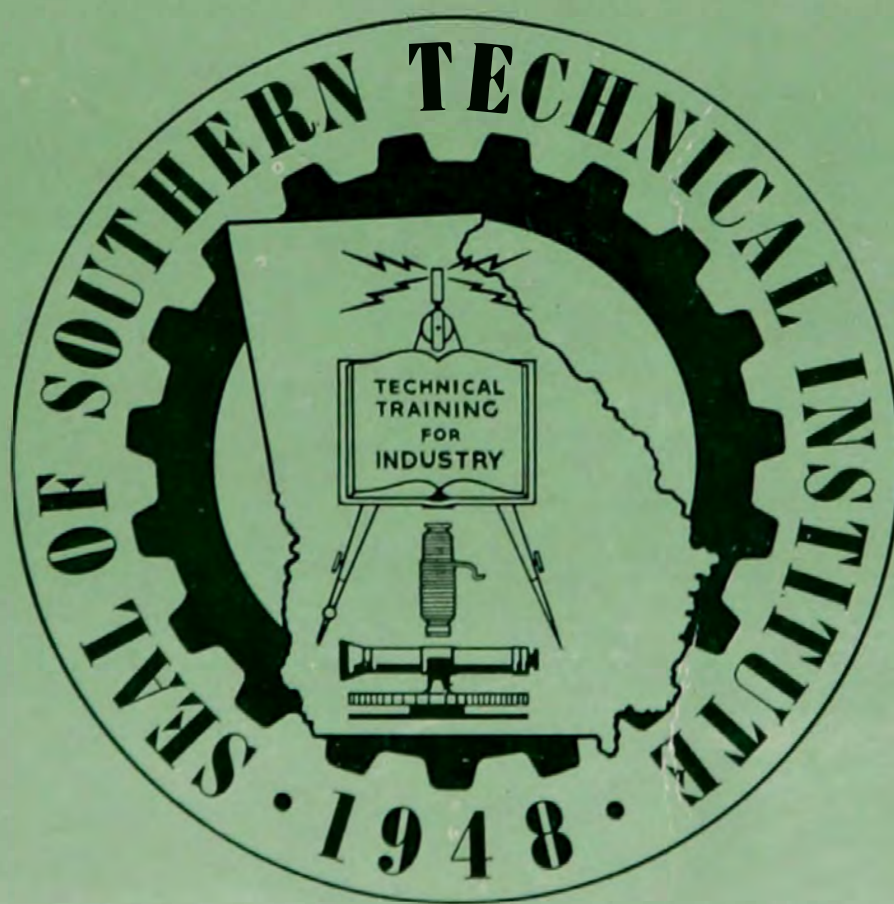


SOUTHERN TECHNICAL INSTITUTE



A UNIT OF
ENGINEERING EXTENSION DIVISION
GEORGIA INSTITUTE OF TECHNOLOGY

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SOUTHERN TECHNICAL INSTITUTE

OFFERS

SEVEN COURSES OF STUDY

FULLY ACCREDITED

BY

ENGINEERS' COUNCIL

FOR PROFESSIONAL DEVELOPMENT

University System of Georgia

SOUTHERN TECHNICAL
INSTITUTE

CATALOGUE AND INFORMATION

1950 - 1951

VOLUME III

NUMBER I

A Unit of
ENGINEERING EXTENSION DIVISION

GEORGIA INSTITUTE OF
TECHNOLOGY

Address

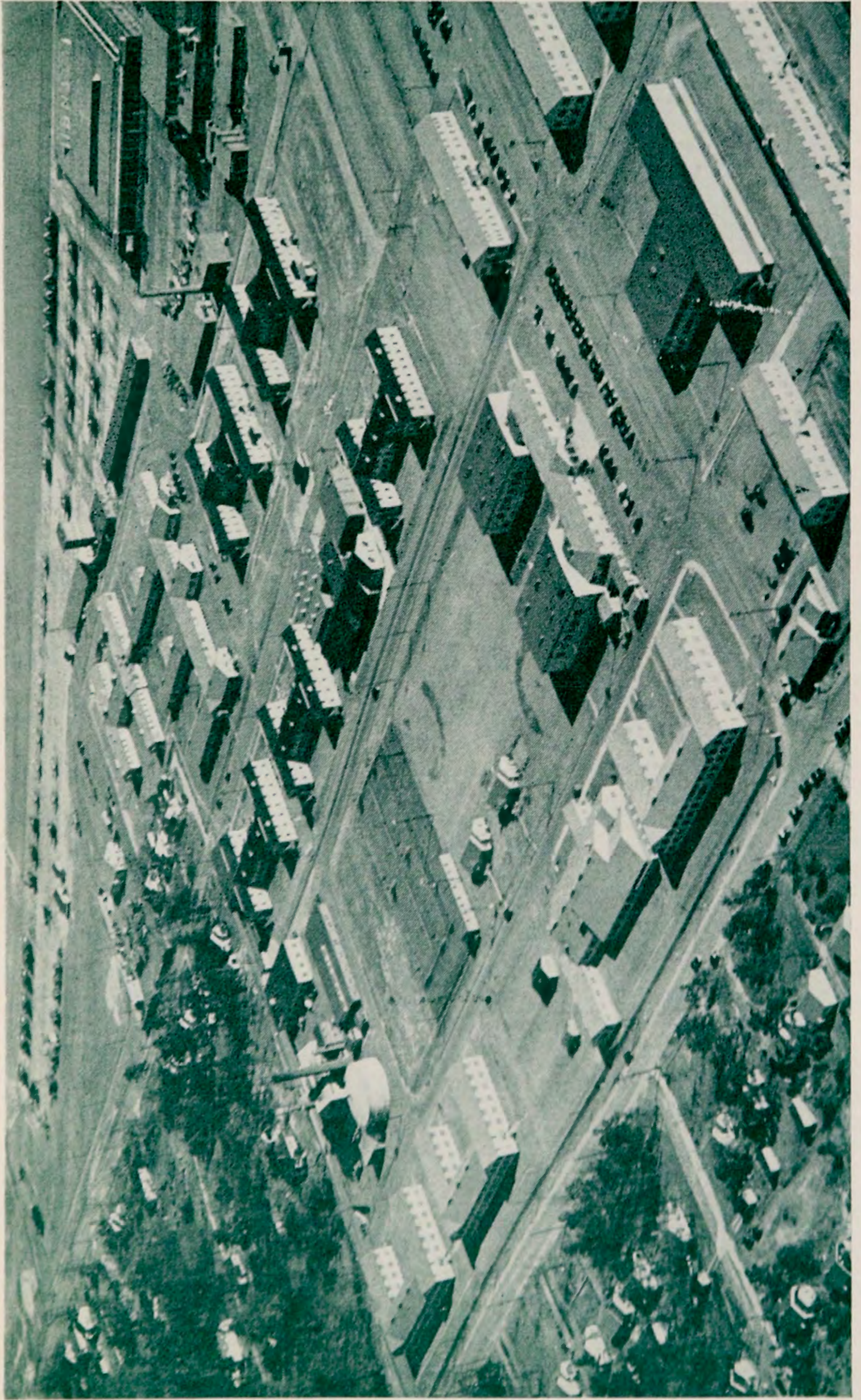
SOUTHERN TECHNICAL INSTITUTE

CHAMBLEE, GEORGIA

Telephone CHerokee 4418

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Southern Technical Institute, Chamblee, Georgia

SOUTHERN TECHNICAL INSTITUTE

CALENDAR 1950-1951

Fall Quarter, 1950

- September 25—Registration.
- September 26—Classes Begin.
- September 30—Last day for registration.
- September 30—Last day for adding subject to study list.
- October 17—Last day for dropping subject without penalty.
- November 4—End of deficiency report period.
- November 23-25—Thanksgiving recess.
- December 16—End of term.
- December 17-January 1, inclusive—Christmas recess.

Winter Quarter, 1951

- January 2—Registration.
- January 3—Classes begin.
- January 6—Last day for registration.
- January 6—Last day for adding subject to study list.
- January 23—Last day for dropping subject without penalty.
- February 10—End of deficiency report period.
- March 16—End of term.
- March 17-25—Spring recess.

Spring Quarter, 1951

- March 26—Registration.
- March 27—Classes begin.
- March 31—Last day for registration.
- March 31—Last day for adding subject to study list.
- April 17—Last day for dropping subject without penalty.
- May 5—End of deficiency report period.
- June 9—End of term.

Summer Quarter, 1951

- June 25—Registration.
- June 26—Classes begin.
- June 30—Last day for registration.
- June 30—Last day for adding subject to study list.
- July 4—Holiday.
- July 16—Last day for dropping subject without penalty.
- August 4—End of deficiency report period.
- September 8—End of term.

THE UNIVERSITY SYSTEM OF GEORGIA
BOARD OF REGENTS

DR. HARMON W. CALDWELL
Chancellor

DR. GEORGE M. SPARKS
Assistant Chancellor

MR. JOHN E. SIMS
Assistant to the Chancellor

- Hughes Spalding, Chairman, Atlanta, Georgia, State-at-Large
January 10, 1949—January 1, 1956
- Leonard R. Siebert, Executive Secretary, Atlanta, Georgia
- W. Wilson Noyes, Treasurer, Atlanta, Georgia
- Mrs. William T. Healey, Atlanta, Georgia, State-at-Large
January 18, 1950—January 1, 1953
- Frank M. Spratlin, Atlanta, Georgia, State-at-Large
January 1, 1946—January 1, 1953
- Carey Williams, Greensboro, Georgia, State-at-Large
January 10, 1949—January 1, 1955
- John J. McDonough, Rome, Georgia, State-at-Large
January 1, 1950—January 1, 1957
- James Peterson, Soperton, Georgia, First District
January 10, 1949—January 1, 1955
- H. L. Wingate, Macon, Georgia, Second District
January 1, 1947—January 1, 1954
- Cason J. Callaway, Hamilton, Georgia, Third District
January 1, 1944—January 1, 1951
- Robert O. Arnold, Covington, Georgia, Fourth District
January 10, 1949—January 1, 1956
- Rutherford L. Ellis, Atlanta, Georgia, Fifth District
January 1, 1947—January 1, 1954
- Charles J. Bloch, Macon, Georgia, Sixth District
January 7, 1950—January 1, 1957
- Roy N. Emmet, Cedartown, Georgia, Seventh District
January 1, 1945—January 1, 1952
- Francis Stubbs, Sr., Douglas, Georgia, Eighth District
January 12, 1950—January 1, 1957
- Sandy Beaver, Gainesville, Georgia, Ninth District
January 1, 1945—January 1, 1952
- William S. Morris, Augusta, Georgia, Tenth District
January 1, 1944—January 1, 1951



