 261 (Seminar)	1-0-1
Total	17-6-19	Total	15-9-18

Under quarters C equals Class Hours, L equals Laboratory Hours, and T equals Total Credit.

*See paragraph 2 this page.

**Students who do not qualify for Math 110 must take Math 111 and Math 112 to satisfy the Math requirements of the first quarter. Those who must take Math. 111 and Math. 112 will require an extra quarter to graduate.



For Careers in Electric Power Technology

Students should select from the following courses:

- EET 213 (Power-System Analysis)
- EET 216 (Control Systems for Electric Machinery)
- EET 217 (Servomechanisms)
- EET 218, 219 (Special Topics)

Some positions held by graduates primarily interested in the field of control systems and electric power:

- | | |
|------------------|----------------|
| Relay Technician | Sales Engineer |
| Junior Engineer | Field Engineer |

For Careers in Communications and Telephony Technology

Students should select from the following courses:

- EET 210 (Telephone Transmission Systems)
- EET 211 (Telephone Plant Engineering)
- EET 212 (Telephone Systems)
- EET 218, 219 (Special Topics)

Some positions held by graduates primarily interested in the field of communications and telephony:

- | | |
|--------------------|---------------------------|
| Traffic Technician | Telephone Engineer |
| Junior Engineer | Communications Specialist |

ELECTRICAL ENGINEERING TECHNOLOGY**Electronic Computer and Control Option**

The development and growth of machines that automatically compute and control has created a need for engineering technicians with training in electronic computer and control technology. Because of the demand for technicians in this field, Southern Tech has introduced a new option in electronic computers and controls. Graduates of this new option should be well prepared to program, plan, select, and supervise installation, or maintain electronic computer and control systems.

Since the first-year courses of the Electrical Engineering Technology options are identical, a student may choose either option at the beginning of his second year of study.

FIRST YEAR**SECOND YEAR****First Quarter****C—L—T**

Draw. 111 (Engr. Dr. I)	0—6—2
English 100 (Lang. & Logic)	3—0—3
**Math. 110 (Algebra & Trig.)	5—0—5
MET 141 (Intro. Mtl. Fab.)	1—3—2
Physics 131 (Mechanics)	5—3—6
Total	14—12—18

Second Quarter**C—L—T**

EET 100 (Elec. & Mag. Fields)	5—3—6
English 111 (Comp. & Rhet.)	3—0—3
Math. 114 (Analyt. & Calc.)	5—0—5
Physics 133 (Ht., Sound, Lt.)	3—3—4
Total	16—6—18

Third Quarter**C—L—T**

EET 101 (Cond. In Materials)	3—0—3
EET 102 (Electric Circuits)	3—3—4
EET 103 (Electronic Cir. & Dev.)	3—3—4
English 112 (Comp. & Rhet.)	3—0—3
Math. 213 (Calculus)	5—0—5
Total	17—6—19

Fourth Quarter**C—L—T**

EET 200 (Semicond. Cir. & Dev.)	5—3—6
EET 202 (Electric Circuits)	5—3—6
EET 220 (Computer Fundamentals)	3—3—4
English 231 (Tech. Writing)	3—0—3
Math. 115 (Computer Prog.)	1—0—1
Total	17—9—20

Fifth Quarter**C—L—T**

EET 204 (Pulse Circuits)	3—3—4
EET 205 (Electronic Cir. & Appl.)	3—3—4
EET 206 (Elec. Machinery)	3—3—4
EET 221 (Mach. & Symbolic Prog.)	3—0—3
EET 230 (Electro-Mech. Dev.)	2—3—3
Physics 134 (Modern Physics)	2—0—2
Total	16—12—20

Sixth Quarter**C—L—T**

EET 214 (Pulse & Digital Cir.)	3—3—4
†EET 217 (Servomechanisms)	3—3—4
EET 222 (Digital Systems)	2—3—3
EET 223 (Computer Methods & Numerical Analysis)	3—0—3
English 221 (Public Speaking)	3—0—3
IET 261 (Seminar)	1—0—1
Total	15—9—18

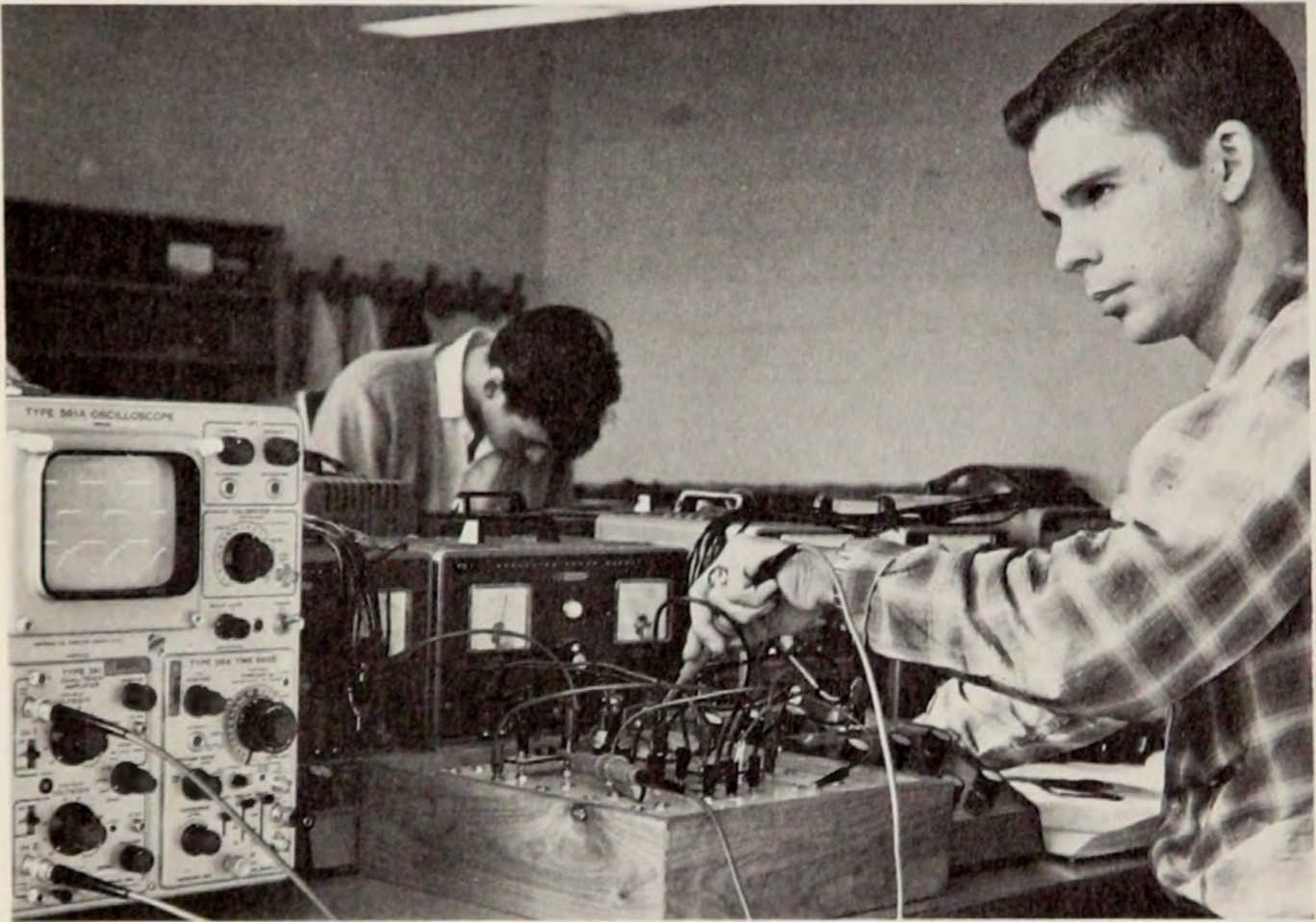
Under quarters C equals Class Hours, L equals Laboratory Hours, and T equals Total Credit.

**Students who do not qualify for Math. 110 must take Math. 111 and Math. 112 to satisfy the Math. requirements of the first quarter. Those who must take Math. 111 and Math. 112 will require an extra quarter to graduate.

†See Page No. 53. May substitute EET 233 for EET 217.

FOR CAREERS IN THE COMPUTER AND BUSINESS MACHINE INDUSTRY

Students who plan careers as customer engineers with computer and business machine manufacturers should substitute additional course work in electro-mechanical devices, E.E.T. 233, for Servo mechanisms, E.E.T. 217.



Modern electronics laboratories are used by students in Electronic Computers and Controls.



GAS ENGINEERING TECHNOLOGY

The course in Gas Engineering Technology is planned to provide an adequate reservoir of trained personnel for the great and fast growing gas industry. STI, with advisory assistance from industry, has worked out a curriculum to prepare a student to go into the gas industry at a technician's level, which is so sorely needed by the industry. That part of the curriculum devoted solely to gas (LP-Gas and natural gas) is backed up by specialized training in mathematics, English, and physics. In addition, training in supervision and personnel problems is included.

Specific work is presented on the many uses of gas as a fuel, and the required utilization equipment. The lab work has been selected to develop the student's knowledge of all types of problems encountered in the manufacturing of equipment and operation of such equipment. Stress is also placed on the distribution of gas.

Successful graduates of this course are presented with many and varied job opportunities in engineering offices, producers and distributors of gas, manufacturers and distributors of appliances and equipment, and in the operations of retail marketers.

A more complete description of each subject is given in the back of the catalogue.

FIRST YEAR

First Quarter	C—L—T
Chem. 112 (Gen. Chemistry)	5—3—6
Draw. 111 (Engr. Draw. I)	0—6—2
Eng. 111 (Comp. & Rhet.)	3—0—3
English 100 (Lang. & Logic)	3—0—3
Math. 111 (Algebra)	5—0—5
Total	16—9—19

Second Quarter	C—L—T
A.C.E.T. 141 (Tech. Measure.)	2—3—3
Eng. 112 (Comp. & Rhet.)	3—0—3
G.E.T. 113 (Theory of Gases)	3—0—3
Math. 112 (Trigonometry)	5—0—5
Phys. 131 (Mechanics)	5—3—6
Total	18—6—20

Third Quarter	C—L—T
A.C.E.T. 112 (Controls)	5—0—5
G.E.T. 122 (Gas Util. I)	5—3—6
Math. 114 (Analyt. & Calc.)	5—0—5
Phys. 132 (Electricity)	3—3—4
Total	18—6—20

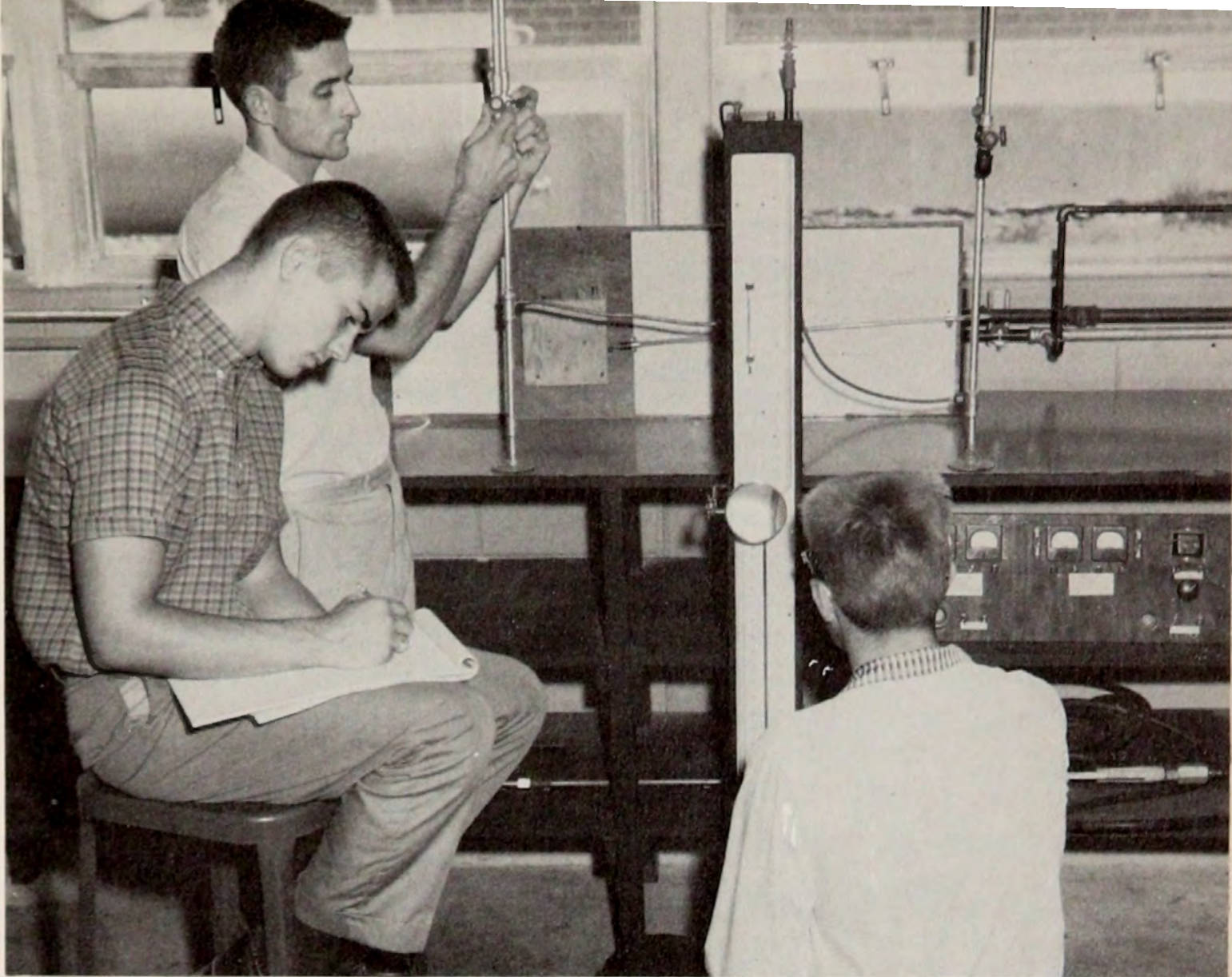
SECOND YEAR

Fourth Quarter	C—L—T
A.C.E.T. 231 (Refrig. I)	3—3—4
Eng. 231 (Tech. Writing)	3—0—3
G.E.T. 222 (Gas. Util. II)	5—3—6
M.E.T. 217 (Thermodynamics I)	3—0—3
Phys. 133 (Ht., Snd., Lt.)	3—3—4
Total	17—9—20

Fifth Quarter	C—L—T
Eng. 221 (Public Speaking)	3—0—3
G.E.T. 234 (Ntwk. Dist. Sys.)	5—3—6
G.E.T. 236 (Fluid Mech.)	5—0—5
M.E.T. 218 (Thermodynamics II)	2—0—2
Phys. 134 (Modern Phys.)	2—0—2
Total	17—3—18

Sixth Quarter	C—L—T
A.C.E.T. 224 (Res. A.C.)	5—3—6
G.E.T. 223 (Ind. Gas Util.)	5—3—6
G.E.T. 226 (Gas Engines)	2—3—3
I.E.T. 123 (Acctg. & Cost Control)	4—3—5
I.E.T. 261 (Seminar)	1—0—1
Total	17—12—21

Under quarters C equals Class Hours, L equals Laboratory Hours, and T equals Total Credit.



The Gas Engineering Technology laboratories are especially well equipped.

**Positions Now Held By STI Graduates
of Gas Engineering Technology**

1. Engineering
 - a. Measurement engineer
 - b. Research technician
 - c. Testing engineer
 - d. Corrosion control engineer
 - e. Distribution engineer
 - f. Sales engineer

2. Supervision and Management
 - a. Natural gas load control
 - b. Distribution system estimating
 - c. Training supervisor
 - d. LP-Gas Management
 - e. Purchasing agent
 - f. Installation inspection

INDUSTRIAL ENGINEERING TECHNOLOGY

(See page 58 for the Management Option.)

The student in Industrial Engineering Technology is trained primarily for supervisory and management positions in the manufacturing industries. However, the very nature of the broad curriculum, stressing principles and practices of scientific management, enables a graduate to compete successfully for a variety of positions. These range from almost every phase of factory planning and operation to technical sales, positions with casualty and fire insurance companies that require knowledge of industrial safety, many staff department positions with transportation, distributing and utility companies, and to the operation of private business.

FIRST YEAR

<i>First Quarter</i>	C—L—T
Eng. 111 (Comp. & Rhet.)	3—0—3
I.E.T. 116 (Org. & Mgt.)	3—0—3
Draw. 111 (Engr. Draw I)	0—6—2
I.E.T. 112 (Ind. Psy. & Hum. Rel.)	3—0—3
Math. 111 (Algebra)	5—0—5
Total	14—6—16

<i>Second Quarter</i>	C—L—T
Draw. 112 (Eng. Drawing II)	0—6—2
Eng. 112 (Comp. & Rhet.)	3—0—3
I.E.T. 155 (Indus. Safety)	3—0—3
Math. 112 (Trigonometry)	5—0—5
Phys. 131 (Mechanics)	5—3—6
Total	16—9—19

<i>Third Quarter</i>	C—L—T
Eng. 231 (Tech. Writing)	3—0—3
Math. 114 (Analyt. & Calc.)	5—0—5
Phys. 132 (Electricity)	3—3—4
I.E.T. 123 (Ind. Actg. & Cost Control)	4—3—5
Math. 115 (Computer Prog.)	0—3—1
Total	15—9—18

SECOND YEAR

<i>Fourth Quarter</i>	C—L—T
I.E.T. 220 (Economics)	3—0—3
Phys. 133 (Ht., Sound, Light)	3—3—4
I.E.T. 227 (Statistics)	4—0—4
I.E.T. 222 (Motion & Time Study)	4—3—5
Eng. 221 (Public Speaking)	3—0—3
Total	17—6—19

<i>Fifth Quarter</i>	C—L—T
Chem. 112 (Gen. Chemistry)	5—3—6
M.E.T. 111 (Tools & Methods)	5—0—5
I.E.T. 239 (Quality Control)	3—0—3
I.E.T. 230 (Data Processing)	3—0—3
I.E.T. 234 (Prod. & Inv. Control)	3—0—3
Total	19—3—20

<i>Sixth Quarter</i>	C—L—T
I.E.T. 226 (Wage & Salary Adm.)	3—0—3
I.E.T. 240 (Plant Layout & Material Handling)	2—6—4
I.E.T. 224 (Prin. of Eng. Econ.)	5—0—5
I.E.T. 261 (Seminar)	1—0—1
Elective	3—0—3
Phys. 134 (Modern Physics)	2—0—2
Total	16—6—18

Under quarters C equals Class Hours, L equals Laboratory Hours, and T equals Total Credit.

**Positions Now Held By STI Graduates
of Industrial Engineering Technology**

- | | |
|--|--|
| <p>1. PERSONNEL function:</p> <ul style="list-style-type: none"> Personnel Director Employment Manager Recreation Directors Union Negotiator Safety Director Public Relations
Director Training Director Personnel Counselors
and Interviewers | <ul style="list-style-type: none"> Estimators (Cost of
manufacturing new
products.) Industrial Engineer's
Assistants |
| <p>2. QUALITY function:</p> <ul style="list-style-type: none"> Chief Inspector Products and Process
Development
Technicians Raw Material Sampler Process Inspector Statistical Quality Con-
trol Technician Product Designers | <p>4. EQUIPMENT function:</p> <ul style="list-style-type: none"> Works or Plant
Engineer Master Mechanic Engineering Draftsman |
| <p>3. METHODS and COST
function:</p> <ul style="list-style-type: none"> Time Study Men Motion Study Men Methods Technicians Cost Control
Technicians | <p>5. PLANNING function:</p> <ul style="list-style-type: none"> Schedulers Dispatchers Planning
Superintendents Production Control
Technicians |
| | <p>6. PRODUCTION function
—Start at the supervisory
level and rise to:</p> <ul style="list-style-type: none"> Assistant Foreman Foreman General Foreman Superintendents Plant Managers General Managers Safety Technician |

INDUSTRIAL ENGINEERING TECHNOLOGY

Industrial Management Option

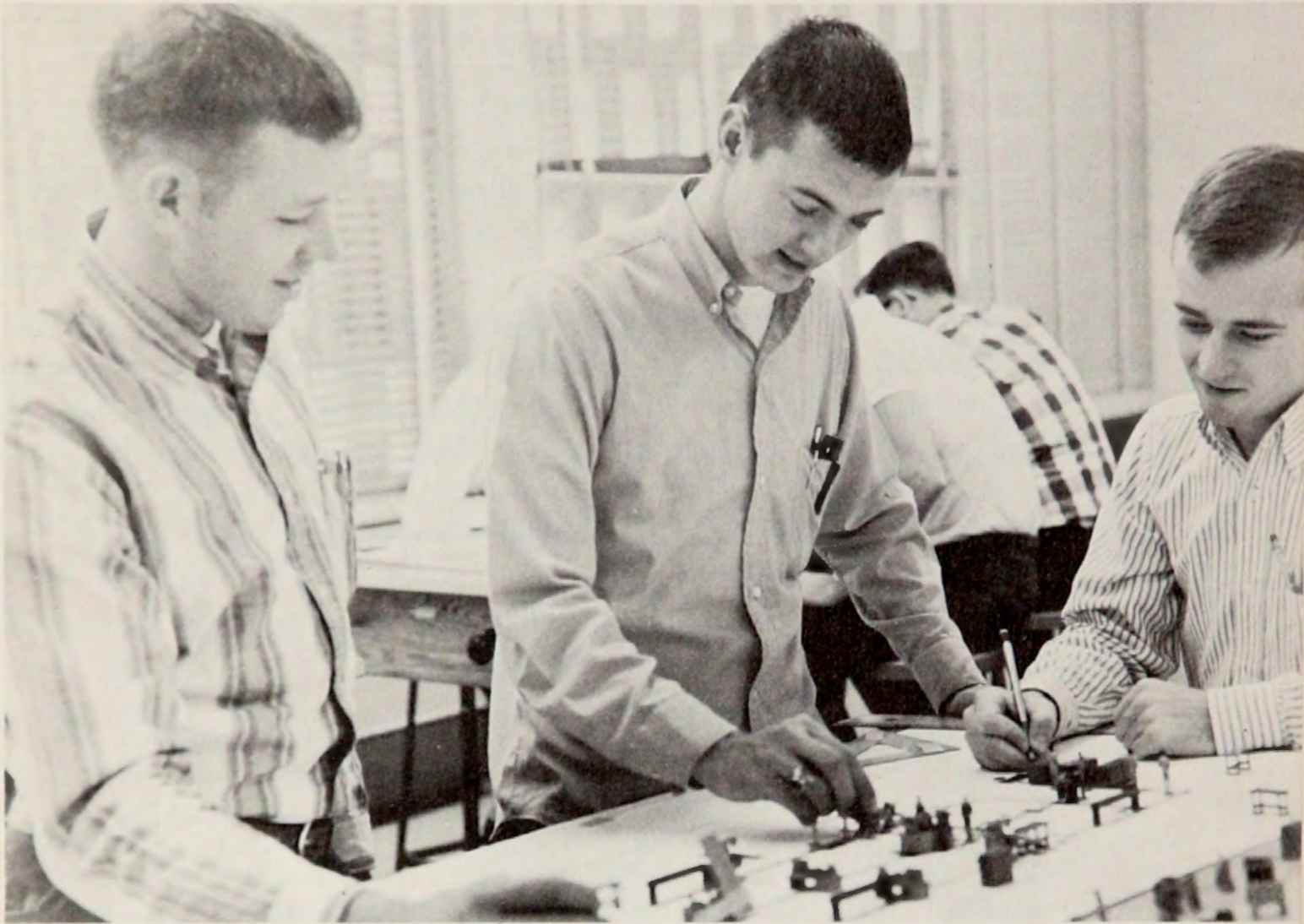
Upon the direct request of industry, Southern Tech has developed a curriculum called Industrial Engineering Technology—Industrial Management Option—as a companion to the curriculum in Industrial Engineering Technology. The Industrial Management Option prepares the student more specifically for staff and administrative positions in technical fields, thereby filling an important need in industrial training.

Graduates who have earned their Associate Degree in Industrial Engineering Technology have already made outstanding records in industry. The positions for which they have qualified are shown on page 47. Similarly responsible positions in the technical phases of staff and administrative work should await those who elect this program, Industrial Engineering Technology—Industrial Management Option. The Industrial Management Option will offer more extensive training in the personnel functions listed.

The following curriculum shows the subject titles for Industrial Engineering Technology—Industrial Management Option.

FIRST YEAR		SECOND YEAR	
First Quarter	C—L—T	Fourth Quarter	C—L—T
Draw. 111 (Engr. Drawing I)	0—6—2	Eng. 221 (Public Speaking)	3—0—3
Eng. 111 (Comp. & Rhet.)	3—0—3	Phys. 133 (Ht., Sound, Light)	3—3—4
I.E.T. 112 (Ind. Psy. & Hum. Rel.)	3—0—3	I.E.T. 220 (Economics)	3—0—3
I.E.T. 116 (Org. & Mgt.)	3—0—3	I.E.T. 227 (Statistics)	4—0—4
Math. 111 (Algebra)	5—0—5	I.E.T. 222 (Motion & Time Study)	4—3—5
Total	14—6—16	Total	17—6—19
Second Quarter	C—L—T	Fifth Quarter	C—L—T
Draw. 112 (Eng. Drawing II)	0—6—2	I.E.T. 243 (Business Law)	3—0—3
Eng. 112 (Comp. & Rhet.)	3—0—3	I.E.T. 245 (Marketing)	3—0—3
I.E.T. 155 (Ind. Safety)	3—0—3	I.E.T. 214 (Personnel Supervision)	3—0—3
Math. 112 (Trigonometry)	5—0—5	I.E.T. 246 (Labor-Mgt. Relations)	4—0—4
Phys. 131 (Mechanics)	5—3—6	I.E.T. 234 (Prod. & Inv. Control)	3—0—3
Total	16—9—19	I.E.T. 241 (Finance)	3—0—3
		Total	19—0—19
Third Quarter	C—L—T	Sixth Quarter	C—L—T
Eng. 231 (Tech. Writing)	3—0—3	I.E.T. 240 (Plant Layout & Materials Handling)	2—6—4
Math. 114 (Analyt. & Calc.)	5—0—5	I.E.T. 244 (Mgt. Decision Making Techniques)	5—0—5
Phys. 132 (Electricity)	3—3—4	I.E.T. 242 (Sm. Bus. Mgt.)	3—0—3
I.E.T. 123 (Ind. Actg. & Cost Control)	4—3—5	I.E.T. 224 (Engineering Economy)	5—0—5
Math. 115 (Computer Prog.)	0—3—1	I.E.T. 261 (Seminar)	1—0—1
Total	15—9—18	Phys. 134 (Modern Physics)	2—0—2
		Total	18—6—20

Under quarters C equals Class Hours, L equals Laboratory Hours, and T equals Total Credit.



Industrial Engineering Technology students work on a problem in Plant Layout (above) and with cameras (right) in a laboratory.



MECHANICAL ENGINEERING TECHNOLOGY

The Mechanical Engineering Technology curriculum offers training in basic courses such as mathematics, English, physics, and laboratory training. Classroom theory is correlated with laboratory work in which the student becomes familiar with basic methods and machines used in the mechanical field.

This field embraces the manufacture and production of mechanical products and the tools, machines, and processes by which they are made. In a broad sense mechanical technology is the creation and utilization of mechanical power, and as such enters into every business, industrial, and community activity. Men with technical institute type of training possess a knowledge that is basic to, and in demand by, companies in nearly every line of business throughout the world.

A more complete description of each subject is given in the back of this catalogue.