BLAKE R. VAN LEER
Sc.D., Eng.D.
President

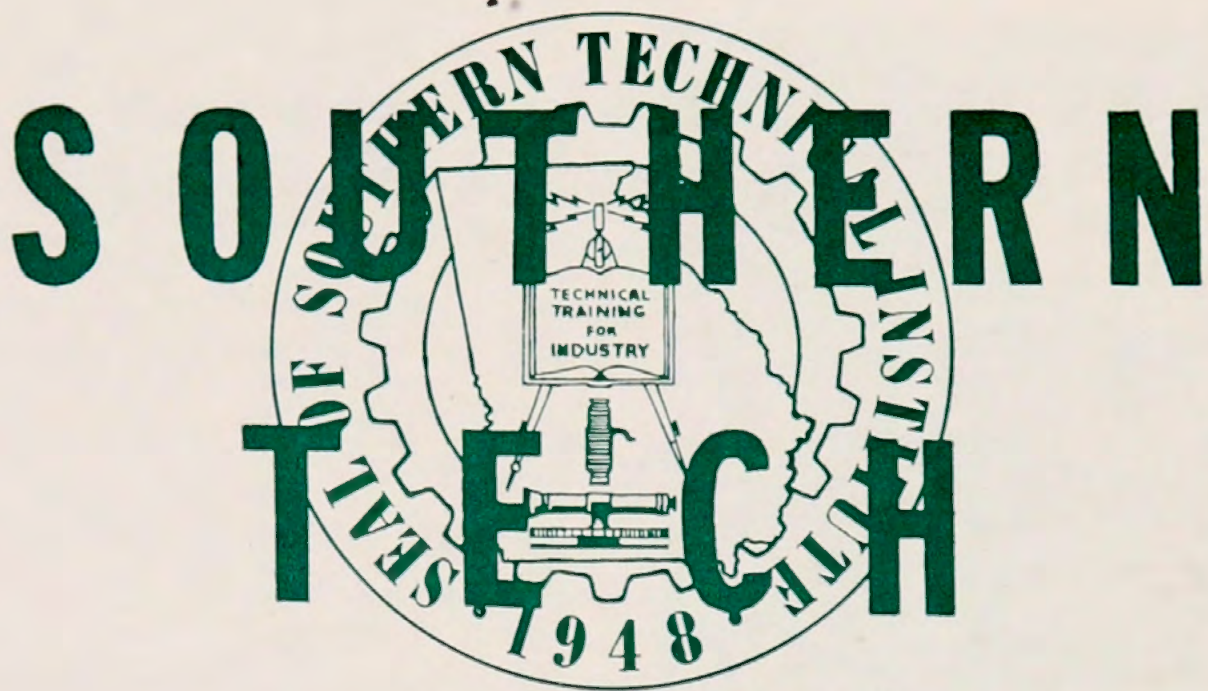
ADMINISTRATION
GEORGIA INSTITUTE
OF
TECHNOLOGY
ATLANTA, GEORGIA



CHERRY L. EMERSON
B.S. in M.E. and E.E.
Vice President



ROGER S. HOWELL
B.S., M.S.
Director
Engineering Extension Division



THE ADMINISTRATIVE COUNCIL

1950-1951

Lawrence V. Johnson, *Director*

John D. Sewell, *Assistant Director*

L. Y. Bryant, *Registrar*

G. L. Carroll, *Head of Humanities Division*

G. L. Crawford, *Head of Technical Division*

C. V. Maddox, *Head of Science Division*

T. E. Greene, *Head of English Department*

ADMINISTRATIVE PERSONNEL

Admissions—John D. Sewell

Attendance—L. Y. Bryant

Dean of Students—C. V. Maddox

Student Placement—R. L. Wilkinson, E. N. Crawford

Student Regulations—T. E. Greene

Athletics—F. J. Johnson, Coach

Secretary to Director—Mrs. Helena Pattillo

Secretary to Assistant Director—Mrs. M. N. Mavity

Financial Secretary—Mrs. Clara Lomax

Secretary, Veterans Affairs—Miss Doris Westbrook

Placement Secretary—Miss Mary Price

SOUTHERN TECHNICAL INSTITUTE ADMINISTRATION



LAWRENCE V. JOHNSON
B.S., M.S.
Director, Southern Technical Institute



JOHN D. SEWELL
A.B.
Assistant Director, Southern Technical Institute



Loy Y. Bryant, A.B., M.A.
Registrar

DIVISION HEADS

George L. Carroll, A.B.
Humanities Division



G. L. Crawford, B.S., M.S.
Technical Division



Cyrus V. Maddox, A.B.
*Science Division
and
Dean of Students*



SOUTHERN
TECHNICAL
INSTITUTE
FACULTY



Clarence A. Arntson, B.S.
Mechanical



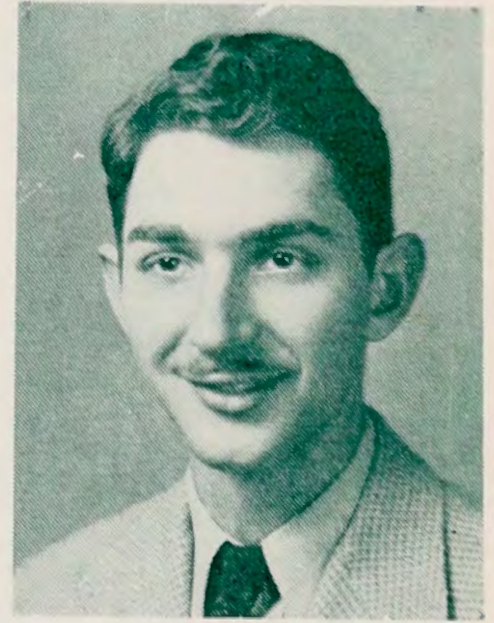
William C. Chamberlain, B.S.
Electrical



Jack Clark, B.S., M.S. in A.E.
Physics



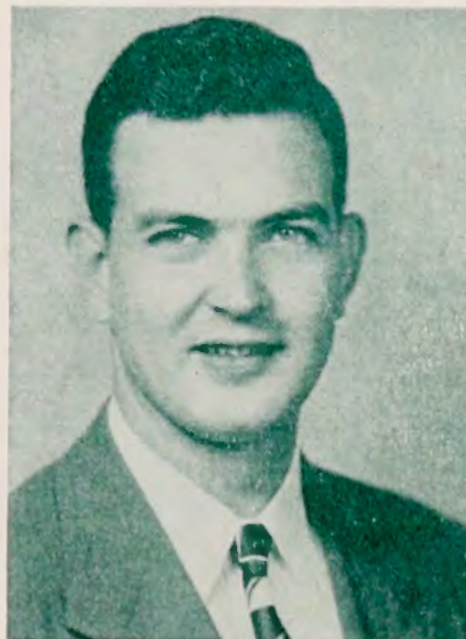
E. N. Crawford, B.S.
Industrial



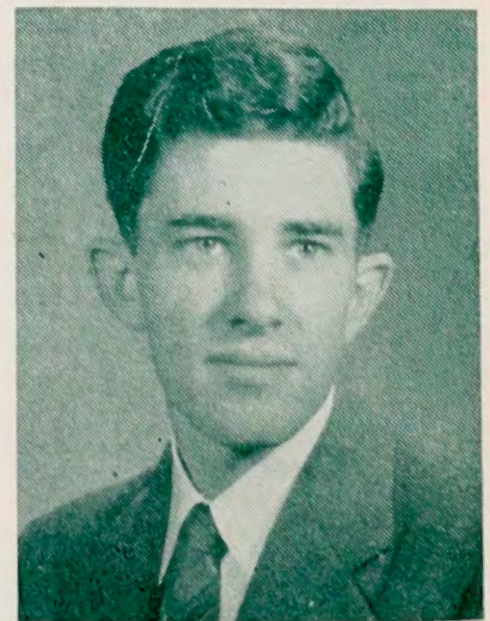
Jesse J. Defore, A.B.
Physics



Terrell E. Greene, B.S., M.A.
English



W. R. Halstead, B.E.E.
Electrical



William M. Hammond, B.E.E.
Electrical



Floyd P. Holder, B.S.E.E.
Electronics



Charles T. Holladay, B.S.G.E.
Civil



Leonard L. Horner, B.S.E.E.
Electrical



Frank J. Johnson, B.S.C.E.
Industrial



Richard G. Klatt, B.S., M.S.
Mechanical



Paul R. Lewis, A.B.
Mathematics



Willis F. Lewis, M.E.
Mechanical



Joseph E. Lockwood, B.S., M.A.
Woodshop



Ferrin Y. Matthews, B.S.
Mechanical



Edward J. Muller, B.S.
Drafting and Mechanical



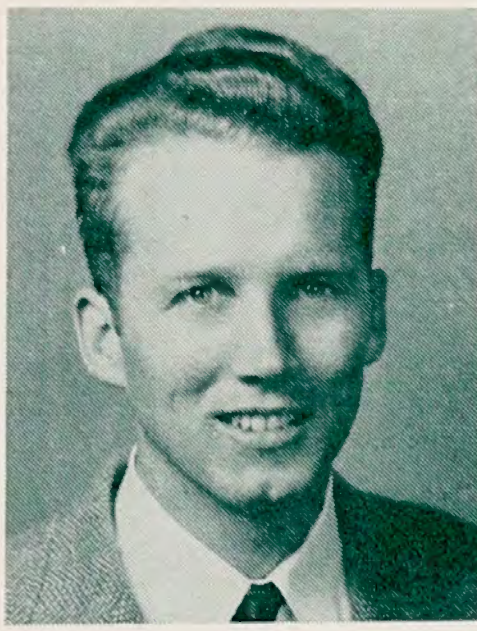
J. A. Nattress, B.S., M.S.
Industrial



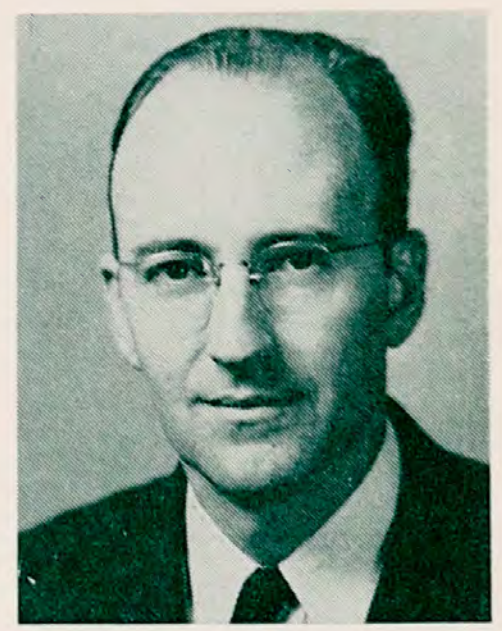
C. R. Orvold, B.S.
Construction



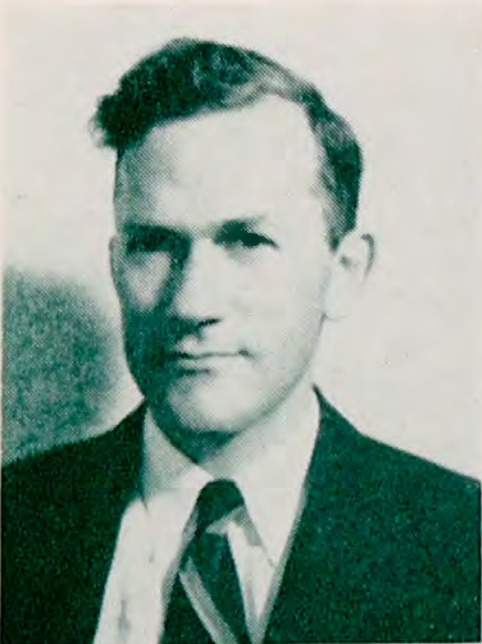
Douglas H. Slicer, B.A., M.A.
English



Frank A. Stovall, B.S., M.S.
Electronics



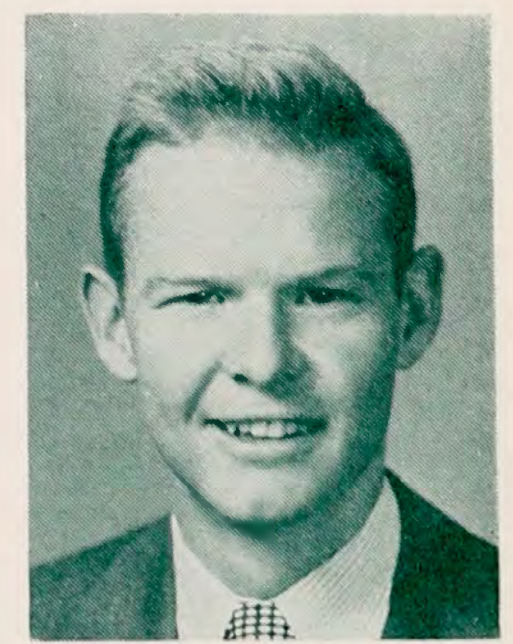
Charles E. Taylor, B.S.
Physics



Leonard H. Taylor, B.S.M.E.
Heating and Air-Conditioning



Wilton W. Vaughn, B.S., B.Arch.
Construction



Ray L. Wilkinson, A.B.
Mathematics

GENERAL INFORMATION

The Board of Regents of the University System of Georgia has established a new type of educational program designed to train technicians to supply the industrial needs of Georgia. Careful surveys and information received from the Associated Industries of Georgia reveal that this type of training is urgently needed to assist the industrial development of our state. This new type of program was begun at Chamblee, Georgia, on March 24, 1948. This school is a permanent, full-time, two-year college under the supervision and control of the Georgia Institute of Technology through its Engineering Extension Division.