FIRST YEAR

First Quarter	C—L—T
Chem. 112 (Gen. Chem.)	5—3—6
Dr. 111 (Eng. Draw. I)	0—6—2
Math. 111 (Algebra)	5—0—5
M.E.T. 111 (Tools & Methods)	5—0—5
M.E.T. 141 (Intro. Mtl. Fab.)	1—3—2
Total	16-12-20

Second Quarter	C—L—T
Dr. 112 (Engr. Draw. II)	0—6—2
Eng. 111 (Comp. & Rhet.)	3—0—3
Math. 112 (Trigonometry)	5—0—5
M.E.T. 142 (Mtl. Cutting Op. I)	1—3—2
Phys. 131 (Mechanics)	5—3—6
Total	14-12-18

Third Quarter	C—L—T
Eng. 112 (Comp. & Rhet.)	3—0—3
I.E.T. 112 (Ind. Psy. & Hum. Rel.)	3—0—3
Math. 114 (Analyt. & Calc.)	5—0—5
M.E.T. 112 (Met. Heat Tr.)	3—0—3
M.E.T. 143 (Mtl. Ctg. Op. II)	1—3—2
Phys. 132 (Electricity)	3—3—4
Total	18—6—20

SECOND YEAR

Fourth Quarter	C—L—T
C.E.T. 113 (Engr. Mech.)	2—0—2
Dr. 221 (Mach. Sketching)	0—6—2
Eng. 221 (Public Speaking)	3—0—3
M.E.T. 214 (Insp. Methods)	3—0—3
M.E.T. 217 (Thermo I)	3—0—3
M.E.T. 144 (Metal Joining)	1—3—2
Phys. 133 (Ht., Sound, Lt.)	3—3—4
Total	15-12-19

Fifth Quarter	C—L—T
A.C.E.T. 112 (Elec. Controls)	5—0—5
C.E.T. 114 (Str. of Mat.)	3—3—4
Dr. 222 (Mach. Draw.)	0—6—2
Eng. 231 (Tech. Writing)	3—0—3
I.E.T. 222 (Mot. & T. Study)	4—3—5
M.E.T. 218 (Thermo II)	2—0—2
Total	17-12-21

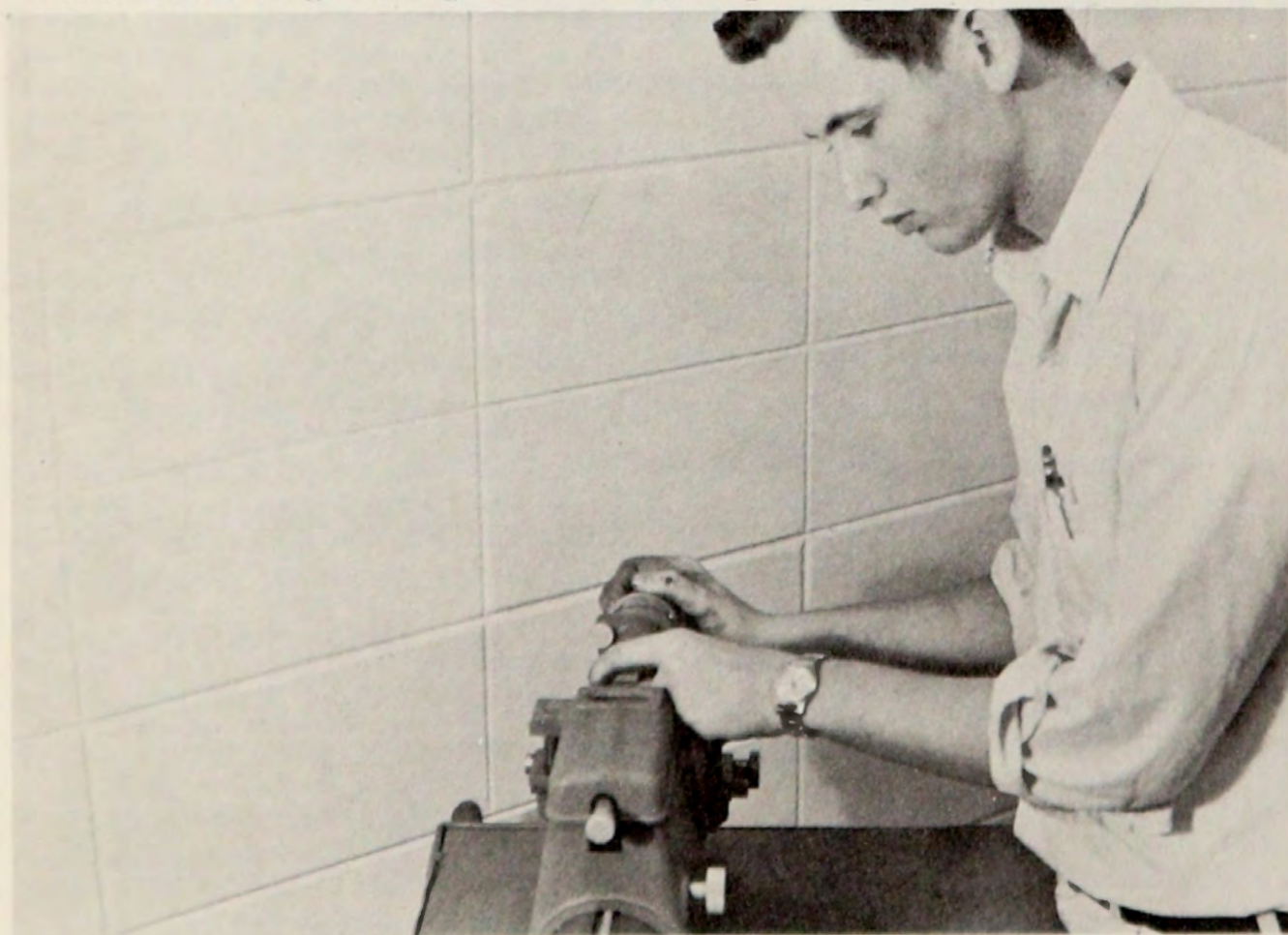
Sixth Quarter	C—L—T
I.E.T. 240 (Plant Layout & Materials Handling)	2—6—4
I.E.T. 261 (Seminar)	1—0—1
M.E.T. 215 (Jigs & Fixtures)	3—3—4
M.E.T. 216 (Machine Design)	5—3—6
Phys. 134 (Modern Physics)	2—0—2
Total	13-12-17

Under quarters C equals Class Hours, L equals Laboratory Hours, and T equals Total Credit.

**Positions Now Held By STI Graduates
of Mechanical Engineering Technology**

Ordnance Inspector
Automotive Inspector
Draftsman
Maintenance Engineer
Assistant Service Superintendent
Engineer's Assistant
Junior Engineer
Sales Engineer
Foreman and Assistant Foreman in various fields
Warehouse Manager
Service Engineer
Tool Designer
Time Study Engineer
Production Supervisor
Turbine Installation Supervisor

Mechanical Engineering Technology requires precise measurements.



TEXTILE ENGINEERING TECHNOLOGY

The course in Textile Engineering Technology fills the great need of Georgia's and the South's largest industry, textile manufacturing. The student is trained in the four areas common to all Southern Tech engineering technicians. The first three—communication, basic sciences, and supervisory abilities—make of him a well-rounded individual who will be able to work out problems of a theoretical or practical nature and to report on them in a convincing and understandable manner. He will also be able to supervise people effectively.

In the fourth area, Textiles, the student will be given a broad program of courses in textile manufacturing which will give him as complete knowledge and understanding as possible of the raw material, the machinery, fabric analysis, designing, manufacturing, and finishing of all types of textile fabrics. The modern pilot plant and equipment of the A. French Textile School of Georgia Tech will be used for demonstration and all laboratory work. A graduate of this department will be a valuable addition to any manufacturing plant.

A more complete description of each subject is given in the back of this catalogue.

FIRST YEAR

First Quarter	C—L—T
Chem. 112 (Gen. Chemistry) . . .	5—3—6
Eng. 111 (Comp. & Rhet.) . . .	3—0—3
Math. 111 (Algebra)	5—0—5
T.E.T. 111 (Fibers & Fabrics) . .	3—0—3
Total	16—3—17

Second Quarter	C—L—T
Draw. 111 (Engr. Draw. I) . . .	0—6—2
Eng. 112 (Comp. & Rhet.) . . .	3—0—3
I.E.T. 112 (Ind. Psy. & Hum. Rel.)	3—0—3
Math. 112 (Trigonometry) . . .	5—0—5
Phys. 131 (Mechanics)	5—3—6
Total	16—9—19

Third Quarter	C—L—T
Eng. 231 (Tech. Writing)	3—0—3
Phys. 132 (Electricity)	3—3—4
T.E.T. 121 (Open, Pick, Card) . .	3—3—4
T.E.T. 122 (Draw, Comb., Fly/Frame Proc.)	3—3—4
T.E.T. 123 (Spin, Wind., Tw., W.)	3—3—4
Total	15—12—19

SECOND YEAR

Fourth Quarter	C—L—T
A.C.E.T. 241 (Air Cond. & Refr.)	5—3—6
I.E.T. 227 (Statistics)	4—0—4
Phys. 133 (Ht., Sound, Lt.) . . .	3—3—4
T.E.T. 231 (Weaving)	3—3—4
I.E.T. 116 (Org. & Mgt.)	3—0—3
Total	18—9—21

Fifth Quarter	C—L—T
I.E.T. 222 (Motion & Time Study)	4—3—5
I.E.T. 261 (Seminar)	1—0—1
Phys. 134 (Modern Phys.)	2—0—2
T.E.T. 162 (Tex. Chem. & Dye) . .	3—0—3
T.E.T. 232 (Warp. Prep.)	3—0—3
T.E.T. 251 (Tex. Cal. & Costing) .	3—0—3
Total	16—3—17

Sixth Quarter	C—L—T
Eng. 221 (Public Speaking) . . .	3—0—3
I.E.T. 155 (Ind. Safety)	3—0—3
I.E.T. 214 (Pers. Supervision) . .	3—0—3
T.E.T. 242 (Fabric Analysis) . . .	1—3—2
T.E.T. 244 (Physical Testing) . . .	2—3—3
T.E.T. 245 (Fabric Design)	3—0—3
T.E.T. 252 (Mod. Weaving Proc.)	3—0—3
Total	18—6—20

Under quarters C equals Class Hours, L equals Laboratory Hours, and T equals Total Credit.



The Presley ratio indicates cotton tensile strength.

Positions Textile Graduates Are Prepared For

The course in Textile Engineering Technology is broad enough to prepare a graduate to fit himself into any phase of the textile industry when he has attained the necessary practical experience. Some of the titles of jobs open to him are:

Assistant Foreman

Foreman or Overseer

Fabric Designer

Production Control or

Standard Department Technician

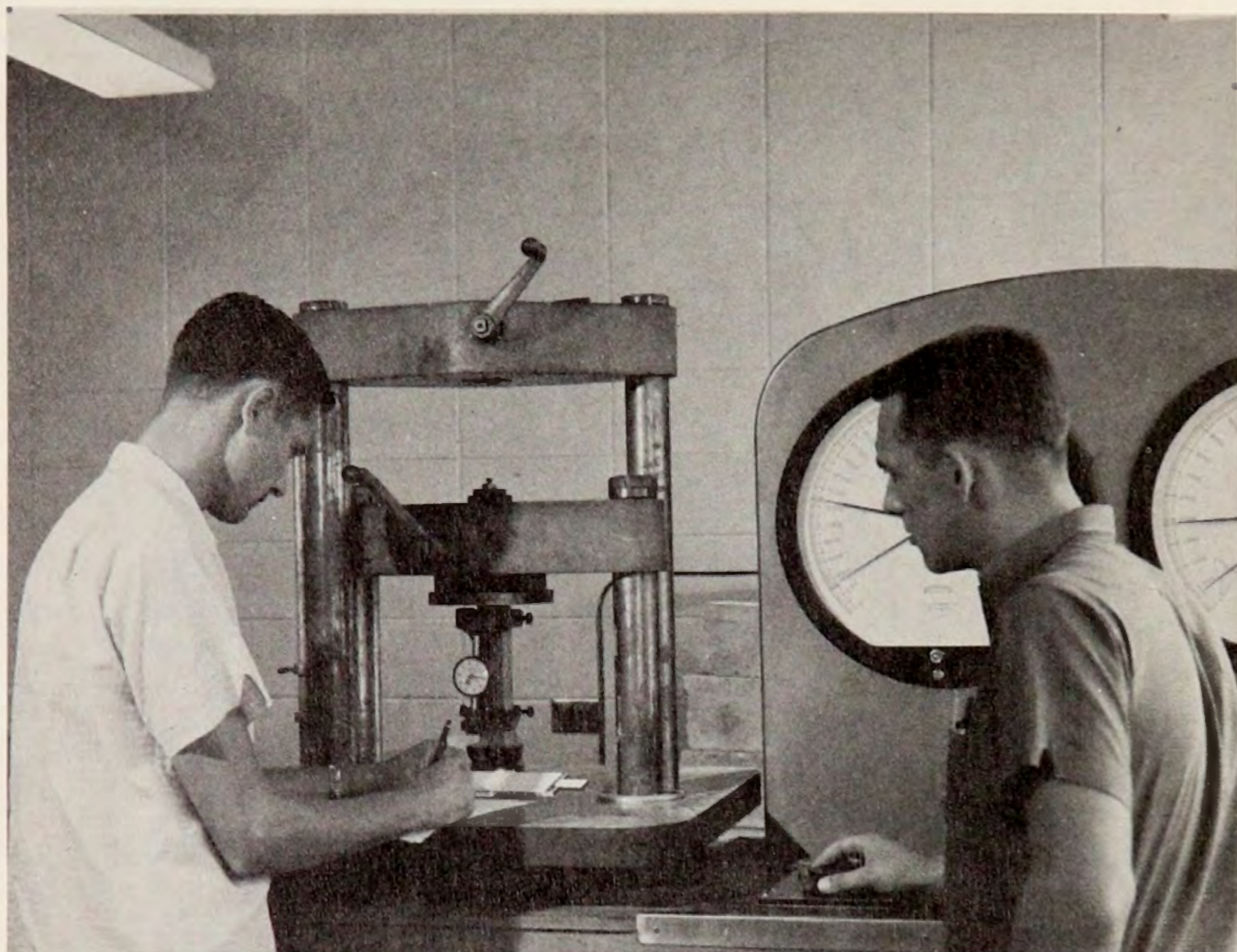
Personnel Manager

Machinery Manufacturer Salesman

Erector or Service Man

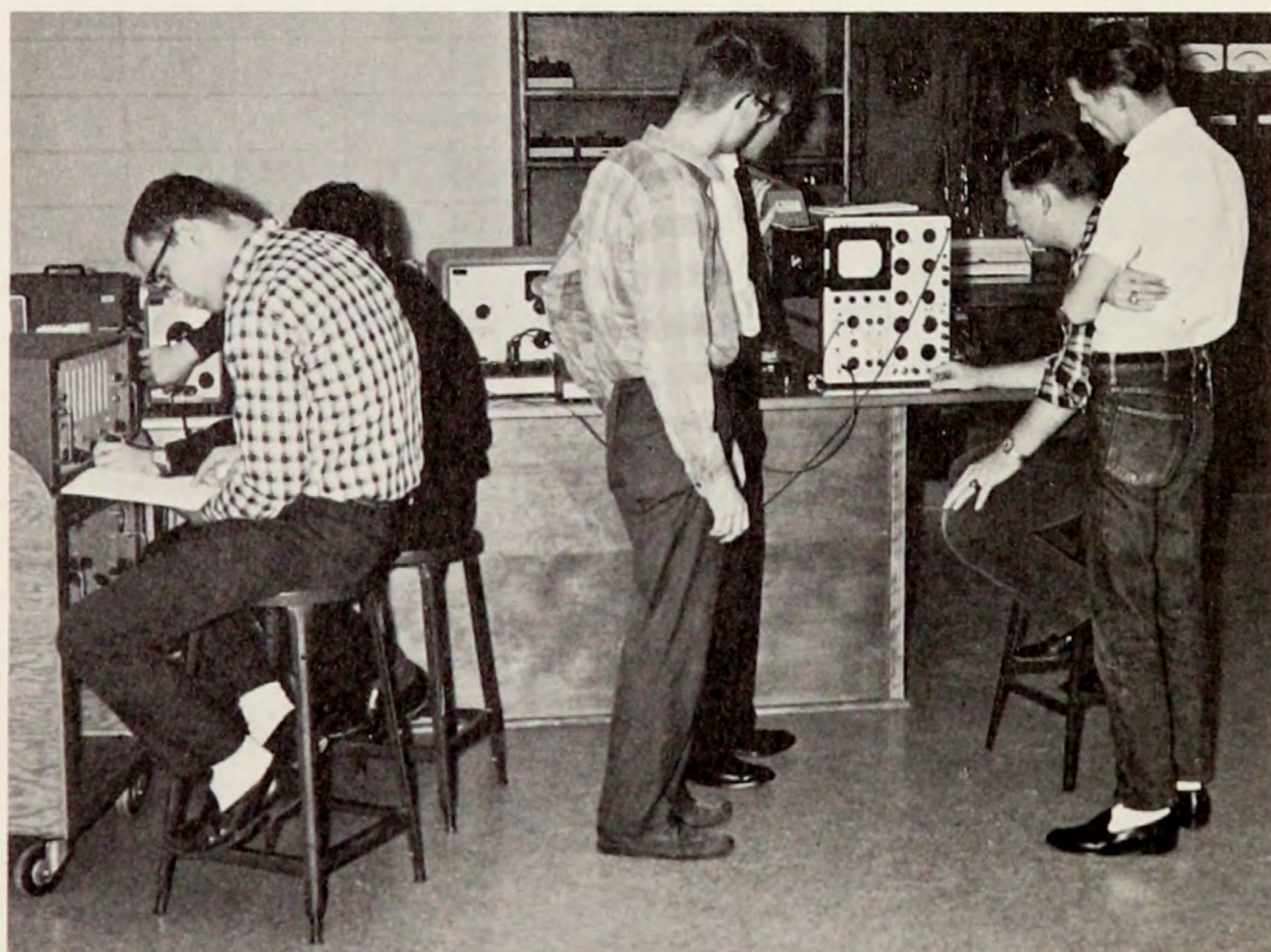
Testing Technician in Physical Laboratories

Dryer or Cloth Finisher



Civil Engineering Technology

Electrical Engineering Technology



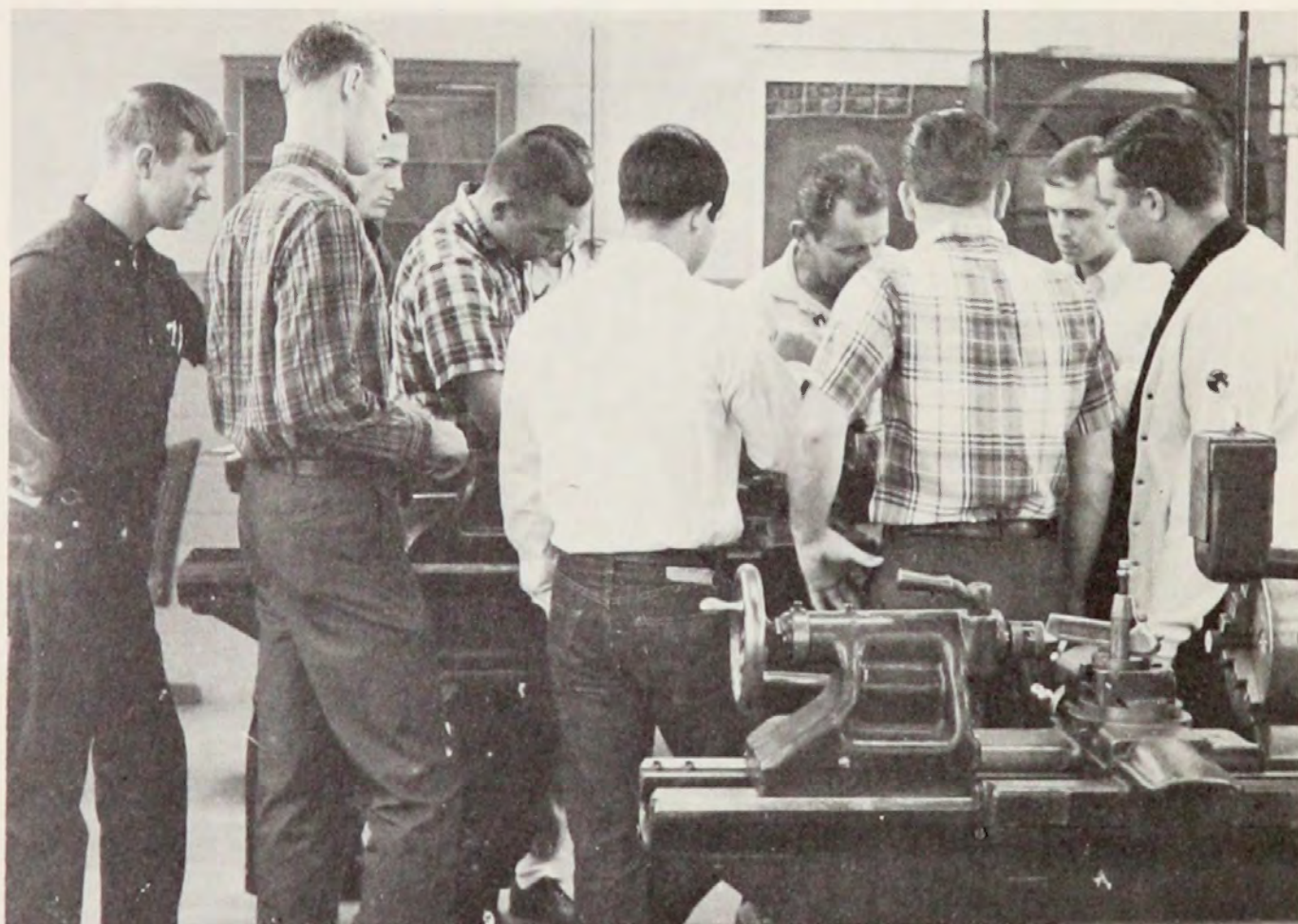
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Industrial Engineering Technology

Mechanical Engineering Technology



SUBJECT DESCRIPTIONS

Air Conditioning Engineering Technology

AC E.T. 112—Electrical Controls 5-0-5

Prerequisite—Math. 112 or concurrently

Electrical fundamentals, circuits, wiring methods, motors, and control circuits of electrical equipment.

Text: Lister, *Electric Circuits and Machines*.

AC E.T. 141—Technical Measurements 2-3-3

Prerequisite—Math. 111 or concurrently

The theory and application of measurements as used in Air Conditioning. In particular, measurement of temperature, pressure, flow rates, electrical quantities, and heating value of gases.

Text: Kirk and Rimboi, *Instrumentation*.

AC E.T. 212—Control Systems 5-3-6

Prerequisite—AC E.T. 112, 224, 225

The application of electric and pneumatic control systems to heating and air conditioning systems for controlling the temperature and humidity of the air.

Text: Haines, *Automatic Control of Heating and Air Conditioning*.

AC E.T. 224—Residential Air Conditioning 5-3-6

Prerequisite—AC E.T. 231 or concurrently

Heating and air conditioning as applied to residential type buildings. Calculation of heat losses and heat gains, air distribution systems, duct design, selection of equipment, and residential controls.

Text: Burkhardt, *Residential and Commercial Air Conditioning*.

AC E.T. 225—Air Conditioning I 5-3-6

Prerequisite—AC E.T. 231 or concurrently

The basic principles of commercial and industrial air conditioning. The calculation of heating and cooling loads, steam and hot water heating systems, psychrometric calculations, fans and ducts, pumps and piping, heating and cooling coils, and types of equipment.

Text: Carrier, *Modern Air Conditioning, Heating and Ventilating*.

AC E.T. 226—Air Conditioning II 5-3-6

Prerequisite—AC E.T. 225

A continuation of AC E.T. 225.

AC E.T. 227—Air Conditioning Design 0-6-2

Prerequisite—AC E.T. 226 or concurrently

Starting with a blueprint of a commercial type building, the student calculates heating and cooling loads, selects equipment from

manufacturers' catalogs, designs duct and piping systems, and makes a drawing of the system.

AC E.T. 231—Refrigeration I 3-3-4

The fundamentals and application of refrigeration. The refrigeration cycle, refrigerants, compressors, evaporators, condensers, and control equipment of commercial systems.

Text: Dossett, *Principles of Refrigeration*.

AC E.T. 232—Refrigeration II 3-3-4

A continuation of AC E.T. 131. In addition a study is made of load calculations, the thermodynamic analysis of the refrigeration cycle, and auxiliary equipment.

Text: Dossett, *Principles of Refrigeration*.

AC E.T. 241—Air Conditioning and Refrigeration for Textile Students 5-3-6

A study of the basic principles of air conditioning and refrigeration. The subject matter includes calculation of loads, heating, cooling, humidification, dehumidification, air distribution, and standard control systems.

Text: Trane, *Air Conditioning Manual*.

Architectural Engineering Technology

A.E.T. 126—Descriptive Geometry 2-6-4

Prerequisite—Drawing 111 Vaughn

The subject presents to the student the basic principles of the intersection of lines and planes with particular emphasis upon the application of these principles to architectural objects. Use of the principles of Descriptive Geometry will be shown by drawing perspective views and by casting shadows on architectural elevations and perspectives.

Text: Martin, *Design Graphics*.

A.E.T. 127—Graphics 3-9-6

Prerequisites—Drawing 111 and

A.E.T. 126 Orvold

An introductory study in architectural drawing and in the principles of visual design. This subject equips the student with a basic knowledge of drawing sections, plans, rendering, and detailing.

Text: Ramsey & Sleeper, *Architectural Graphic Standards*.

A.E.T. 141—Architectural Working Drawings 3-0-3

Newman

An introductory study of the reading of architectural plans. This subject also teaches

architectural terms which aid in speaking the language of all phases of construction. Text: Dalzell, *Blueprint Reading for the Building Trades*. Vols. 1, 2.

A.E.T. 142—Building Materials 3-0-3

Newman

A subject designed to familiarize the student with the physical properties of the materials generally used in the erection of structures, with brief descriptions of their manufacture.

Text: Parker, Gay and MacGuire, *Materials and Methods of Architectural Construction*.

A.E.T. 217—Steel and Timber Structures 3-3-4

Prerequisites—C.E.T. 114, C.E.T. 216

Vaughn

A study of the design of the major structural elements used in framing commercial buildings with steel or timber. Design procedures for beams, girders, and columns are presented, and methods of fastening the members with rivets or timber connectors are shown. Laboratory work consists of computations that follow and expand the principles explained in the classroom.

Texts: Hoardley, *Essentials of Structural Design*; AISC, *Steel Construction Manual*.

A.E.T. 218—Reinforced Concrete Structures 3-3-4

Prerequisites—C.E.T. 114, C.E.T. 216

Vaughn

A study of reinforced concrete structures with the determination of direct stresses and bending stresses in beams, slabs, girders, columns, and footings. Consideration is given to the principles of continuity and to loading arrangements necessary for maximum bending moments. Laboratory work consists of computations that parallel the work in the classroom.

Text: Hoardley, *Essentials of Structural Design*. Supplementary material: ACI, *Code, Reinforced Concrete Design Handbook*.

A.E.T. 219—Ultimate Load Structures 3-0-3

Prerequisites—A.E.T. 217, A.E.T. 218

Vaughn

Introduction to plastic design of steel frames and connections and to the ultimate strength method of reinforced concrete design.

Text: Hoardley, *Essentials of Structural Design*.

A.E.T. 222—Building Design 3-9-6

Prerequisites—A.E.T. 127, A.E.T. 142

Orvold

Residential design. This subject requires

presentation drawings, complete workings, specifications, and the building of a scale model.