THE NEED

In the past decade industry has moved South at a constantly increasing rate, changing this traditionally agricultural region into a modern industrial area. Industry itself has been changing—becoming more mechanized, demanding of its workers less physical labor and more skill and technical know-how.

To meet the needs of this industrial South there is a growing demand for the skilled technician who stands midway between a high school diploma and a college degree. The technician will have a knowledge of mathematics, physics, English, mechanical drawing and electricity, and will understand the operation of machines and instruments required in modern industry.

A large percentage of our high-school graduates desire to enter the industrial field but have been unable to find an educational program suitable to their needs, other than in professional engineering schools. Many are unable or unwilling to spend the time and money required for an engineering degree and go directly into industry ill-prepared to take advantage of its opportunities.

TECHNICAL OCCUPATION

A Technical Occupation requires skillful application of a high degree of specialized knowledge together with a broad understanding of operational procedures; involves the frequent application of personal judgment; usually deals with a variety of situations; and often requires supervision of the work of others. It offers the opportunity for the worker to develop an ever-increasing personal control over the application of his knowledge to his work and usually requires fewer motor skills than a trade or skilled occupation and less generalized knowledge than a profession.

A Technical Institute offers an opportunity for those men who are not particularly interested in engineering research but who are interested in applied engineering. The Technician serves on the job in building the factories, dams, and bridges, or in operating the factories and power plants, or in sales, services, and contracting of all kinds.

The Technician is trained to take the plans of the engineer and by the coordination of men, materials, and machines produce the finished product. To accomplish this he will require a knowledge of basic engineering principles, specialized technical know-how in his field of work, industrial economics, and personnel management.

PLACE AND FUNCTION OF A TECHNICAL INSTITUTE

A technical institute operates in one of the most important areas of education. As defined by the Technical Institute Committee of Engineers' Council for Professional Development:

"Technical institute programs are intermediate between the high school and vocational school on one hand and the engineering college on the other . . . The purpose is to prepare individuals for positions auxiliary to but not in the field of professional engineering. Curricula are essentially technological in nature, based upon principles of science, require the use of mathematics beyond high school and emphasize rational processes rather than rules of practice. Curricula are briefer, more intensive, and more specific in purpose than collegiate engineering curricula, though they lie in the same general fields of industry and engineering. Their aim is to prepare individuals for specific technical positions or lines of activity rather than for broad sectors of engineering practice. Training for artisanship is not included within the scope of education of technical institute type."

In the April, 1944, report of the Subcommittee on Technical Institutes of Engineers' Council for Professional Development, it is stated:

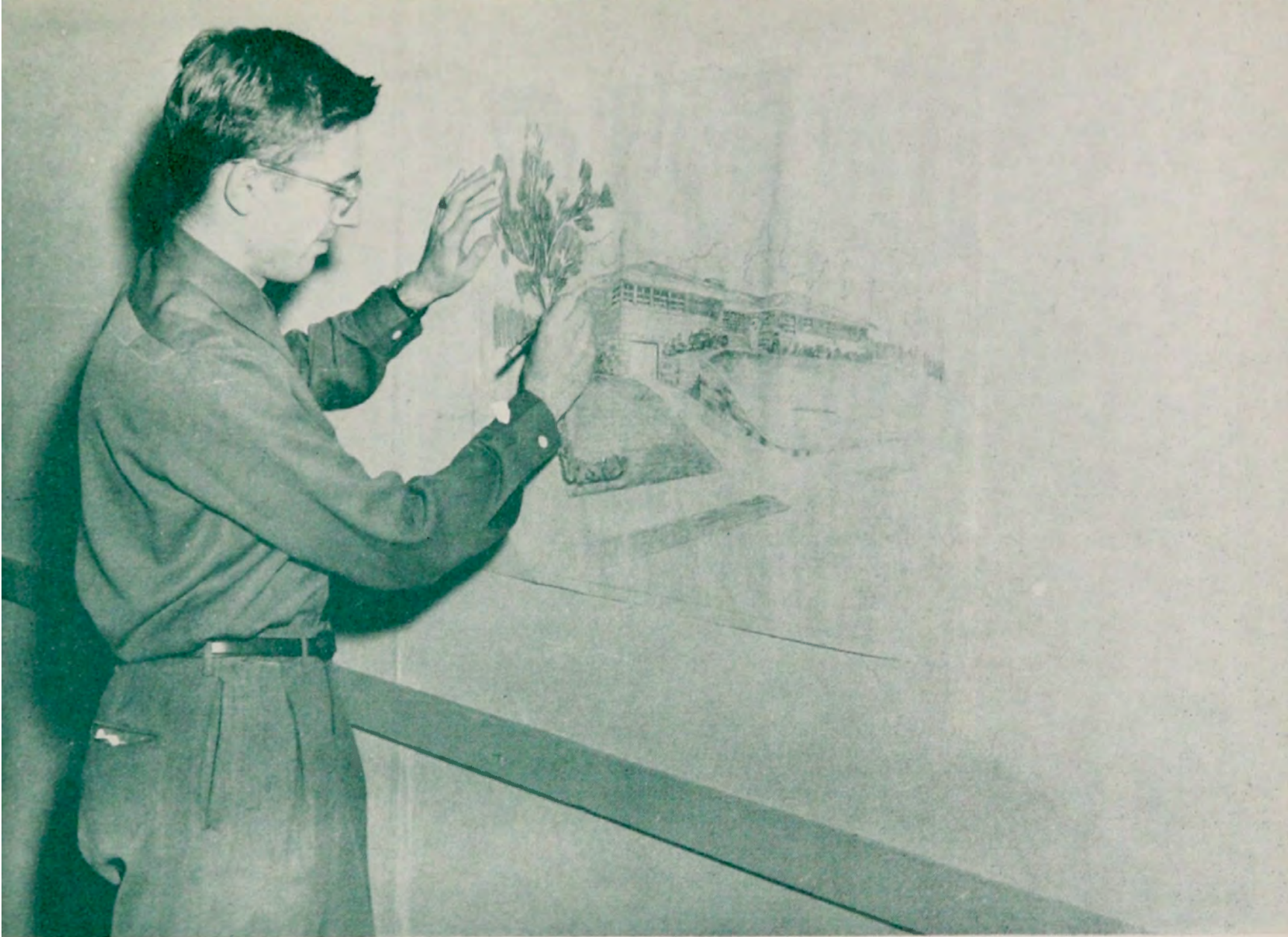
"A number of independent studies of technical institute education have disclosed that industry needs and can advantageously employ at least three times as many technical institute graduates as they can four-year engineering college graduates. Since the output of the technical institutes falls short of this number and the needs of industries must be served, many engineering graduates are employed for positions requiring less extensive and less fundamental training than that provided by the degree conferring college. This is a waste both of educational facilities and of young people."

Southern Technical Institute offers terminal courses of 18 months that prepare its graduates for immediate gainful employment in positions supplementary to those of professional engineering. Many of its graduates entering industry as technicians or engineering aides and after acquiring experience and with further part-time study, reach full engineering positions.

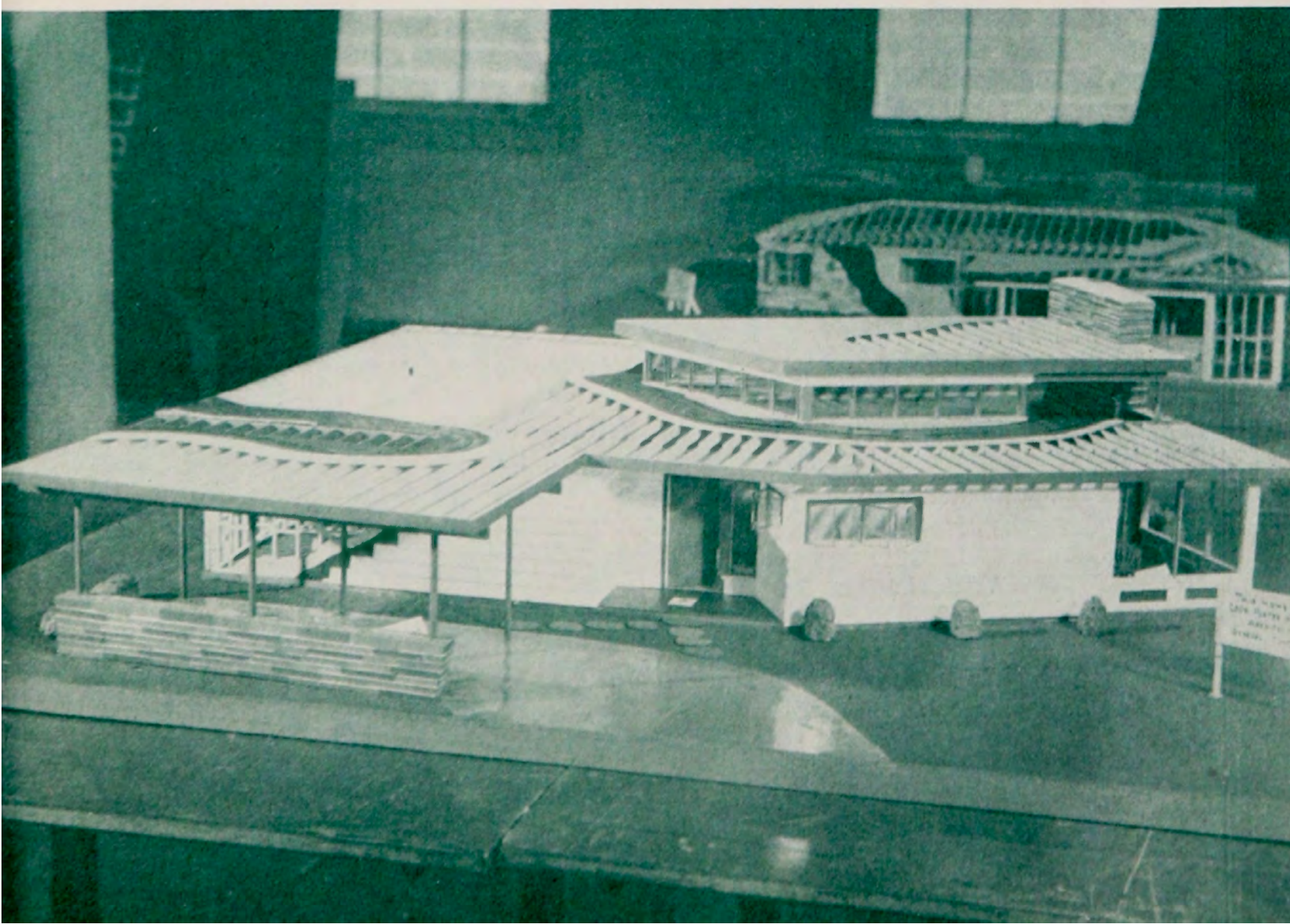
The courses are designed to train men for specific duties in specialized fields of engineering. Each course consists of a selection and arrangement of subjects to accomplish this purpose. Changes and substitutions, other than electives, cannot be permitted.

Because of this, the subjects may not fit into the study programs of other colleges or universities; and consequently no guarantee can be given that credits earned here may be accepted elsewhere. In fact, many institutions now grant advanced standing to a student only upon ability as shown by written examination.

It is not the desire of the College that a student repeat a subject with which he is already familiar, and proper credit will be given for work completed satisfactorily elsewhere. Each student's previous training and experience are considered in arranging his training program.



Southern Tech offers study and design and theory and practical application.



VETERANS PROGRAM

Congress has passed two bills and amendments which specifically affect college training of the discharged service man. One of these bills (Public Law 16), as amended, provides for the rehabilitation and training of disabled veterans. The subsistence allowance under this bill is \$105 per month for a single man, \$115 for a man with a dependent, plus \$10 for the first child, \$7 for each additional child, and \$10 for a dependent parent. Veterans who seek the benefits of this bill must apply directly to the nearest Veterans Administration Office. The other bill (Public Law 346), as amended, is the so-called "G.I. Bill of Rights," which basically provides that any veteran who can meet certain requirements may receive a minimum of one year's training at government expense. In addition to paying the cost of tuition, books and supplies, the government will make a monthly allowance for subsistence of \$75; if the veteran is married the allowance is \$105 or \$120 if more than one dependent. For veterans who have been in the service for more than three months, the minimum training of one year may be extended by as many months as the veteran has served, up to a maximum of 48 months of training. Any veteran, regardless of age, who has served ninety days or more in any branch of the services exclusive of the Army and Navy College Training Programs and who has received an honorable discharge is automatically eligible for the school or college program.