Text: Ramsey & Sleeper, *Graphic Standards*.

A.E.T. 223—Building Design 3-9-6

Prerequisites—A.E.T. 222, A.E.T. 217, or concurrently

Vaughn

The design of a structural steel building with sketches, architectural drawings and details.

Text: Ramsey & Sleeper, *Graphic Standards*.

A.E.T. 224—Building Design 3-9-6

Prerequisite—A.E.T. 222, A.E.T. 218, or concurrently

Orvold

The design of a structural concrete building and the preparation of architectural drawings and details. A small scale model or rendered perspective is also required.

Text: Ramsey & Sleeper, *Graphic Standards*.

A.E.T. 231—Architectural History 3-0-3

Orvold

A study of the progress of architecture. The material covered in this subject includes a review of architectural forms from Egyptian to modern Engineered Architecture.

Text: Hamlin, *A History of Architecture*.

A.E.T. 243—Building Equipment 3-0-3

Prerequisite—Phys. 133, or concurrently

Vaughn

To present to the student the basic principles of design and use of air conditioning, plumbing, electrical systems and various mechanical equipment used in a building. Text: Gay and Fawcett, *Mechanical and Electrical Equipment of Buildings*.

A.E.T. 244—Estimating 3-3-4

Prerequisite—A.E.T. 142 and C.E.T. 125

Newman

A course designed to develop a method of estimating in preparing material and labor quantity surveys from actual working drawings and specifications.

Text: Wass, *Building Construction Estimating*.

Chemistry

Chemistry 112—General Chemistry 5-3-6

Crawford

A survey of general chemistry with the emphasis on inorganic. Laboratory exercises parallel and supplement the work in the classroom.

Texts: Ewing and Meyer, *Chemistry, A Survey of Principles*; Ritter, *An Introductory Laboratory Course in Chemistry*.

Civil Engineering Technology

C.E.T. 100—Office Practices 0-3-1 Holladay

Familiarization and use of the slide rule, electric calculating machine, Polar Planimeter, drafting machine, Pantograph, mechanical lettering guides.

Text: Slide Rule Manual, Monroe, *Machine Methods for Calculations, Civil Engineering*.

C.E.T. 101—History of Engineering 1-0-1 Roley

A comprehensive review of engineering methods and processes from ancient times down to today, along with a review of the effect engineering advancement has had upon Society.

Offered as an elective.

Text: Finch, *The Story of Engineering*.

C.E.T. 113—Engineering Mechanics 2-0-2 Prerequisite—Phys. 131 or concurrently Myatt

Statics; principles and applications of free body diagrams for force systems, shear and moment diagrams, deflections of beams by numerical integration, determination of section properties.

Text: Olsen, *Elements of Mechanics of Materials*.

C.E.T. 114—Strength of Materials 3-3-4 Prerequisite—C.E.T. 113 Myatt

A discussion of strength of materials concepts. Subject matter includes stress and strain analysis, both elastic and plastic, with emphasis on elastic analysis of axially loaded members, connectors, beams, and columns.

Text: Olsen, *Elements of Mechanics of Materials*.

C.E.T. 122—Route Surveying 3-6-5 Prerequisite—C.E.T. 124 Roley

A discussion of reconnaissance, preliminary and construction surveys for route locations, including simple, compound, reverse and multi-centered circular curves, highway and railway spiral easement curves; super-elevations, sight distances and parabolic vertical curves. The laboratory time is used for the computation and field layout of curves and earthwork problems.

Text: Hickerson, *Route Surveys & Design*.

C.E.T. 123—Elementary Surveying I 1-3-2 Troemel

Care and use of engineer's level, transit and tape, leveling, traversing.

Text: Breed, Hosmer, Bone, *Elementary Surveying*.

C.E.T. 124—Elementary Surveying II 2-6-4 Prerequisite—C.E.T. 123 Troemel

Continuation of C.E.T. 123: Closure and area computations, stadia, contours, building layouts, profile levels, U. S. System of Land Surveys, earthwork, lines and grades, city surveys, the interpretation and plotting of field notes of topographic surveys.

Text: Same as for C.E.T. 123.

C.E.T. 125—Architectural Surveying 0-3-1 Prerequisite—C.E.T. 123 Fowler

A continuation of C.E.T. 123 with emphasis on surveys required by architects. Profile levels, stadia, contours, earthwork and grading, building layouts.

Text: Breed, Hosmer, Bone, *Elementary Surveying*.

C.E.T. 132—Highway Construction 2-3-3 Prerequisite—C.E.T. 122 or concurrently Roley

A study of highway location, geometric considerations, drainage and sizing of drainage structures, grading and earth movement, soil stabilization, road surfacings, and maintenance. The laboratory is for supervised computations and the preparation of a complete set of highway plans.

Text: Oglesby, *Highway Engineering*.

C.E.T. 202—Ethics of Engineering 1-0-1 Roley

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.

Offered as an elective.

Text: To be selected.

C.E.T. 212—Structural Drafting 0-6-2 Prerequisites—Drawing 111 and C.E.T. 114 Myatt

A study of the required structural steel plans for buildings and the preparation of the shop details from those plans. Given the structural design for a building, the student prepares both the structural plans necessary for construction and the shop

details necessary for fabrication of several steel members in the structure.

Text: AISC, *Steel Construction Manual*. AISC, *Structural Shop Drafting*, Vol. I.

C.E.T. 213—Structural Drafting 0-6-2
Prerequisite—Drawing 111 Myatt

A study of various types of concrete floor systems and preparation of working drawings for the concrete members of a structure. As a term project, the student is given the design for a multi-story concrete framed building from which he prepares the structural plans and the shop details for a part of the reinforcing steel. Text: ACI, *Manual of Standard Practice for Detailing Reinforced Concrete Structures*. Ketchum, *Handbook of Structural Details for Buildings*.

C.E.T. 214—Materials Testing 1-3-2
Myatt

A study of aggregates, cement, concrete. Testing aggregates, mix designs, adjustments, slump, calculations of concrete characteristics, actual mixing, curing and testing. Asphalt properties and the application to asphalt mix designs, testing and analyzing asphalt mixes.

Texts: Larson, *Portland Cement and Asphalt Concretes*.

C.E.T. 215—Soil Mechanics 2-3-3
Prerequisite—C.E.T. 214 Myatt

Theory of soil mechanics as applied to permeability, consolidation, shear strength, unconfined and triaxial compression. In-place density, Atterberg limits, compaction tests, specific gravity, grain size, classification of soils.

Text: Sowers and Sowers, *Introductory Soil Mechanics & Foundations*.

C.E.T. 216—Indeterminate Structural Analysis 3-0-3

Prerequisite—C.E.T. 113 Myatt

An introduction to methods of analysis of indeterminate structures. Methods of consistent deformations, unit load, influence line diagrams for continuous beams and rigid frames. Moment distribution and its application to frames of constant and variable section.

Text: Michalos and Wilson, *Structural Mechanics and Analysis*.

C.E.T. 217—Structural Design 3-3-4
Prerequisite—A.E.T. 217,
A.E.T. 218, C.E.T. 216 Myatt

The design of a complete structure, integrating the design and drafting procedures studied in other courses, leading to working plans for the structure. Ultimate strength theory in steel, concrete, prestressed concrete, composite steel and concrete design procedures are introduced.

Texts: Urquhart, O'Rourke, Winter, *Design of Concrete Structures*. Beedle, et al, *Structural Steel Design*. Ketchum, *Handbook of Standard Structural Details for Buildings*.

C.E.T. 218—Geology of Engineering 1-3-2
Roley

A discussion of the elementary concepts of geology, petrology, sedimentation, and the behavior and strength of natural materials in sites.

Offered as an elective.

Text: Pearl, *Geology*.

C.E.T. 223—Land Surveys 2-6-4
Prerequisite—C.E.T. 122 Holladay

Theory and practice of land surveying; subdivision; filing and recording deeds; U. S. system of land subdivision; U. S. Coast and Geodetic plane coordinate systems; county and state laws; city surveying procedures; use of instruments and computations on astronomical observations for azimuth determination; Georgia Land Lot System of land subdivision.

Text: Breed, Hosmer, Bone, *Elementary Surveying*.

C.E.T. 224—Topographic and Contour Surveying 2-6-4

Prerequisite—C.E.T. 124 Holladay

Theory, description and use of advanced surveying instruments and methods; practice of state and local coordinate systems for cadastral surveys and construction work; field work for the design and construction of engineering projects; use of the Plane Table on topographic surveys; altimetry, optical-type instruments; triangulation; baseline measurements; hydrographic surveying; transformation from plane to spherical coordinates.

Text: Breed, Hosmer, Bone, *Higher Surveying*.

C.E.T. 225—Advanced Surveying 2-3-3
Prerequisite—C.E.T. 224 Holladay

Theory and use of electronic distance measuring equipment, trilateration, Geodesy, plane and spherical coordinates, map projections, precise leveling, subtense bar, error analysis, optical tooling.

Text: Breed, Hosmer, Bone, *Higher Surveying*.

C.E.T. 232—Heavy Construction 2-3-3
Roley

Heavy construction operations; fundamentals, equipment, earth excavation and movement, drilling and blasting, production of stone aggregate, concrete mixing and placing, pile driving, cofferdams, foundations.

Text: Peurifoy, *Construction Planning, Equipment, and Methods*.

C.E.T. 233—Construction Estimating 1-3-2
Prerequisite—A.E.T. 244,
C.E.T. 232 Roley
Construction estimation of heavy construction projects; study of the basis and accuracy of such estimation.
Text: Peurifoy, *Estimating Construction Costs*.

C.E.T. 243—Hydraulics 3-0-3
Prerequisite—C.E.T. 114 Fowler
An introduction to the principles of fluid flow and the development of practical hydraulics. The subject matter includes fluid statics, flow of an incompressible ideal fluid, flow of real fluid in pipes, multiple pipe line problems, liquid flow in open channels, and fluid measurement.
Text: Vennard, *Elementary Fluid Mechanics*.

C.E.T. 244—Water & Sewage Systems 1-3-2
Prerequisite—C.E.T. 243 or concurrently Gordon
A study of the sources, collections, treatment and distribution of water; sewage collection and treatment. The laboratory is for supervised computations, laboratory tests, and visits to water and sewage treatment plants.
Text: Hardenbergh, *Water Supply and Waste Disposal*.

C.E.T. 251—Photogrammetry 0-6-2
Prerequisite—C.E.T. 224 Holladay
The preparation of maps and charts from aerial photographs. Specifications and planning for aerial surveys.
Text: Breed, Hosmer, Bone, *Higher Surveying*.

Drawing, Engineering

Draw. 111—Engineering Drawing I 0-6-2
Muller, Boshier, Day
Introduction to drawing, use of instruments, lettering, geometric construction, orthographic projection, auxiliary views, dimensioning, and drawing conventions.
Text: Luzadder, *Fundamentals of Engineering Drawing*, 5th Ed.

Draw. 112—Engineering Drawing II 0-6-2
Prerequisite—Draw. 111 Boshier
Continuation of topics introduced in Engineering Drawing 111, plus threads and fasteners, sectioning, conventional representation, working drawings, and ink tracings.
Text: Same as for Draw. 111.

Draw. 221—Machine Sketching 0-6-2
Prerequisite—Draw. 111 Muller
A step by step procedure in freehand sketching of machine parts with pencil. Sketches are made in orthographic, isometric, and oblique projection, as well as in true perspective. Dimensioning and shading of sketches are included.
Text: Same as for Draw. 111.

Draw. 222—Machine Drawing 0-6-2
Prerequisite—Draw. 112 Boshier
Study of gears, cams, and complete assembly drawings of a small machine, together with manufacturing specifications.
Text: Luzadder, *Fundamentals of Engineering Drawing*, 5th Ed.

Draw. 231—Electrical Drawing 0-6-2
Prerequisites—Draw. 111, E.E.T. 202
A study of A.S.A. and A.I.E.E. standard electrical drawing symbols and preparation of electrical drawings including schematics, single-line diagrams, wiring diagrams, layouts, and others.
Text: Bishop, *Electrical Drafting and Design*, 3rd Ed.

Electrical Engineering Technology

E.E.T. 100—Electric and Magnetic Fields and Forces 5-3-6
Carter
Prerequisites—Math 114 or concurrently, Phys. 131
A first course in electrical engineering technology dealing with topics of electrostatics and magnetostatics. Rigorous introduction to electric charges, forces, electric-field properties, electric flux, potential difference, capacitance, and electric current. A detailed study of charges moving with uniform velocity, magnetic flux, magnetic field intensity, and inductance.
Text: Carter, *Electrical Circuit Analysis*.

E.E.T. 101—A Microphysical View of Materials, Metals, Insulators and Semiconductors 3-0-3
Prerequisites—E.E.T. 100, Phys. 133 Keown
A microphysical view of materials, including models for atoms and atomic particles, ionization, electron affinity and binding of atoms into assemblies. A study of electron energy bands in solids. Properties of metallic conducting paths, insulators and semiconductors.
Text: To be selected.

E.E.T. 102—Electric Circuits 3-3-4

Carter

Prerequisites—E.E.T. 100, Math. 213 or concurrently

Fundamentals of basic circuit theory and practice as applied to d-c circuits and single-phase circuits. Properties of resistance, inductance, and capacitance. Complex notation. Analysis of series, parallel, and series-parallel circuits.

Text: Carter, *Electrical Circuit Analysis*.**E.E.T. 103—Electronic Circuits and Devices** 3-3-4

Summers

Prerequisites—E.E.T. 101 or concurrently, E.E.T. 102 or concurrently

An introduction to electronic circuits and devices including a study of the characteristics and parameters of vacuum tubes. Single-stage amplifiers are analyzed using both graphical and linear analysis; different types of bias are utilized in this analysis. Gas-filled and photoelectric devices are considered.

Text: To be selected.