VETERAN STUDENTS should have sufficient funds to sustain themselves for two months in order to provide for any delay which may be experienced in receiving their first subsistence checks from the Veterans Administration.

OUT-OF-STATE STUDENTS should write or wire to the VA Regional Office which has their files and request that their files be transferred immediately to the VA Regional Office in Atlanta, Georgia. Include your Georgia address in this letter or wire.

YOUR ATLANTA ADDRESS must be given to the Registrar upon registration. This will prevent an unnecessary delay in the receipt of your first subsistence check.

VETERANS desiring admission to the Southern Technical Institute may receive additional information by writing or calling the Southern Technical Institute (CH. 4418), Chamblee, Georgia. There is always someone at Southern Tech to advise veterans.

THE VETERANS ADMINISTRATION is also represented on the campus at the Georgia Institute of Technology by training officers, contact officers, and a guidance center.

Veterans training under Public Law 346 will be assisted by the training officer in Room 204, Knowles Building. Veterans training under Public Law 16 will be assisted by the training officer in the VA Guidance Center. Veterans training under Public Law 16 are required to report to the training officer at the Guidance Center each quarter.

A contact officer at the Guidance Center will answer questions regarding pensions, National Service Life Insurance, and loans.

The Guidance Center at the Georgia Institute of Technology is located on Ponce de Leon near the corner of Ponce de Leon and Cherry Street.



Shop application and laboratory experiment comprise one-fifth of the credit a student receives at Southern Technical Institute.



TUITION AND FEES

	Matriculation fee per quarter	Tuition fee per quarter	Medical fee per quarter	Student Activity fee per quarter	Total fees per quarter	Total fees per academic year
Residents of Georgia.....	\$81.50	\$3.50	\$5.00	\$ 90.00	\$270.00
Non-residents of Georgia	81.50	\$75.00	3.50	5.00	165.00	495.00

SUMMARY OF EXPENSES

(Estimated for Academic Year)
Regular Students (3 quarters or 9 months)
Cooperative Students (2 quarters or 6 months)

	Resident of Georgia	Cooperative Resident Student Two Quarters	Non-Resident of Georgia
Matriculation, tuition, and other fees.....	\$270.00	\$180.00	\$ 495.00
Board, room, and laundry.....	550.00	366.00	550.00
Books and equipment	80.00	54.00	80.00
	\$900.00	\$600.00	\$1,125.00

In order to provide boarding students of Southern Technical Institute with the best quality food at the lowest possible price, board and room is sold only as a unit. For the academic quarter the cost is \$143.00, which includes a dormitory room and three meals a day except Sundays. This cost may be paid in monthly installments and may vary slightly according to the cost of food.

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

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 only and by Faculty action. A fee of \$2.00 will be charged in all such cases.

BOOKS AND SUPPLIES

The student should set aside \$20.00 to \$25.00 a quarter for books, notebooks, pencils, and other incidentals.

LATE REGISTRATION

Effective beginning the fall quarter, 1949, a late registration fee of \$2.00 for the first day and \$1.00 for each additional day, not to exceed \$5.00, will be charged. Exceptions to above will be made for proved emergencies or for sicknesses certified by doctor's statements.

REFUND OF FEES

Refunds of tuition and other educational fees may be made only upon written application for withdrawal. Student activity and medical fees are not refundable.

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.

NOTE: (a) Matriculation, tuition, student activity, and medical fees of veterans enrolled under PL 16 and PL 346 are paid by the Veterans Administration in accordance with the terms of those laws.

(b) An extra fee may be charged in special courses.

(c) A deposit of ten dollars (\$10) is required of each accepted applicant for admission as evidence of good faith within two weeks after the Certificate of Acceptance has been issued. After enrollment this deposit will be credited to the student's fee account. A veteran enrollee may submit his Certificate of Eligibility rather than make the ten dollars deposit. An accepted applicant who has deposited ten dollars and decides not to enter may receive a refund by application to the Assistant Director not later than the opening date of the term for which the applicant has been accepted.

Refund of Room and Board Charges

Refunds on room and board charges will be made only if the student formally withdraws from school and only in accordance with the above schedule for refund of fees.

Students who are expelled from school will receive no refunds of their fees, or of room and board.

Entrance

Requirement for entrance: Graduation from an accredited high school, or the equivalent.

Graduation

A minimum of 114 hours is required for graduation in all courses. A student may take fewer hours of electives than shown in the catalogue provided the final total is 114 or more hours with an average not less than "C."

PLACEMENT SERVICE

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

This service is in the form of 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.

The placement staff consists of a part-time secretary and two regular faculty members. Their services are available at regularly scheduled hours.

ADVISORY COUNSELOR

All students registered or enrolled at Southern Technical Institute will have the opportunity of consulting with a competent advisor about any problems which may arise. Specialists of Southern Technical Institute act as advisors in their particular fields.

LIBRARY

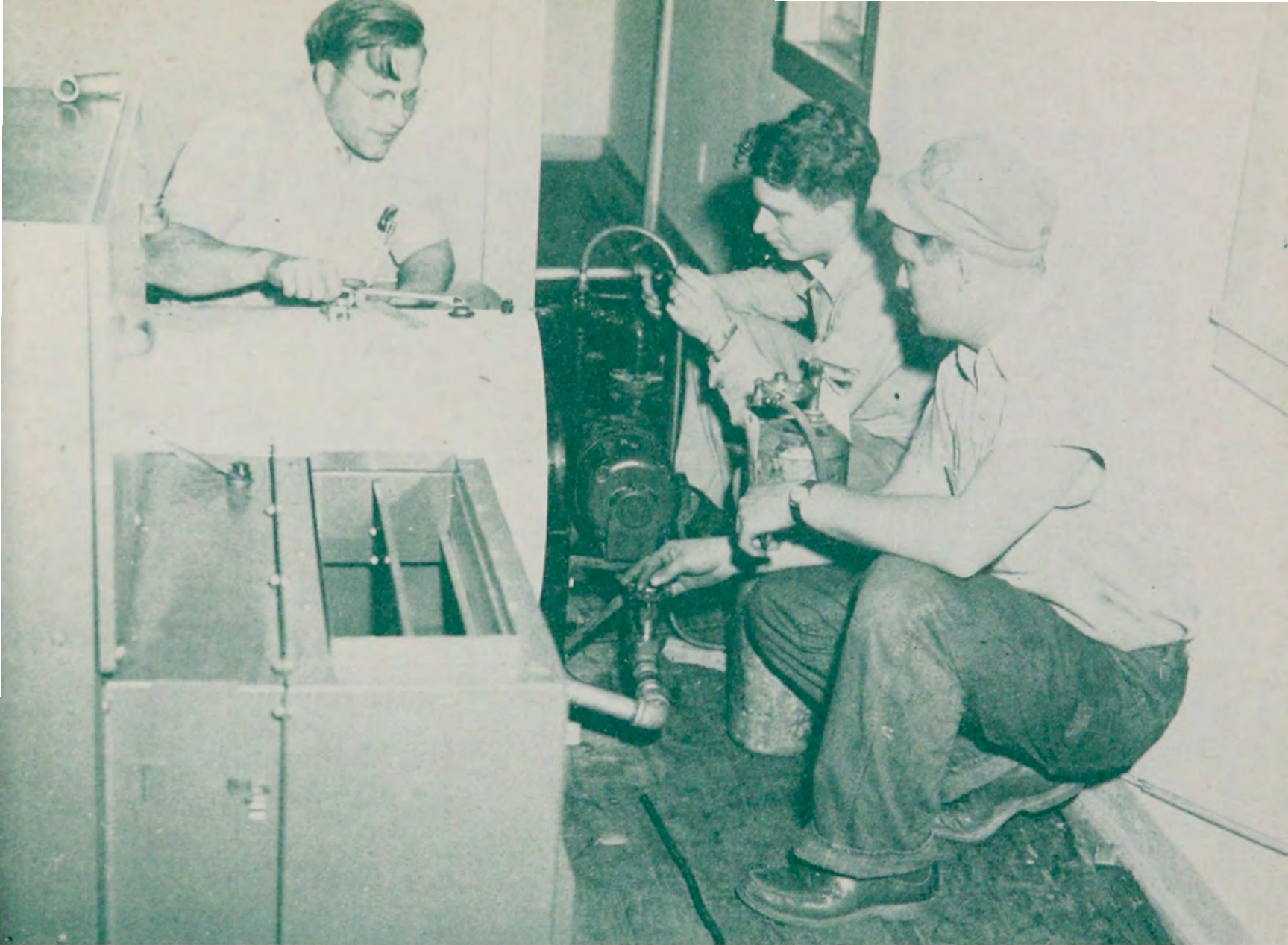
The library has a small but choice selection of fiction, biography, and other non-fiction, technical reference books, and general reference books. Newspapers, good popular magazines, and technical magazines are also provided.

ON THE CAMPUS FACILITIES

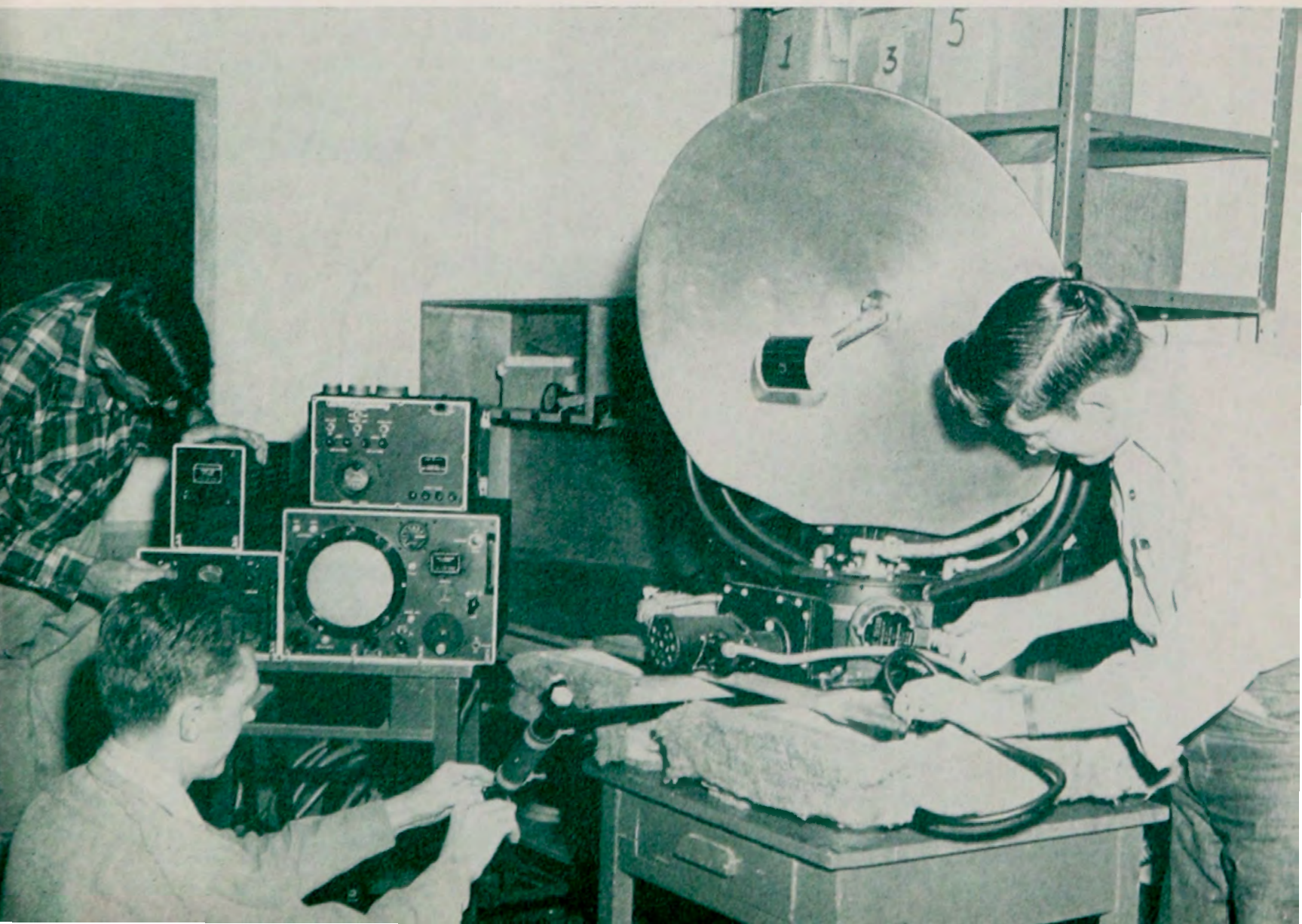
The administration of Southern Technical Institute wishes to make available the best service possible in order that all students may have the advantage of a profitable course of instruction, and also enjoy the time spent in college. Campus facilities include a Post Office, Book Store, Library, a well-staffed-and-equipped Dining Hall and Snack Bar, and two fine Dormitories. Regular city transportation service joins our campus with any part of Atlanta. Other accommodations and conveniences are being provided to meet the needs of our constantly increasing student body.

ROOM FURNISHINGS

Each dormitory is furnished with single Hollywood type beds with innerspring mattress, dresser, study table, chairs, locked closets and a small locker space for luggage. The student will have to provide bed linen, blankets, towels and any other personal items that he may desire. Dormitory lights are of the ceiling type.



Shop training supplements all courses of study.



LEGAL RESIDENCE

"To qualify for Georgia tuition the student's parents must be legal and actual residents of Georgia" together with Section 32 of the Acts of the Georgia Legislature of 1912 as follows: (Georgia Code of 1933, Section 32-103, note reference to the Act 1912)

"BE IT ENACTED—That the non-resident students of the Georgia Institute of Technology who are required to pay tuition as non-residents, shall be those who reside without the limits of the State at the time when they matriculate in said institution. No student who matriculates as a non-resident shall afterwards be entitled to the benefit of resident tuition simply from the fact that he has elected to make Georgia his domicile. Any such non-resident shall be entitled to the benefits and privileges of the student as to tuition, only when the family, consisting of the parents or guardians of said non-resident student, shall remove to the State of Georgia with the intention of becoming domiciled therein."

Electives

A student may take classes in excess of the number of hours shown in the catalogue per quarter with special permission of his faculty adviser, but not to exceed 21 hours.

Attendance

Any student who is absent from a class without excuse twice as many times as that class meets per week is automatically dropped from this class roll. If he is failing the subject at the time, a grade of "F" is given; if he is passing, there is no grade recorded.

Classes

No classes will be scheduled in the first, second, or third quarters with an enrollment less than twelve. No classes will be scheduled in the fourth, fifth, or sixth quarters with an enrollment less than ten.

Buildings and Equipment

The Southern Technical Institute is located on a one million, five hundred thousand dollar campus at the Atlanta Naval Air Station. Two large buildings formerly used as officers' quarters are now used as student dormitories. Three large buildings house the shops and laboratories and another building serves as the main classroom building, although all buildings contain some classrooms. The Administration building houses all the administration offices, the book store, library, post office, and several classrooms. The Dining Hall and Snack Bar are completely equipped and adequately staffed. The entire area is served by a large, modern power plant.



The Tau Alpha Pi Honorary Society of Southern Technical Institute is composed of students having an average of "B."

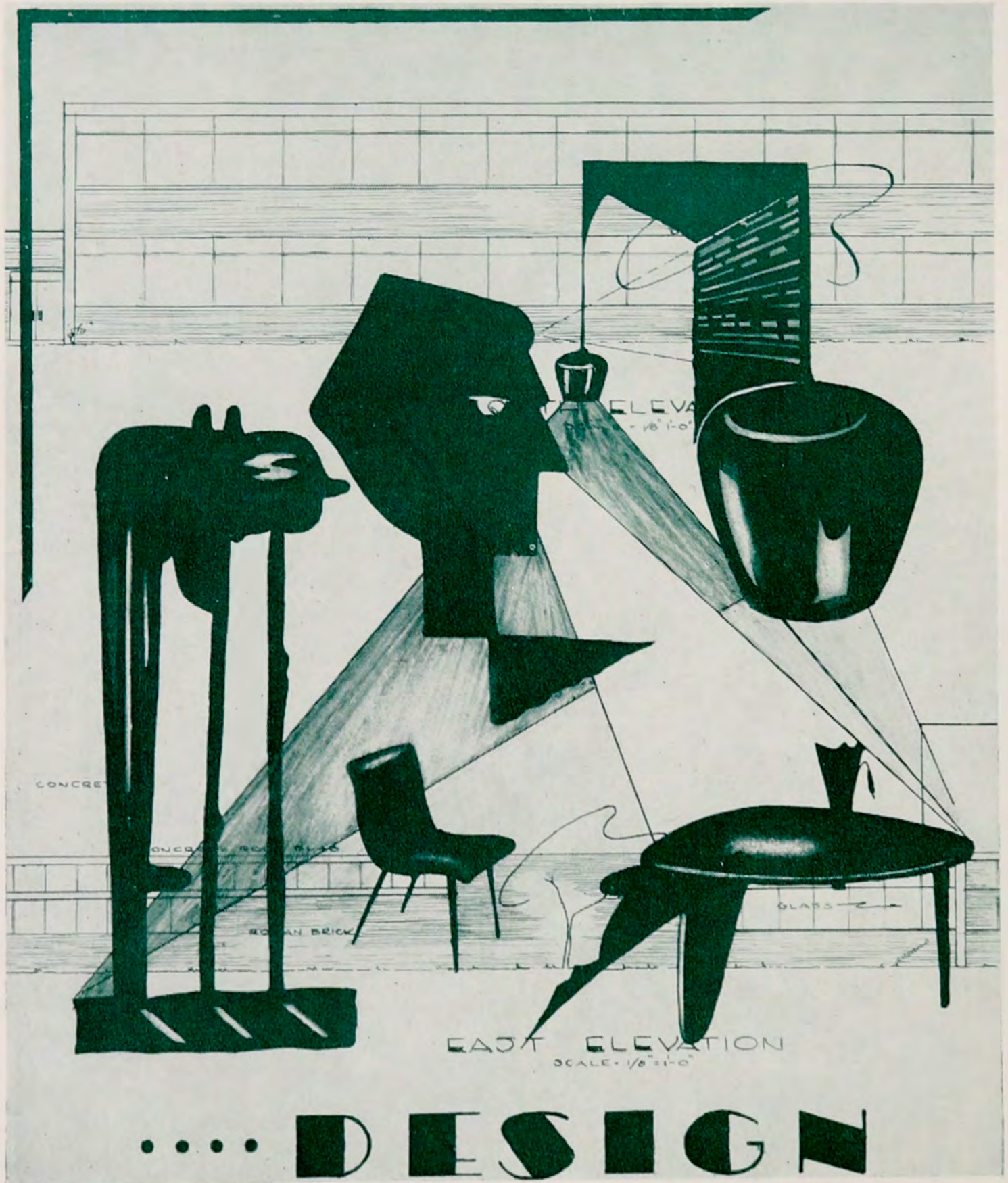
Advanced Standing

Advanced Standing. Students may be admitted with advanced standing

1. By transfer of credits from other technical institutes or colleges or universities.
2. By evaluation of previous work or vocational experience.

The Technical Institute awards a diploma for successful completion of a required course of study. A technician's diploma is awarded to each student who satisfactorily completes the program of study for his chosen field as outlined in this catalogue. With the permission of the assistant director, a student may take extra work when his grades are above average.

A transcript of credits must be submitted not later than end of first week.





Southern Technical Institute Glee Club

Mr. Holladay and Mr. Maddox, Dean of Students, view Southern Tech Trophies



ACTIVITIES

EXTRACURRICULAR ACTIVITIES

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, therefore, an athletic program, a school paper, an annual, social events, and worthwhile student organizations.



PUBLICATIONS

Students who are interested in publications may become members of the staffs of the student newspaper and the yearbook. *The 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.

Staff members who meet the requirements of publications work receive special recognition on Awards Day near the end of the spring quarter, when keys, trophies, letters, and other awards are presented to students who have been outstanding in extracurricular activities.





Monogram Club

ATHLETICS

The athletic program has been developed in two separate phases, intramural and intercollegiate. Intramural competition is between departments and includes touch football, 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 and each student so honored is awarded a gold medal.

Intercollegiate competition is conducted with schedules in varsity and freshman basketball, tennis, golf, cross-country, baseball and track. 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 their sponsorship of the intramural program, where the varsity athletes act as department coaches and game officials for all intramural competitions. The club also presents a dance as a climax to the Awards Day program held the last week-end of every May. Graduating seniors and outstanding high school athletes are the guests of honor at this important event on the social calendar.

The physical plant includes a full-size college basketball court in a 1000-seat gymnasium, tennis courts, football field, baseball and softball diamonds and an outdoor volleyball court. Future plans call for a quarter-mile cinder track around the football field.

The Technician's Log



BARBARA O. HUDSON, *Editor*
WILLIAM B. BERRY, *Associate Editor*
JAMES R. STONER, *Art Editor*

THE COOPERATIVE PLAN AT SOUTHERN TECHNICAL INSTITUTE

The Purpose and Nature of the Plan

The cooperative plan at Southern Technical Institute, to be available initially only in Mechanical Technology, is being organized for two reasons: to provide financial aid for the student and to give the student practical experience in industry. The co-op plan will operate on a program of alternating school and work quarters over a period of thirty-three months. Thus the student will complete six quarters of schooling and five quarters in industry. With the exception of an indoctrination course in the first quarter, the curriculum for the cooperative plan in Mechanical Technology will be identical with that of the regular Mechanical Technology course.

The Supervision

The Director of Cooperative Courses at Georgia Tech will supervise the cooperative plan at Southern Technical Institute. After a student has been admitted to Southern Technical Institute, his application for the cooperative plan will be submitted to the Director of Cooperative Courses at Georgia Tech. Near the end of the first quarter in residence at Southern Tech, those applicants for the cooperative plan who have the approval of the Cooperative Committee at Southern Tech will be personally interviewed by the Director of Cooperative Courses. Only those who have firmly established themselves scholastically at Southern Tech and are physically sound will be selected to alternate their studies with work in industry. The Director of Cooperative Courses will have charge of all matters relative to cooperative students that have to do directly with the industries in which they are working.

The Work-Term Job

While every effort will be made to find satisfactory employment for the student, he cannot be guaranteed a job. Any job obtained by a Co-op on his own initiative must be approved by the Director of Cooperative Courses. Usually, an employer will keep a job available for a Co-op student and his alternate, who takes the job while the student is in school. While on the job, the student will be on his own. This means that he must be responsible for his own board and lodging and for his own finances. Since a considerable savings can be effected if the student can live at home, a student will be placed, where possible, in a job in his home town. In general, a freshman Co-op can expect to earn about \$150 per month during his first work term. This will probably be increased as his skills and knowledge increase.

Regulations and Expenses

In addition to the general regulations for the students of Southern Technical Institute, the Co-op students will be under special regulations which apply during a work term. While they are at work, Co-op students must abide by the same shop regulations as do the regular employees. All questions of wages and changing from one kind of work to another in a shop must be handled by a conference of shop manager and the Director of Cooperative Courses or his representative. Without permission from the Director of Cooperative Courses, no student will

be allowed to seek a position which another Co-op has held; neither will he be allowed to leave or change his job or to change sections. If a student should leave his work without permission from his official employer, he will be immediately dropped from the rolls of Southern Technical Institute. If he gets permission from his employer to leave his job, he must report the same immediately to the Co-op office. The Co-op office will place students with great care and will expect them to remain on their jobs unless urgent and necessary conditions prevent their doing so. At the end of each work term the student's immediate supervisor will be asked to fill out a questionnaire concerning the student's ability to get along with his fellow employees, the quality of his work, etc.