E.E.T. 200—Semiconductor Circuits and Devices 5-3-6

Summers

Prerequisites—E.E.T. 101, E.E.T. 102

An introduction to semiconductor circuits and devices. A study of the static and dynamic characteristics of semiconductor diodes, transistors, unijunctions, silicon controlled rectifiers and other semiconductor devices. Transistor amplifiers are considered from both the graphical and the equivalent-circuit approach using the common-emitter, common-base, and common-collector configurations. Biasing and stabilization considerations are explored both in the class and laboratory. Transistor circuits are analyzed using the methods of four-terminal network analysis with emphasis being placed on the H and T parameters.

Text: Cutler, *Semiconductor Circuit Analysis*.**E.E.T. 202—Electric Circuits** 5-3-6

Carter

Prerequisite—E.E.T. 102

Continued study of electric circuit theory and practice. Study of networks, network theorems, coupled circuits, resonant circuits, graphical techniques, polyphase circuits, and electric filters.

Text: Carter, *Electrical Circuit Analysis*.**E.E.T. 204—Pulse Circuits** 3-3-4

Summers

Prerequisites—E.E.T. 103, E.E.T. 200

A study of transistor and vacuum-tube wave-generation and shaping circuits including the design and application of multivibrators, blocking oscillators, bootstrap cir-

cuits, Miller integrator circuits, clampers, clippers, and other important pulse circuits. Linear waveshaping using R, L and C is also presented.

Text: Ketchum & Alvarez, *Pulse and Switching Circuits*.**E.E.T. 205—Electronic Circuits and Applications** 3-3-4

Bruce

Prerequisites—E.E.T. 103, E.E.T. 200

An advanced study of amplifier circuits with consideration given to linear small-signal amplifiers including gain-bandwidth and rise-time bandwidth relations. Emphasis is also placed on feedback and direct-coupled amplifiers. Equal treatment is given to transistor and vacuum-tube circuits. Text: Romanowitz, *Fundamentals of Semiconductor and Tube Electronics*.

E.E.T. 206—Survey of Electric Machinery 3-3-4

Cowan

Prerequisites—E.E.T. 202

An introductory course in the characteristics and applications of basic electric machinery. A-c generators, d-c generators, a-c motors, and d-c motors are studied.

Text: Rosenblatt & Friedman, *Direct and Alternating Current Machines*.**E.E.T. 207—Electric Transmission** 5-3-6

Keown

Prerequisite—E.E.T. 202

A detailed study of transmission lines in the conveying of electric energy and information. Both lossy and lossless conditions are analyzed. The parameters of transmission lines, traveling waves, lines with no reflections, lines with reflections, transmission-line charts, measurements, and impedance matching are studied.

Text: Ware & Reed, *Communication Circuits*.**E.E.T. 208—Antennas and Microwaves** 5-3-6

Burton

Prerequisite—E.E.T. 207

Study of electromagnetic wave propagation—guided and unguided waves. The waveguide as a circuit element, microwave devices and measurement techniques, and general systems of antennas are studied.

Text: To be selected.

E.E.T. 209—Industrial Electronics 3-3-4

Burton

Prerequisite—E.E.T. 200

A study of vacuum tube, semiconductor, and magnetic devices in industrial electronic control systems. Emphasis will be placed on the "function" and application of the above devices and not on the devices themselves.

Text: George M. Chute, *Industrial Electronics in Industry*.

E.E.T. 210—Telephone Transmission Systems

3-3-4

Prerequisite—Senior Standing Staff

A study of the application of communications engineering to telephone transmission in voice-frequency, carrier, and microwave systems. Topics included are message channel objectives, transmission system environment, feedback repeater design, carrier and microwave systems, frequency allocation, modulation, and special devices.

Text: *Transmission Systems for Communications*.

E.E.T. 211—Telephone Plant Engineering

3-3-4

Prerequisite—Senior Standing Staff

A study of the engineering and construction of pole lines, cable distribution-wire and open-wire facilities, and buried and underground plant.

Text: R.E.A. Telephone Engineering and Construction Manual—600 Series—Outside Plant.

E.E.T. 212—Telephone Systems

3-3-4

Prerequisite—Senior Standing Staff

A study of machine switching techniques as applied to dial-central-office equipment. Step-by-step, all-relay, and crossbar theory of operation are presented. Special circuits for trunking, signaling, ringing, alarm, verification, reverting, and testing.

Text: Notes.

E.E.T. 213—Power-System Analysis

3-3-4

Keown

Prerequisites—E.E.T. 207, Math. 115

An advanced study of the power system and its various components. The parameters of the power transmission line are studied in detail, equivalent circuits for the line are established, load-flow studies are made, the problems of economy in the operation of the system are analyzed, and fault studies are treated in detail. Use of the digital computer in the solution of problems is taught.

Text: Stevenson, *Elements of Power System Analysis*.

E.E.T. 214—Pulse & Digital Circuits

3-3-4

Summers

Prerequisites—E.E.T. 103, E.E.T. 200

A study of transistor and vacuum-tube logic circuits which are commonly used in digital systems. Memory and switching using magnetic and dielectric elements are stressed. Delay lines and pulse-forming networks along with special computer-related circuits are presented.

Text: Millman & Taub, *Pulse and Digital Circuits*.

E.E.T. 215—Electronic Circuits and Applications

3-3-4

Bruce

Prerequisite—E.E.T. 205 or concurrently

A study of large-signal amplifiers and the principles of modulation including AM, FM and pulse-modulation systems. Automatic gain control, demodulation, frequency mixers and parametric amplifiers are presented. Basic oscillator circuits and feedback are considered. Equal treatment is given to transistor and vacuum-tube circuits.

Text: Ryder, *Electronic Fundamentals and Applications*.

E.E.T. 216—Control Systems for Electric Machinery

3-3-4

Prerequisite—E.E.T. 206 Cowan

A study of elementary control systems for electric machinery, including manual and automatic methods for starting, stopping, reversing, speed regulating, and sequence control. Binary logic methods are introduced and simple servomechanisms are studied.

Text: Siskind, *Electrical Control Systems in Industry*.

E.E.T. 217—Servomechanisms

3-3-4

Prerequisite—E.E.T. 206 Cowan

Topics covered include closed-loop control systems, error detectors, error correctors, and error amplifiers. Analysis of component functions and synthesis of simple systems are considered.

Text: To be selected.

E.E.T. 218—Special Topics Variable Credit—Maximum 4

Prerequisite—Senior Standing Carter, Staff

Special topics selected by department, offered on a demand basis.

Text: To be selected.

E.E.T. 219—Special Topics Variable Credit—Maximum 4

Prerequisite—Senior Standing Carter, Staff

Special topics selected by department, offered on a demand basis.

Text: To be selected.

E.E.T. 220—Computer Fundamentals

3-3-4

Prerequisite—Senior Standing Williams

A study of digital computer systems, number systems, the application of logic circuits to computer design and an introduction to Boolean algebra. The logical design of digital computers is stressed. Emphasis is placed on the arithmetic and memory elements from system considerations. Input-output devices and the control element are also studied.

Text: *Digital Computer Fundamentals*.

E.E.T. 221—Machine and Symbolic Programming 3-0-3

Prerequisite—Math 115, E.E.T. 220 Keown

A study of the foundations of stored program concepts. Machine language and symbolic programming language are studied at the introductory level. The course features an abbreviated data-processing system which is used to code a wide range of programming problems, allowing for the study of programming concepts.

Text: Swallow & Price, *Elements of Computer Programming*.**E.E.T. 222—Digital Control Systems** 2-3-3

Prerequisite—E.E.T. 220 Williams

The study of a general purpose digital computer. Applications of electronic computers and controls in digital systems are emphasized.

Text: To be selected.

E.E.T. 223—Computer Methods and Numerical Analysis 3-0-3

Prerequisite—E.E.T. 221 Keown

A study of usable computer methods for solving the more elementary problems in applied mathematics. The course is intended to give some perspective as to the relative ease or difficulty with which problems may be solved with a computer. Problems are selected on the basis of being both valuable in themselves and as preparation for more sophisticated methods.

Text: McCracken & Dorn, *Numerical Methods and Fortran Programming*.**E.E.T. 230—Electro-Mechanical Devices** 2-3-3

Prerequisite—E.E.T. 220 Summers

An introduction to the mechanical and electro-mechanical devices which are essential to the functions of feeding, sensing, stacking, timing, punching, printing, accumulating, and storing. The study of these electro-mechanical devices is approached from a qualitative standpoint with frequent exposure to the physical device itself. The laboratory period will enable the student to see first-hand, on operational equipment, how each of the electro-mechanical devices studied performs its intended function.

Text: IBM Manuals.

E.E.T. 233—Electro-Mechanical Devices 1-6-3

Prerequisite—E.E.T. 230 Summers

A continuation of E.E.T. 230. Emphasis is placed on developing techniques for making precision adjustments on electro-mechanical devices used in the computer and business machine industry.

Text: To be selected.

English**Eng. 10—Remedial English** 3-0-0

Hunkin, Staff

Review of correct grammar and punctuation. Study of effective syntax in communication through use of programmed material. Lectures, recitations, written exercises stressing effective communication.

Text: Blumenthal, *English 3200*.**Eng. 100—Language and Logic** 3-0-3

Hays, Staff

A study of formal logic, covering the history of logic, deductive and inductive reasoning, syllogisms, modern scientific thinking, and semantics. Emphasis on relationships between language and logic.

Text: To be selected.

Eng. 111—Composition and Rhetoric 3-0-3

Bates, Staff

Grammar study and drill, punctuation, correct usage, sentence structure, elimination of errors in sentence structure, and writing for comprehension.

Texts: Leggett, Mead and Charvat, *Handbook for Writers*; *American College Dictionary*.**Eng. 112—Composition and Rhetoric** 3-0-3

Prerequisite—Eng. 111 Hunkin, Staff

Vocabulary building, dictionary study, practice in developing sentence style, precise writing, paragraph technique, and business correspondence.

Texts: Leggett, Mead and Charvat, *Handbook for Writers*; Shurter, *Effective Letters in Business*; *American College Dictionary*.**Eng. 212—Man and Literature** 3-0-3

Bleakley, Staff

A study of the nature and thought of man and his society as seen through various themes in literature.

Texts: To be selected.

Eng. 221—Public Speaking 3-0-3

Prerequisite—Eng. 111 Carroll, Staff

Study and practice in the fundamentals of public speaking. The subject includes training in selecting a topic, obtaining and organizing material, and presenting speeches effectively. Each student makes several speeches before an audience.

Text: Weiss and McGrath, *Technically Speaking*.

Eng. 231—Technical Writing 3-0-3

Prerequisite—Eng. 112 Blair, Staff

Study of the fundamentals of technical writing style and mechanics with practice in preparing reports of the various types most likely to be used on the job by engineering technicians.

Text: Hays, *Principles of Technical Writing*. Selected reports from industrial organizations.

Gas Engineering Technology

G.E.T. 113—Theory of Gases 3-0-3

This course presents the foundation for later study of the utilization of gas and the equipment used in its handling. It covers heating values of various fuel gases, and the chemistry of combustion. Also covered are the physical characteristics of hydrocarbon gases, heating values, limits of flammability, boiling points and vapor pressures, dew point and bubble point pressures, vaporization of liquefied gases, and gas-air mixtures.

Text: Clifford: *Theory of Gases*.

G.E.T. 122—Gas Utilization I 5-3-6

Prerequisite—G.E.T. 113

The course covers the low-pressure flow of fuel gases, gas controls, venting of gas-fired domestic and commercial equipment, flow of gas through orifices and meters, and the metering of gases. The laboratory program is designed to acquaint the student with gas-fired equipment and also with instruments used in measuring gas flow.

Text: Clifford: *Practical Guide to LP-Gas Utilization*

G.E.T. 222—Gas Utilization II 5-3-6

Prerequisite—G.E.T. 122

The design of atmospheric gas burners is covered in this course, and an introduction is given to jet-pump burners. The analysis of combustion products with conventional equipment is considered, and efficiency computations are made from the data obtained. Gas chromatography is introduced. Rate making is also considered. The laboratory program consists of designing a gas burner, building a pipe burner, flue gas analysis of various pieces of equipment with conventional methods and with the chromatograph.

Text: Same as for G.E.T. 122.

G.E.T. 223—Industrial Gas Utilization 5-3-6

Prerequisites—G.E.T. 113 and G.E.T. 122

A study of combustion equipment, controls, and processes relating to the industrial utilization of fuel gases. The laboratory program is devoted to work with industrial equipment and controls. Field trips to industrial plants are also included.

Text: Shnidman: *Gaseous Fuels*

G.E.T. 226—Gas Fueled Engines 2-3-3

Prerequisites—G.E.T. 113 and Physics 131

The application of natural and liquefied petroleum gas to internal combustion engines. Fuel systems are studied. The laboratory work will be devoted to engine familiarization and conversion to gas. Efficiencies will also be included.

Text: Heldt: *High Speed Combustion Engines*.

G.E.T. 234—Network Distribution Systems 5-3-6

Prerequisites—G.E.T. 113, 122; Physics 131; Math. 112

This is a study of gas distribution networks with special emphasis on flow. Also considered will be pipe stresses due to temperature, pressure, and static loading; design codes; and load estimating.

Texts: Thomas: *Gas Network Design*. ASA B-31.1.8

G.E.T. 236—Fluid Mechanics 5-0-5

Prerequisites—G.E.T. 113, Math. 113, and Physics 131

A study of the statics and dynamics of fluids with a stress on liquids. Flow-through pipes and the turbomachinery used in moving liquids are covered.

Text: To be selected.

Industrial Engineering Technology

I.E.T. 112—Industrial Psychology and Human Relations 3-0-3

Heard

A study of basic psychological causes of human behavior which includes both environmental stimulations and internal factors such as needs, drives, attitudes, and frustration; followed by psychological testing and placement and group behavioral problems applied to such areas as group communications and interactions, group leadership, industrial training, and industrial safety.

Text: Maier, *Psychology in Industry*.