Tuition, fees, and other expenses will be the same for cooperative students per quarter of attendance as for regular students.

Requirements for Applicants

The applicant must meet these requirements:

1. He must have graduated from an accredited high school with a scholastic record which places him in the upper third of his class.
2. He must be physically sound and at least seventeen and near eighteen years of age, since most industries will not employ students who are under eighteen.

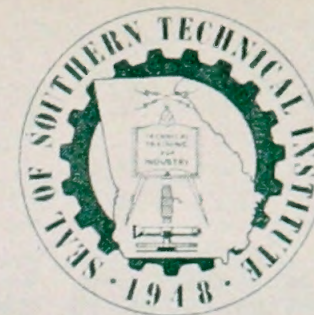
Procedure for Making Application

The applicant must complete the regular application form for admission to S. T. I., which will be furnished him on request. At the head of the application form he must write plainly "Cooperative Plan Desired."



THE

Technician



A Unit of Georgia Tech

Vol. 2.

Chamblee, Georgia, September, 1949

No. 1



PARTICIPANTS IN INSTITUTE'S FIRST GRADUATION

STI Holds First Graduation September 6 For 55 Students

Mr. Kirk Sutlive, of AIG, Is Speaker;
Air Station Theater Scene of Exercises

By JAMES F. MORISON

Commencement exercises for the forty-eight September graduates of the Southern Technical Institute and also for the seven June graduates will be held at 11:00 o'clock on the morning of September 6 at

the Atlanta Naval Air Station Theater.

The commencement address will be delivered by Mr. Kirk Sutlive, of Savannah, President of the Associated Industries of Georgia. As we all know, the Association is one of the most interested sponsors of the Southern Technical Institute, and the selection of its distinguished president to deliver the Commencement address is quite fitting and proper.

Mr. Sutlive will be introduced by Colonel Blake R. Van Leer, President of the Georgia Institute of Technology, which institution, as we also know, is the parent of Southern Tech.

Chancellor Delivers Diplomas

Presentation of diplomas to the members of the graduating class will be made by the esteemed Dr. W. Caldwell, Chancellor of the University of Regents of the University of Georgia.

Recognition will be given by the pastor of the Peachtree Baptist Church, and the program will be available to other members of the Institute.

STI Expects 450 Students For Fall Opening, Sept. 26

The Southern Technical Institute expects to enroll for the fall quarter, which begins September 26, the largest student body in its history. From 425 to 450 students are anticipated, over 125 of whom have never been in attendance at the Institute before.

At least three new students will be added. One of these is L. Slicer, former student of the University of North Carolina, who has been employed by the Institute and Mr. Slicer will be a part of the new class. There will be several other new students of whom we will hear more in the future.

When Southern Technical Institute began its seventh year, there was a total of 413 students. The school opened its doors to 413 new students on September 26.

Southern Technical Institute Opens Fall Quarter For 450 New Students

Hudson Named Log Editor; McGarr, Business Manager

Upon the recommendations made by staff members early in July by the Activities Committee, Miss Barbara Hudson became editor of the 1950 Technicians' Log and John

At a meeting held July 26 in the Conference Room, Eugene D. McGarr was elected Business Manager. Eugene D. McGarr was elected Business Manager.

Paper Welcomes New Students

On behalf of the students and faculty of the Southern Technical Institute, The Technician extends a warm and hearty welcome to the students entering this quarter. We hope that for a day or two

Co-ordinator

Chosen

Course Becomes Part of Curriculum In Fall

to find your way... begin to enjoy school. There will be... you pride yourselves... The South is a new type... for technical jobs... will find that our... est and hard-work... tunities offered them.

Mr. Sewell Makes Interesting Trip

Mr. John D. Sewell, Assistant Director of Southern Technical Institute, has just returned from a three-weeks' study of and visits to other technical institutes in the United States and Canada.

The major portion of his time was spent at Cornell University in conference with educational leaders who have spent a number of years in the study of technical institute. Much valuable information was received from Dr. Lynn Emerson who has just completed a trip of 12,500 miles, during which time he visited 185 schools, most of which were of a technical institute type. Southern Technical Institute was one of the schools visited, and Mr. Emerson compared the school most favorably with other technical institutes visited.

Mr. Sewell had the opportunity to talk at length with Dr. Holderman, from Penn State College, who is a leader in the technical institute movement. Dr. Holderman gave a lecture to the Vocational, Industrial and Technical Association in which he pointed out the importance and necessity of the technical (Continued on Page 3)

Examiners Visit STI September 21

An examining committee of four outstanding authorities on technical institutes will visit the campus of Southern Technical Institute on September 21 for a thorough study of the plant, office, and equipment.

Bureau's Hard Work Results in Good Jobs for Students

The December graduates of STI recommendation letters have been sent to the Bureau of Industrial Arts and Crafts, Washington, D. C. in order that they may receive the art work.

In Good Jobs for Students

The December graduates of the Institute are reminded of the fact that 25 cents will be paid for each ordinary snapshot and 50 cents for each flashbulb shot, and are again requested to help produce a good 1950 Technician's Log.

Progress Being Made In Development of Technology Course at STI

Members of the committee are aided greatly in the planning of the new Hightower Building at Georgia Tech, has surveyed the building and is advising on the layout of STI's textile laboratories. Despite the fact that this new technology course is not in the new 1949-1950 catalogue requests have been received for the course and it is prominent of the most popular at Southern Tech. No definite date can be set for the beginning of the course; however, it is hoped that it will be possible to start the first quarter's work in March, 1950. The actual date depends upon how fast the necessary laboratory equipment can be secured.

Editorial Staff

Miss Hudson, fourth-quarter Building Construction student of Atlanta, served as Associate Editor of the 1949 yearbook. Mr. McGary, of Phenix City, Ala., is a fifth-quarter Mechanical Technology student and is new to the staff this year.

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Institute With 413 Group Enrolled

of there living and undoubted success will be made available those concerned.

Gas Fuel Technology

Gas Fuel Technology will be offered for the first time, provided the minimum of 35 students necessary to assure success in the course is met. This new study is designed to prepare men to enter the fuel field.

Service Work

As soon as possible, the Textile Institute will be operating service work for seven months.

October 1st

The calendar for the month of October follows:

September 21st
September 22nd
October 1st

W. E. RANKIN, President
W. H. WATSON, Vice-President
J. B. FRANKLIN, Sec. - Treasurer

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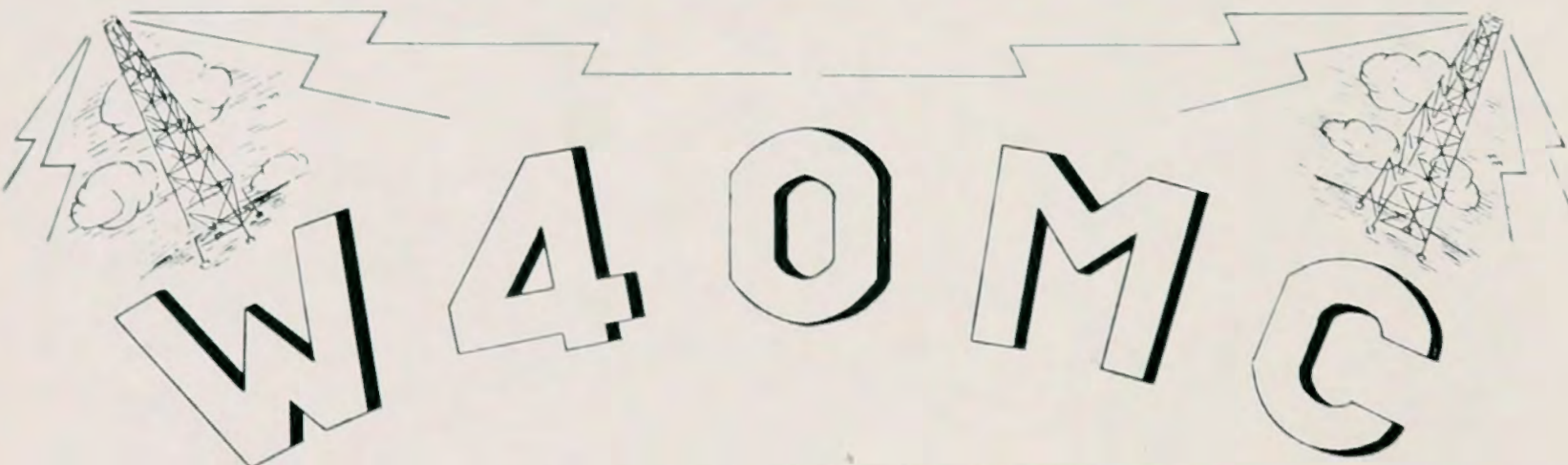
SOUTHERN TECHNICAL INSTITUTE COURSES

Building Construction Technology
Civil Technology
Electrical Technology
Electronic and Radio Technology
Heating and Air Conditioning Technology
Industrial Technology
Mechanical Technology

Curricula and Course Content

The curricula of the various courses are listed on the following pages. A description of each subject may be found following the Mechanical Technology course, listed in alphabetical order as to general subject and classified in numerical order under the general subject head.

The numbers following the subjects may be explained by the following example. T. Phys. 12 (Elec.) 5—3—6 indicates a first quarter subject in Technical Physics meeting five hours per week in class and three hours per week in the laboratory or problem section, making a total of six quarter hours per week scheduled to the subject.



W4OMC

SOUTHERN TECHNICAL INSTITUTE



RADIO



CLUB



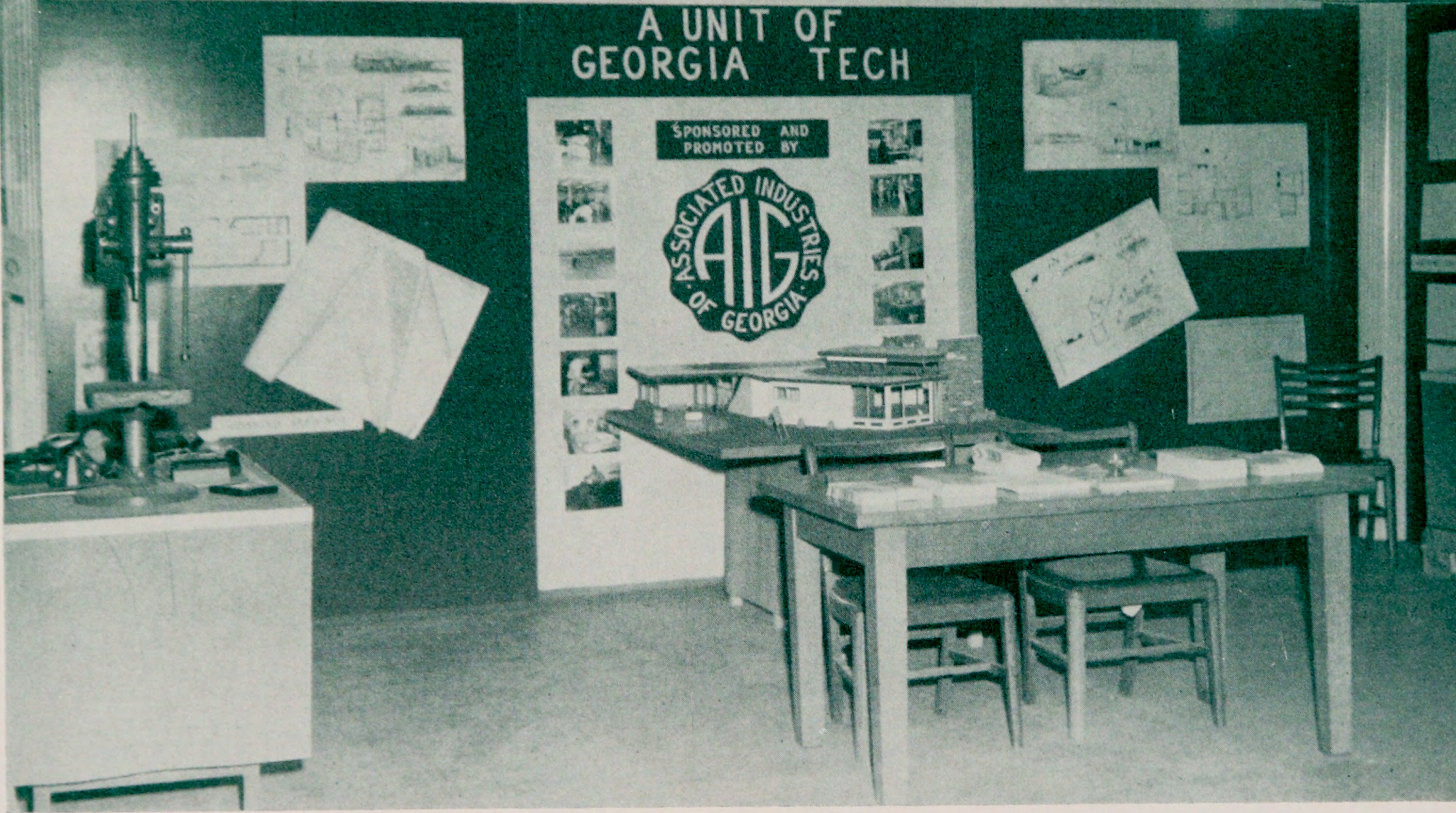
CHAMBLEE, GEORGIA

QSL Card of W4OMC

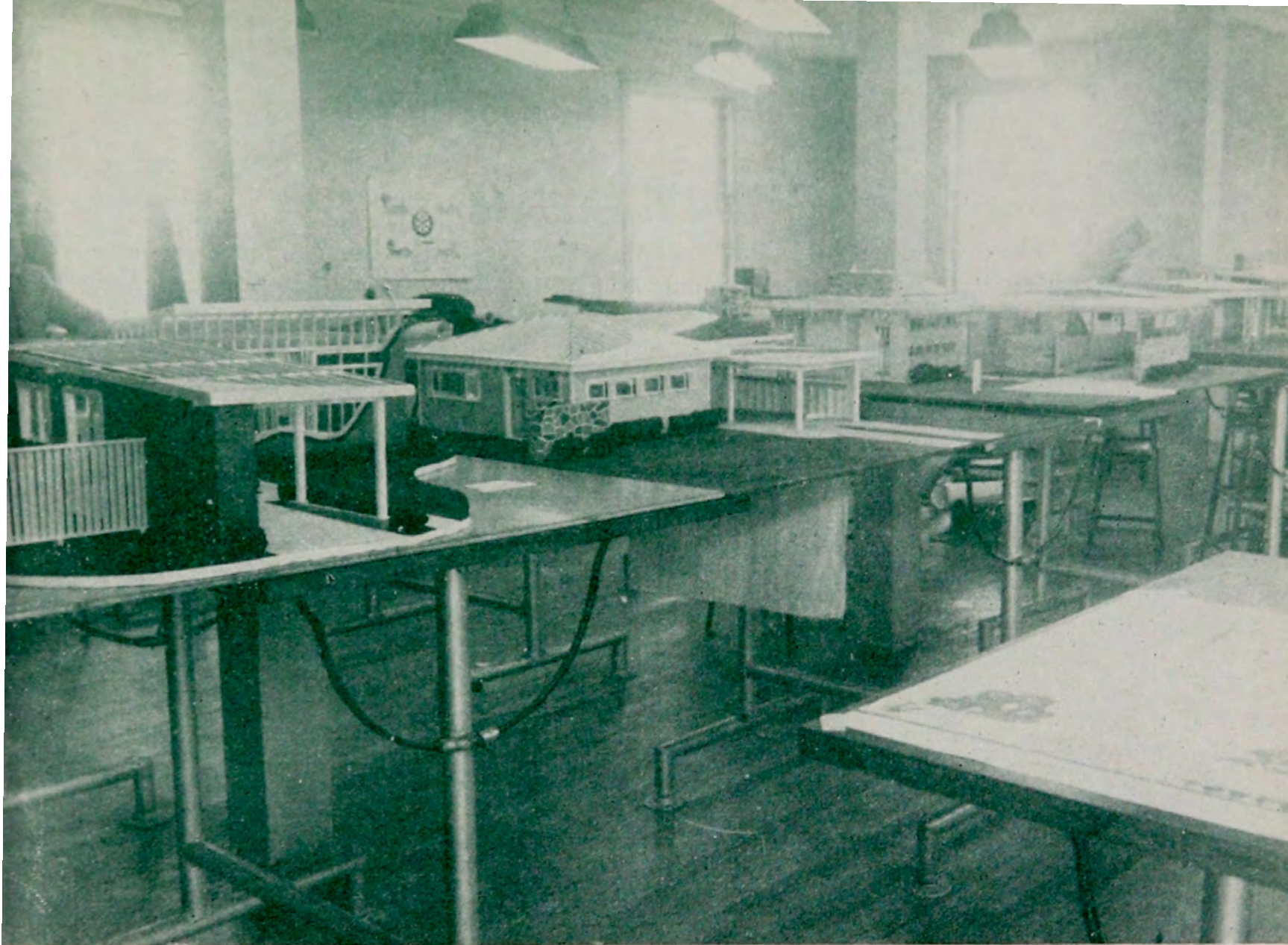
W4OMC is the call of the 500-watt radio station operated by the Southern Technical Institute Radio Club. Membership in this club is open to all students of the Southern Technical Institute.

SOUTHERN TECHNICAL INSTITUTE

A UNIT OF
GEORGIA TECH



Prize-winning Exhibit at Southeastern Fair.



Building Construction Technology offers a complete study of that field and includes planning, design, estimating, blueprinting, and modeling.



CIVIL TECHNOLOGY

The general field of Civil Technology is one of the broadest of the technological curricula. It includes many fields which, although not directly Civil Technology subjects, require a knowledge of Civil Technology and the principles of this subject. The civil 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 the position with a minimum of supervision.

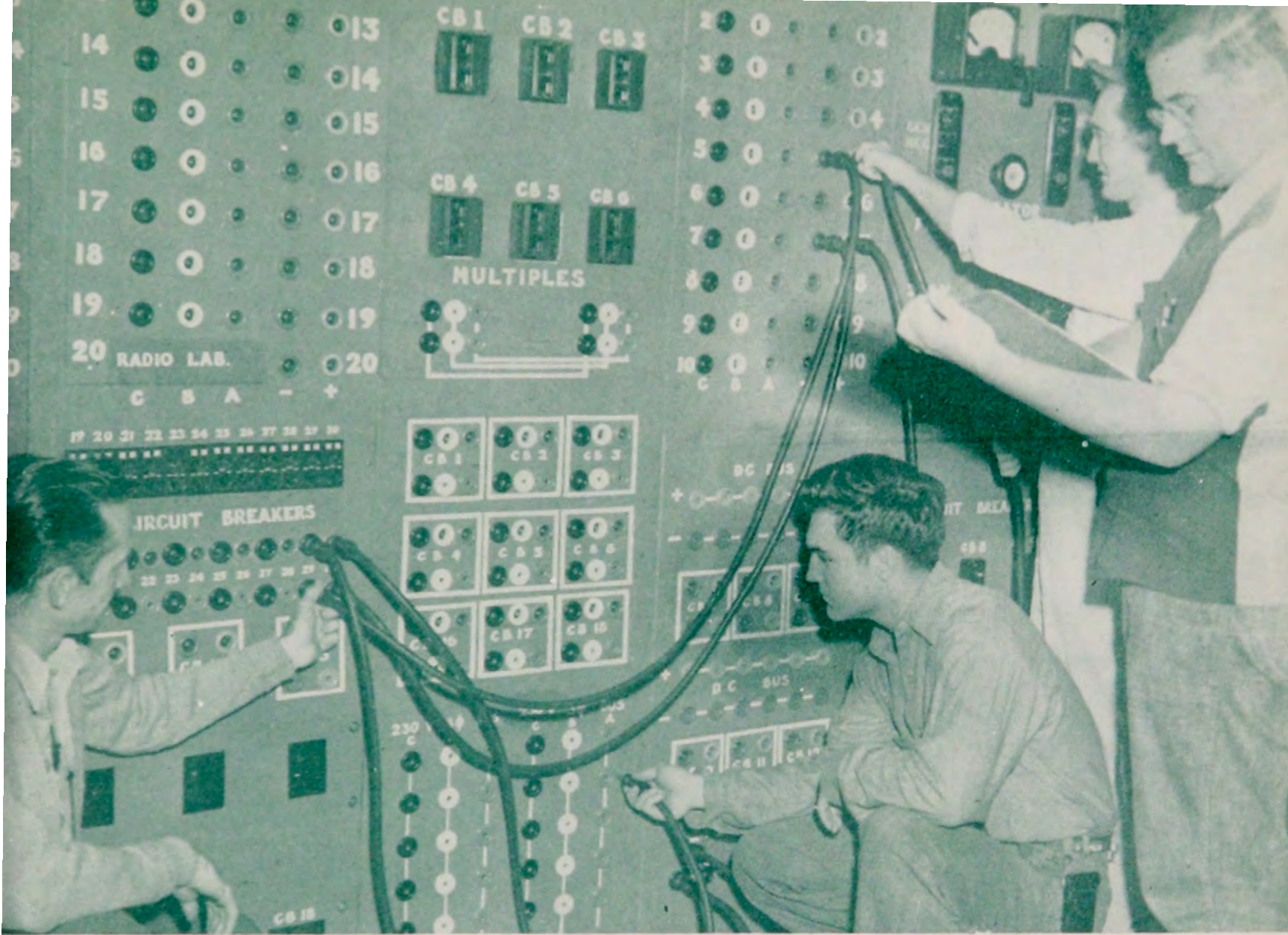
A more complete description of each subject is given in the back of this catalogue.

C L T: Class hours Laboratory hours Total quarter hours					
First Quarter			Second Quarter		
	C L T			C L T	
T. Dr. 11 (Tech. Draw.)	0—6—2		Civil T. 21 (Graphic Statics)	0—3—1	
T. Eng. 11 (Comp. and Rhet.)	5—0—3		Civil T. 32 (Elementary Surv.)	3—9—6	
T. Math. 11 (Algebra)	5—3—6		T. Eng. 21 (Comp. and Rhet.)	3—0—3	
T. Phys. 12 (Electricity)	5—3—6		T. Math. 21 (Trig. Analyt.)	5—0—5	
	—————		T. Phys. 22 (Mechanics)	5—3—6	
Total	15—12—17		Total	16—15—21	
Third Quarter			Fourth Quarter		
	C L T			C L T	
Arch. T. 33 (Bldg. Materials)	3—0—3		Civil T. 45 (Hydraulics)	5—0—5	
Civil T. 41 (Route Surv.)	3—6—5		Civil T. 51 (Top. & Cont. Sur.)	2—6—4	
Civil T. 43 (Topo. Draw.)	1—3—2		Civil T. 64 (Constr. Methods)	3—3—4	
T. Eng. 52 (Tech. Speaking)	2—0—2		Ind. T. 12 (Human Rel.)	3—0—3	
Mech. T. 36 (Applied Mech.)	3—0—3		Mech. T. 51 (Strength of Mat.)	3—3—4	
T. Phys. 32 (Ht., Sound, Light)	3—3—4			—————	
Total	15—12—19		Total	16—12—20	
Fifth Quarter			Sixth Quarter		
	C L T			C L T	
Arch. T. 52 (Wd., Stl. Constr.)	3—6—5		Arch. T. 62 (Concrete Constr.)	3—6—5	
Arch. T. 54 (Bldg. Equip.)	3—3—4		Civil T. 42 (Highways)	3—0—3	
Arch. T. 55 (Cost, Estimates)	3—3—4		Civil T. 44 (W. & S. Plt. Op.)	3—0—3	
Civil T. 62 (Land Surv.)	3—6—5		T. Eng. 62 (Tech. Writing)	2—0—2	
Ind. T. 51 (Contracts & Spec.)	3—0—3		Ind. T. 67 (Seminar)	1—0—1	
	—————		Ind. T. 68 (Small Bus. Mgt.)	2—3—3	
Total	15—18—21		Total	14—9—17	
			Plus electives not to exceed 4 hours.		