I.E.T. 116—Industrial Organization 3-0-3

Remeta

The organization and functions of the

major departments in an enterprise, the levels of responsibility in management, and the basic economic factors involved in a profit making enterprise.

Text: George, *Management Industry*.

I.E.T. 123—Industrial Accounting and Cost Control 4-1-5

Anderson, Parlett

A basic study of general accounting principles, particularly in their relationship to the systematic recording, organizing, and analysis of accounting data for effective management decisions.

Emphasis is placed upon systems of cost control in job order, process, standard and direct costing systems and recording and control of material, direct labor and overhead costs.

Text: Grant, *Basic Accounting and Cost Accounting*.

I.E.T. 155—Industrial Safety 3-0-3

Carmichael, Lawson

A basic study of industrial accident prevention considering the nature and extent of the accident problem. The role management must play in industrial safety, the information it must have to insure an efficient, well-managed safety program with particular emphasis on fire prevention, industrial hygiene, accident costs, compensation, insurance, and safety organization.

Text: Simons and Grimaldi, *Safety Management*.

I.E.T. 214—Personnel Supervision 3-0-3

Prerequisite—I.E.T. 112, I.E.T. 116

Anderson

The management of personnel through individual motivation and group behavior in small and large organizations.

Techniques of conference leadership, instruction training, employee and labor relations, and the roles of the supervisor as manager of employee safety, behavior, performance and compensation.

Text: Strauss and Sayles, *Personnel*.

I.E.T. 220—Principles of Economics 3-0-3

Prerequisites—Math. 111, I.E.T. 123

Heard, Eller

This is an introductory course in economics. It includes an examination of the two major areas of economics: national income and employment theory and the theory of markets, distribution, and the behavior of the firm.

Text: McConnell, *Economics: Principles, Problems and Policies*.

I.E.T. 222—Motion and Time Study 4-3-5

Prerequisite—Senior Standing, Eng. 231

Carmichael, Keen

An introduction to the field of motion and time study. The use of charts and the principles of motion economy. Time study methods and practice; standard data, work sampling and the use of predetermined time data. Laboratory and class are closely coordinated to give practical application of theory.

Text: To be selected.

I.E.T. 224—Principles of Engineering Economy 5-0-5

Prerequisites—Math. 112, I.E.T. 123

Lawson

Output and life of equipment, operation costs, depreciation rates, economic selection of equipment, determination of economic lot sizes, and cost studies on representative problems.

Text: Grant, *Principles of Engineering Economy*.

I.E.T. 226—Wage and Salary Administration 3-0-3

Prerequisite—I.E.T. 222

Eller

This course is an attempt to bring together important wage and salary compensation concepts concerning the range of parties involved. Primary emphasis is placed on compensation theory and compensation practice. It is concerned with how an employing organization makes choices concerning compensation based on the aggregate actions of each member or organized group concerned with wage level and wage structure.

Text: Belcher, *Wage and Salary Administration*.

I.E.T. 227—Statistics 4-0-4

Prerequisite—Math 114, Senior Standing

Keen

An introduction to descriptive and inductive statistics with emphasis placed on inductive statistics. Frequency distributions, measures of location and of variation, probability, estimation and tests of hypotheses are covered.

Text: Freund, *Modern Elementary Statistics*, Second Edition.

I.E.T. 230—Data Processing 3-0-3

Prerequisites—I.E.T. 222, Math. 115

Carmichael

Study of industrial applications of data processing such as inventory control, production control, payroll, etc. Emphasis will be placed on flow charts and methods and equipment used.

Text: Awad, *Business Data Processing*.

I.E.T. 234—Production and Inventory Control 3-0-3

Prerequisites—I.E.T. 222, I.E.T. 123

Eller, Heard

The preparation for production and planning based on sales forecasts, operation sheets, routing, scheduling, dispatching, follow-up, inventory control, receiving, stores and shipping, control forms and reports. Both quantitative and non-quantitative techniques are used to find solutions to production and inventory control problems.

Text: Hopeman, *Production: Concepts Analysis, and Control*.**I.E.T. 239—Quality Control** 3-0-3

Prerequisite—I.E.T. 227 Carmichael, Keen

An introduction to statistical quality control covering control charts for variables, control charts for attributes and acceptance sampling.

Text: Grant, *Statistical Quality Control*, Third Edition.**I.E.T. 240—Plant Layout and Materials Handling** 2-6-4

Prerequisites—Fifth Quarter Standing

I.E.T. 222 Eller

Principles of plant layout, process and flow charts, tools and aids for effective plant layout, case studies; the supervisor's responsibility for building and equipment maintenance.

Text: Apple, *Plant Layout and Materials Handling*; Apple, *Lab Manual for Plant Layout*.**I.E.T. 241—Finance** 3-0-3

Prerequisite—I.E.T. 220

Anderson, Parlett

A treatment of the forces affecting the demand and the supply of funds in the capital market. The capital markets approach provides a bridge between economic theory and the problems of financial management. Included in the study will be the nature and role of finance in our economy, as well as short-term financing, trade credit, long-term financing, its forms and reasons for such financing, as well as its limitations. Savings by corporate institution will be discussed. Recent monetary and credit problems and policies will be studied.

Text: Dauten and Welshans, *Principles of Finance*.**I.E.T. 242—Small Business Management** 3-0-3

Prerequisite—I.E.T. 241 Anderson

A study of management in an independ-

ent business. The choice of business organizations essential records and accounting controls, financing the independent business, taxation as a factor in management decisions, systems of planning, directing and controlling business operations, and formation of business policies pertaining to forecasting, financing and marketing the products and services of the independent business.

Text: Kelly and Lawyer, *How to Organize and Operate a Small Business*.**I.E.T. 243—Business Law** 3-0-3

Prerequisite—Senior Standing Anderson

The general laws of contracts, agency, sales agreements, and engineering specifications as incorporated into contracts; the business, legal, and ethical phases of engineering.

Texts: Anderson and Kumph, *Business Law*.**I.E.T. 244—Management Decision Making Techniques** 5-0-5

Prerequisites—I.E.T. 227, I.E.T. 234

Heard, Eller

Business decision making here is considered to be the process where management, when confronted by a problem, selects a specific course of action from a set of possible courses of action. This course is primarily concerned with the process of placing a value on alternative courses and choosing the optimum course through quantitative analysis. Quantitative techniques such as probabilistic models, linear programming, and queueing theory are applied to areas in inventory, distribution, and capital expenditures.

Text: Bierman, et al, *Quantitative Analysis for Business Decisions*, revised edition.**I.E.T. 245—Marketing** 3-0-3

Prerequisite—Senior Standing

Anderson, Parlett

A basic survey of marketing's place within the American economy yet including the special aspects of some major management problems, including the factors that influence consumer choice; costs and margins; sales; pricing problems and policies. Problems of advertising policies, as well as those of transportation, will be covered. Topics regarding the overall aspects of wholesaling and retailing will be covered in depth with emphasis being placed on the contemporary status and trends in retailing, on both the large and small scale. Aspects of governmental controls and foreign competition will be covered by student preparation of reports on these topics.

Text: Taylor & Shaw, *Marketing*.

I.E.T. 246—Labor-Management Relations 4-0-4

Prerequisite—I.E.T. 220 Parlett

History of organized labor movement; collective bargaining and the government; strike strategy and tactics; union contract and grievance procedure; case studies regarding wages, hours, and working conditions; seniority and employment protection; effects of technological change.

Text: Seal and Wickersham, *The Practice of Collective Bargaining*.**I.E.T. 261—Seminar** 1-0-1

Prerequisite—5th Quarter Standing Anderson

A study of the techniques for obtaining employment, improving one's position after he gets the job, and a general discussion of professional ethics.

Text: None.

Mathematics**Math. 6—Geometry** 5-0-0

Staff

Applied plane geometry, including some parts of solid geometry needed in engineering. Many practical problems are worked in detail.

Text: Welchons, Krickenberg, and Pearson, *Plane Geometry*.**Math. 10—Remedial Algebra** 5-0-0

Staff

A review of the fundamentals of algebra.
Text: White, *Intermediate Algebra for College Students*.

Math. 110—Integrated Algebra and Trigonometry 5-0-5

Staff

Prerequisite—Two units of high school algebra and one unit of plane geometry.

(This course recommended only for those students whose scores on the CEEB Intermediate Mathematics Achievement Test indicate ability to succeed in accelerated mathematics.)

The concept of function; exponential, logarithmic, and trigonometric functions; equations and systems of equations; complex numbers and properties of vectors; determinants and matrices; inequalities and series.

Text: Washington, *Basic Technical Mathematics*.**Math. 111—Algebra** 5-0-5

Staff

Prerequisite—Two units of high school algebra or Math. 10

Systems of equations; exponents and radicals; quadratic functions; graphs of functions; ratio, proportion and variation; complex numbers; higher degree equations; inequalities; logarithms; progressions and determinants.

Text: Washington: *Basic Technical Mathematics*.**Math. 112—Trigonometry** 5-0-5

Prerequisite—Same as for Math. 111

Staff

Trigonometric functions, plane right triangles, reduction formulas, fundamental relations, identities, addition formulas, double angles, half angles, inverse functions, solution of oblique triangles, logarithms, and complex numbers.

Text: Washington: *Basic Technical Mathematics*.**Math. 114—Analytic Geometry and Calculus** 5-0-5

Prerequisite—Math. 111 and Math. 112

Staff

An introduction to the analytical study of the straight line and conic sections. A survey of the differential and integral calculus with stress on applications in the fields of mechanics and applied engineering.
Text: Peterson, *Calculus with Analytic Geometry*.

Math. 115—Computer Programming 0-3-1

Staff

Prerequisites—Math. 110 or Math. 111 and Math. 112

How to program the digital computer to solve applied problems in mathematics and technology. An introduction to the machine language necessary for these applications.

Text: To be selected.

Math. 213—Calculus 5-0-5

Staff

Prerequisite—Math. 114
Differentiation and integration of the transcendental functions; operations with series; differential equations.Text: Peterson, *Calculus with Analytic Geometry*.**Mechanical Engineering Technology****M.E.T. 111—Tools and Methods** 5-0-5

Arntson

An introduction to the field of metal work and industrial manufacturing for mechanical and industrial students. Possibilities and limitations of various machine tools are developed so that the student will have a basic perspective of modern efficient industrial procedure. The characteristics of

different materials are covered as well as their adaptability to the various processes. Each process is covered from a technical viewpoint. Correct terms are introduced so that the student will be able to use the language of the engineer or the technician. Text: Begeman: *Manufacturing Processes*.

M.E.T. 112—Metallurgy and Heat Treating 3-0-3
Freeman

Prerequisites—M.E.T. 111 and M.E.T. 121
Fundamentals of metallurgy, grain size, effect of carbon content, and hardness testing devices. Different alloys will be tested to determine the effect of heat treating.

Text: Frier, *Elementary Metallurgy*.

M.E.T. 141—Introduction to Metal Fabrication 1-3-2
Franklin, Cuba

Lectures on related information dealing with fundamental machine tools, safety practices, welding, heat treating, and cutting tools, followed by application on principles discussed in laboratory exercises. Text: Burghart, *Machine Tool Operations*, Part I.

M.E.T. 142—Metal Cutting Operations I 1-3-2
Freeman & Sorrells

Lectures on cutting speed, shear angles, engineering materials, machine tools, safety practices, stressing different machining operations for various shapes, finish desired, size control, and production efficiency. This is correlated with fundamental machine exercises to acquaint students with the problems involved in metal cutting.

Text: Burghart, *Machine Tool Operations*, Part I.

M.E.T. 143—Metal Cutting Operations II 1-3-2
Freeman & Sorrells

Lectures on tool grinding, gages, and their use in production, gears, (types of gears and methods of manufacture), milling operations, metal finishing for accuracy and surface finish. The lectures are followed by laboratory exercises that stress the principles involved in metal cutting.

Text: Burghart, *Machine Tool Operations*, Parts I & II.

M.E.T. 144—Metal Joining 1-3-2
Cuba

Lectures are given on related information dealing with welding gasses, safety practices, filler material used, engineering materials, efficiency of joining operations, a-c and d-c machines, electrodes, safety practices, and testing of joining operations, stress and distortion, and symbols used in industry. The lectures are followed with laboratory exercises that stress the principles involved in metal joining.

Text: Giachino, Weeks & Brune, *Welding Skills and Practices*.

M.E.T. 214—Inspection Methods 3-0-3
Freeman, Arntson
Prerequisite—M.E.T. 121

A study of the use and care of precision instruments, and methods of inspection. Types and methods of inspection are compared and discussed from samples chosen from industry as a comparison.

Text: Michelon, *Industrial Inspection Methods*.

M.E.T. 215—Jigs and Fixtures 3-3-4
Cuba, Freeman
Prerequisite—M.E.T. 111.

Factors involved in large quantity production machine processes. Types of jigs and fixtures, different methods of gaging work, ease of operation, and methods of assembly are studied. Machine parts are selected and preliminary methods of production together with cost estimates and production costs are calculated for each part chosen.

Text: Jones, *Jig and Fixture Design*.

M.E.T. 216—Machine Design 5-3-6
Bosher
Prerequisite—C.E.T. 114

A study of the selection of materials and of machine elements, such as fasteners, springs, and transmission screws. The course also includes methods for designing and selecting power-transmission units and their components.

Text: Phelan, Richard M., *Fundamentals of Mechanical Design*.

M.E.T. 217—Thermodynamics I 3-0-3
Franklin
Prerequisite—Math. 114

A study of the fundamental laws of thermodynamics and the properties of systems. Project gas laws are also considered. Text: To be selected.

M.E.T. 218—Thermodynamics II 2-0-2
Franklin
Prerequisite—M.E.T. 217

A continuation of M.E.T. 217. Applications of thermodynamics to engineering systems. Gas cycles, compressors, and refrigeration are considered. Heat transfer in conjunction with these engineering systems is also covered.

Text: To be selected.

Physics

Physical Science 100—A Survey of Physical Science 5-0-5*
Schenk, Staff

A survey of the physical sciences. *(Not available for credit toward the associate in engineering degree. May be used to satisfy

admission requirements in science.)
Text: Gamow, *Matter, Earth, and Sky*.

Physics 131—Mechanics 5-3-6

Prerequisite—Math 112 or concurrently
Hurst, Staff

An introduction to Newtonian mechanics. The subject matter includes measurement, structure and properties of matter, elasticity, kinematics and dynamics of translation, statics, friction, work, energy, momentum, circular motion, kinematics and dynamics of simple vibratory motion, kinematics and dynamics of rotation, hydrostatics, and fluids in motion. Laboratory exercises supplement the work in the classroom.

Texts: Smith and Cooper, *Elements of Physics*, 7th Ed.; Defore, *Physics Laboratory Exercises*, 4th Ed.

Physics 132—Electricity 3-3-4

Stone, Staff

Prerequisite—Physics 131

An introduction to electricity and a study of its simpler applications. The subject matter includes electrolysis, electric force, electric fields, electric potential, capacitance, electric current, resistance, DC circuits, electromagnetism, magnetic materials, electrodynamics, simple AC circuits, and simple electric machines. The laboratory exercises supplement the work in the classroom.

Texts: Same as for Physics 131

Physics 133—Heat, Sound, Light 3-3-4

Mobley, Staff

Prerequisite—Physics 131

An introduction to the principles of heat, sound and light, and a study of their simpler applications. The subject matter includes thermometry, thermal expansion, calorimetry, phase change, heat transfer, thermal behavior of gases, elementary thermodynamics, wave motion, sound, photometry, geometric optics, wave optics, and applied optics. Laboratory exercises supplement the work in the classroom.

Texts: Same as for Physics 131

Physics 134—Modern Physics 2-0-2

Schenk, Staff

Prerequisites—Physics 131 and 132

A brief survey of atomic and nuclear physics. The subject matter includes elementary properties of fundamental particles, atomic structure, elementary nuclear structure, natural and artificial radioactivity, half-life, absorption, basic instrumentation, and an introduction to health physics. Demonstrations are employed to supplement the lectures.

Text: Same as for Physics 131

Textile Engineering Technology**T.E.T. 111—Fibers & Fabrics** 3-0-3

A study of the major chemical and physical properties of vegetable, animal, mineral, and man-made fibers. Emphasis is on the fibers' end uses, with particular stress on the properties the fibers give to fabrics—hand, drape, wrinkle resistance, wear properties, and permanent press.

T.E.T. 121—Opening, Picking, and Carding 3-3-4

Gives the student a thorough background in opening, cleaning, picking, and carding both natural and synthetic fibers on the cotton system.

Text: Grover & Wiggins, *Fundamentals of Textiles*, Part 2.

T.E.T. 122—Drawing, Combing, and Fly-Frame Processes 3-3-4

Designed to give the student a thorough grounding in drawing, combing, and fly-frame processes, the course covers both natural and synthetic fibers on the cotton system.

Text: Grover, *Fundamentals of Textiles*, Part 3, and manufacturers' literature.

T.E.T. 123—Spinning, Winding, Twisting, and Warping 3-3-4

A course for giving the student a thorough background in spinning, winding, quilling, twisting, and warping both natural and synthetic fibers on the cotton system.

Text: Grover, *Fundamentals of Textiles*, Part 3, and manufacturers' literature.

T.E.T. 162—Textile Chemistry and Dyeing 3-0-3

General methods for bleaching, dyeing, and finishing natural and synthetic fibers and their fabrics.

T.E.T. 231—Weaving 3-3-4

Theory of weaving, principal loom motions, auxiliary motions, mechanical and electrical stop motions, let-off and take-up motions, and principles of shedding with cam and dobby motions.

T.E.T. 232—Warping, Slashing, and Cloth-Room Processes 3-0-3

Theory of warp preparation, construction of warpers and slashers, theory of size preparation and application, size components and formulas, and cloth-room operations.

Text: Seydel, *Warp Sizing* and manufacturers' literature.

T.E.T. 242—Fabric Analysis 1-3-2

Analyses of fabrics for weave, yarns, drafts, harness arrangements, and reed plans to enable the student to reproduce the fabrics.

Text: Cartee & Hubbard, *Fabric Structure and Analysis*.

T.E.T. 244—Physical Testing 2-3-3

The fundamentals of testing procedures normally found in the plant laboratory—Uster Evenness Tester, Digital Fibrograph, Pressley Index, Micronaire, twist counting,

and various yarn and fabric strength tests.
Text: Waters, *Introduction to Physical Textile Testing*.

T.E.T. 245—Fabric Design 3-0-3

Fundamentals of plain, twill, and satin weaves and their derivatives and their drawing-in and chain drafts. Also included are studies of several standard fabrics—names, physical descriptions, derivations, and uses.

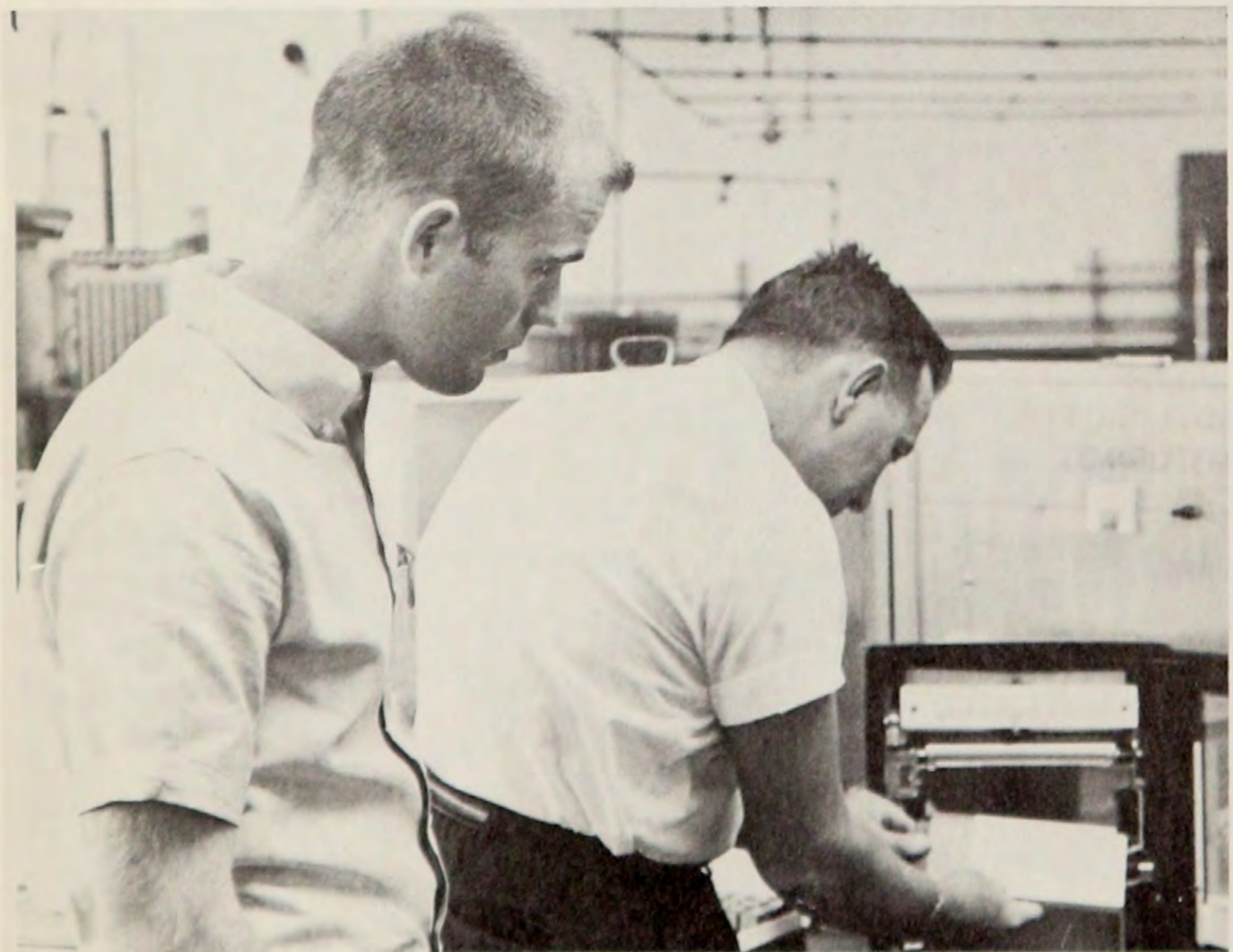
T.E.T. 251—Textile Calculations and Costing 3-0-3

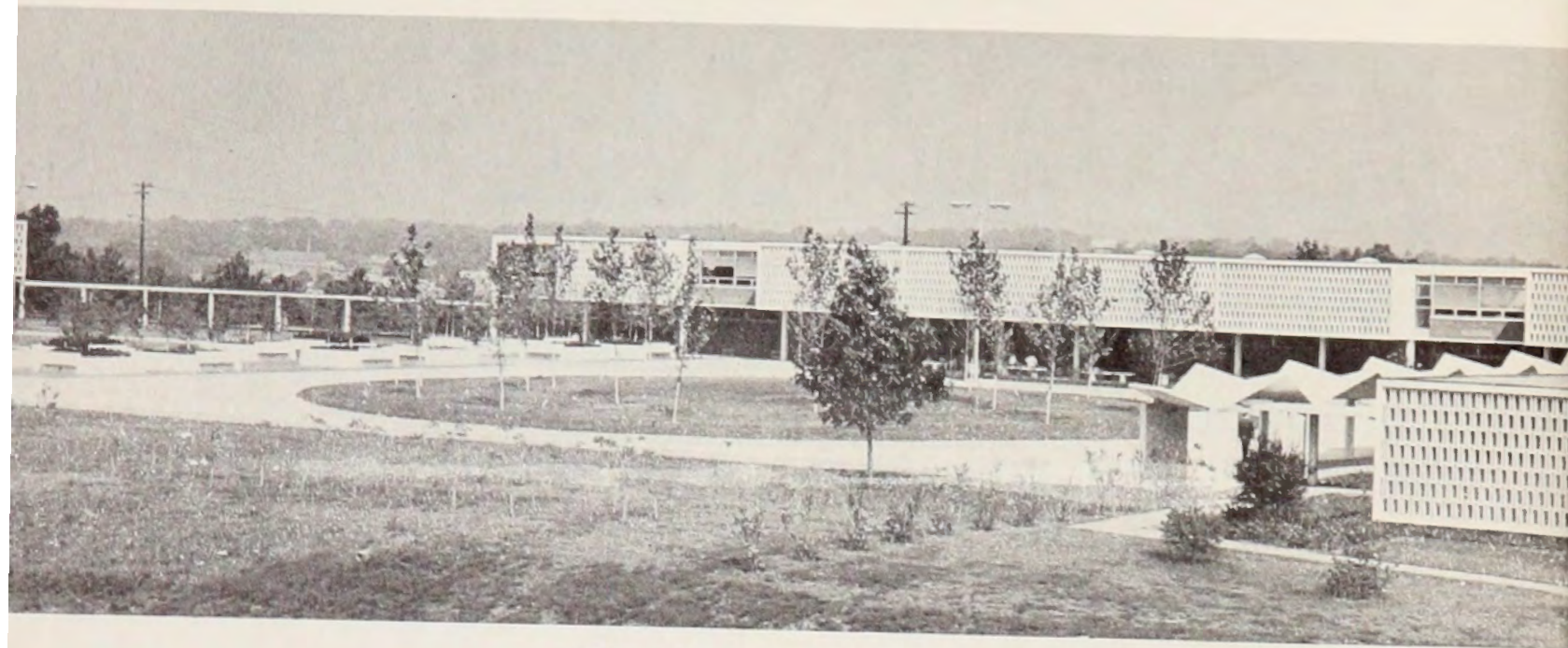
The theory and principles of determining departmental textile costs and their meanings on the profit and loss statement.
Text: Shinn, *Elements of Textile Costing*.

T.E.T. 252—Modern Weaving Processes 3-0-3

A survey of the latest weaving machinery—rapier, water-jet, and pneumatic. Also introduces loom-wound filling, fabric cover calculations, and the latest in dobby and Jacquard motions.

Gas Engineering Technology





The Mall and Building 2

Building 5



General Index

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HOW TO REACH SOUTHERN TECH

REACHING MARIETTA, 18 miles northwest of Atlanta.

BY PLANE: To Atlanta Municipal Airport; ride airport bus to STI.

BY TRAIN OR BUS INTO CITY: Get Greyhound Bus at corner of Walton and Cone Streets and ride to Marietta; engage taxi to STI.

BY AUTOMOBILE: From east over Route 12, 78, or 29—Travel Ponce de Leon Avenue to Peachtree Street; turn left on Peachtree and go one block to North Avenue; turn right on North Avenue and go to the Northwest Expressway; follow the expressway and Route 41 to Clay Street (1 mile north of Lockheed); turn left at Clay Street and left at Martin Street to enter the campus.

From northeast over Route 23—Follow expressway to Route 41; follow Route 41 to Clay Street (1 mile north of Lockheed); turn left at Clay Street and left at Martin Street to enter the campus.

From north over Route 19—To Roswell on 19; turn right on Georgia 120 and go to Route 41 at Marietta; turn left and follow Route 41 to Clay Street; turn right at Clay Street and left at Martin Street to enter the campus.

From northwest over Route 41—Follow Route 41 to Clay Street (just south of Marietta); turn right at Clay Street and left at Martin Street to enter the campus.

From west over Route 78—Follow Route 78 to Atlanta; follow North Avenue to Route 41 (Northwest Expressway); turn left at Route 41, follow Route 41 to Clay Street (1 mile north of Lockheed); turn left at Clay Street and left at Martin Street to enter the campus.

From south over Routes 41, 19, 29, 85, 23, and 42—Continue through downtown interchange and follow Route 41 to Clay Street (1 mile north of Lockheed); turn left at Clay Street and left at Martin Street to enter the campus.

Location of Southern Technical Institute.