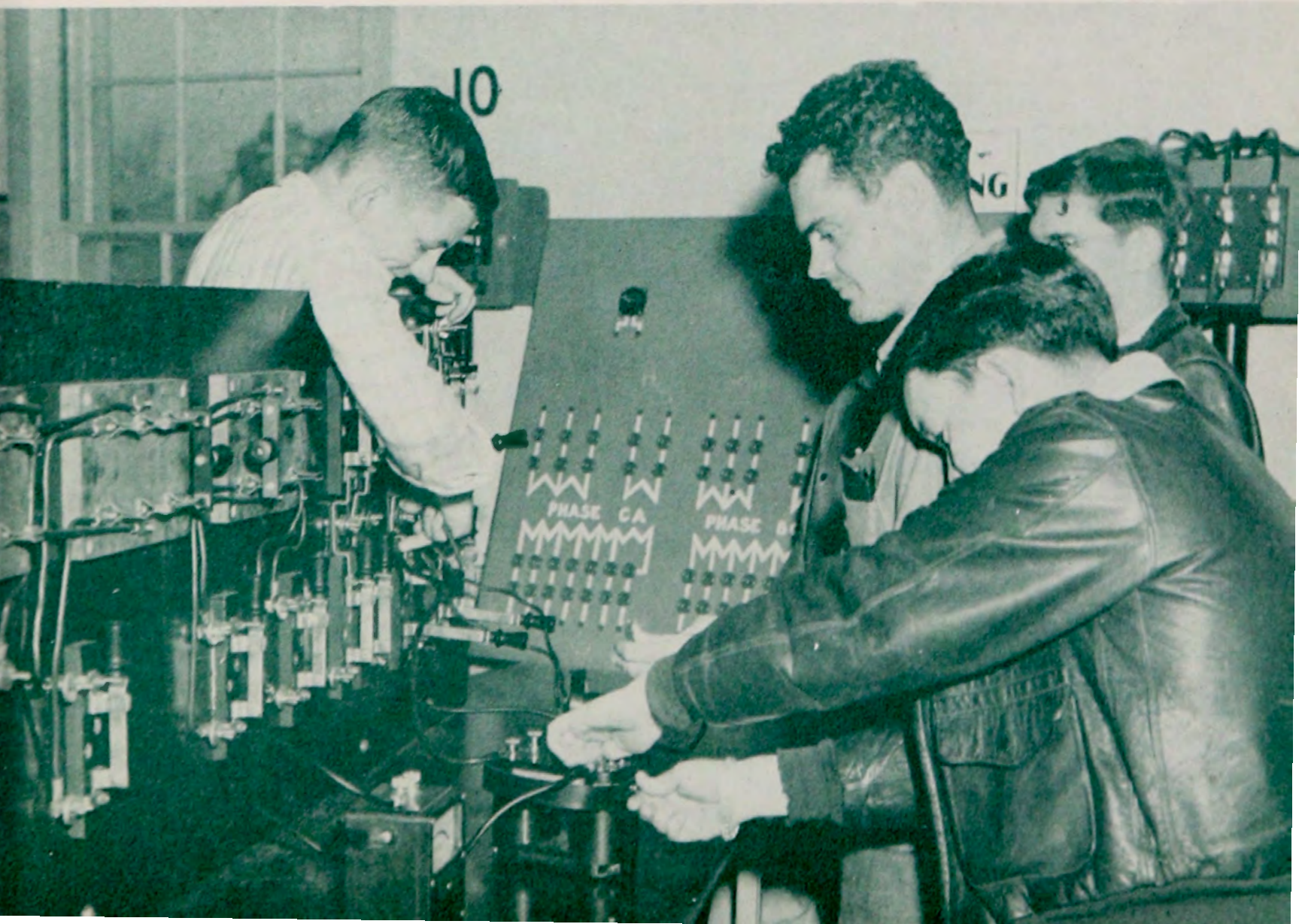


Field work and classroom study completely prepare students in Civil Technology.





Facilities are available in Electrical Technology to offer practical training in distribution of power and electrical machinery.



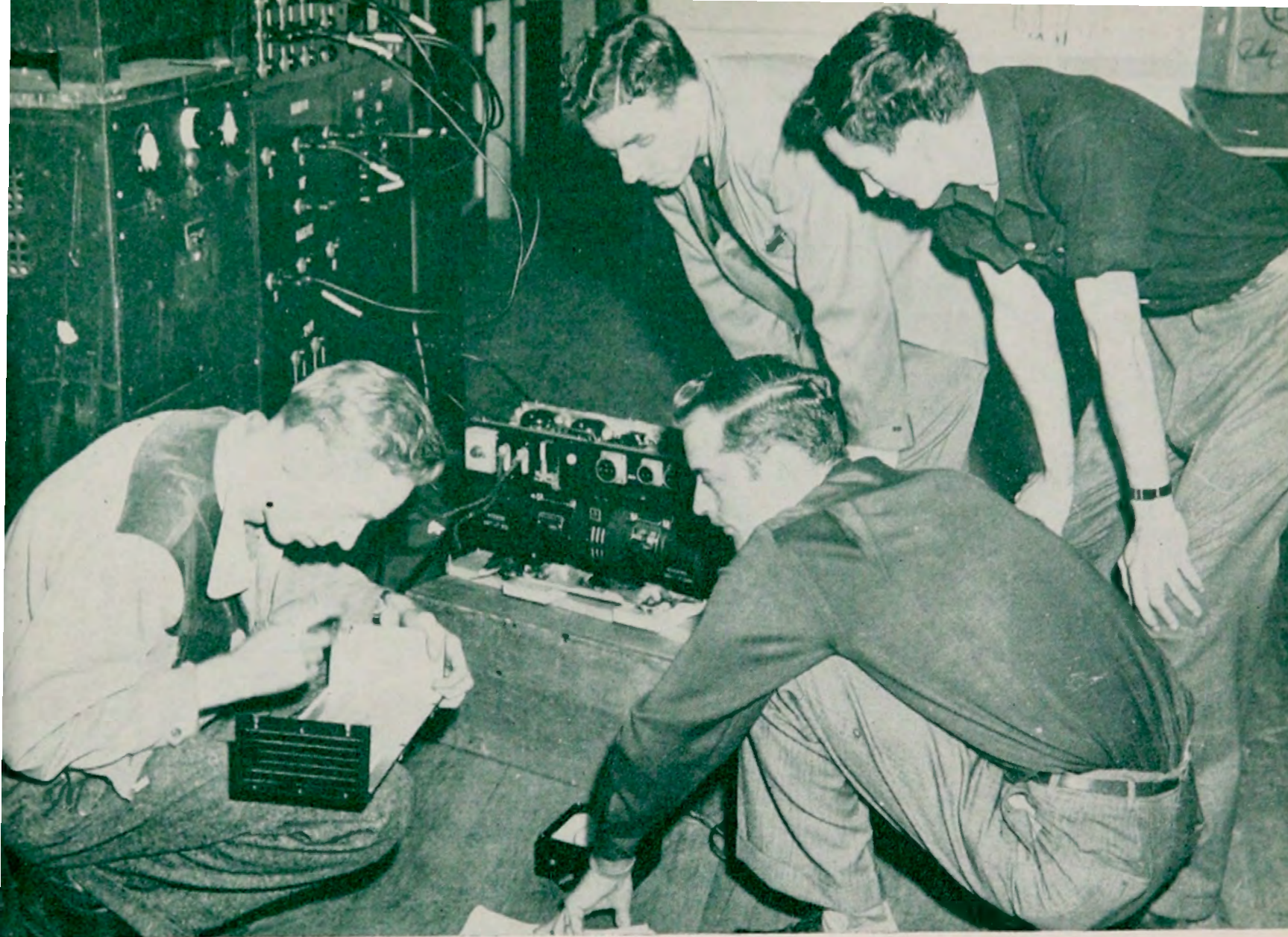
ELECTRONIC AND RADIO TECHNOLOGY

The course in Electronic and Radio Technology is planned to provide (1) general training in mathematics, technical drawing, the sciences on which electronic work is based, and in supervision and personal relations; (2) specific training in radio, electronics, telephony, wave filters, transmission lines, antennas, and radiation.

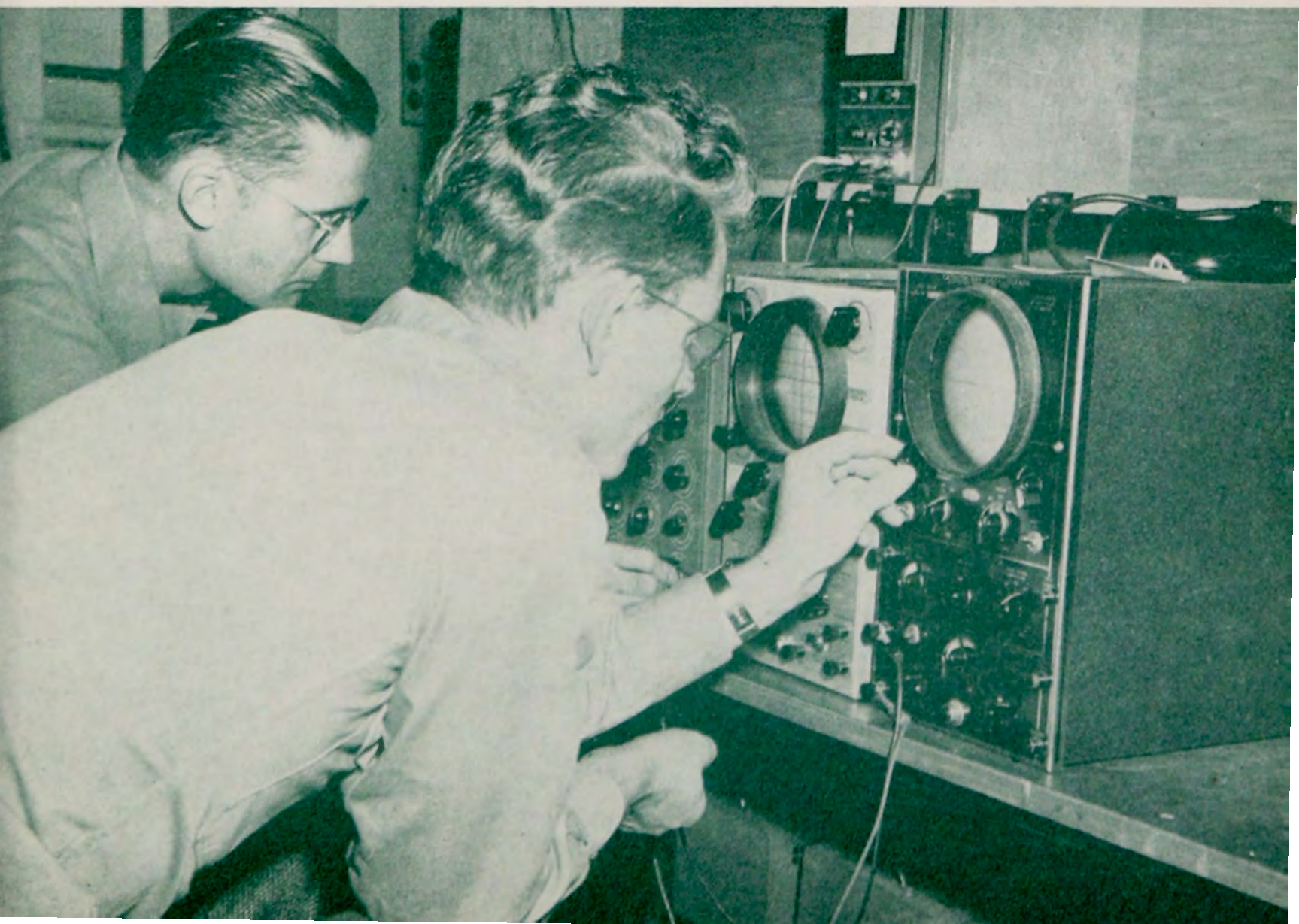
Graduates of the electronic course should be able to fill responsible positions as electronic equipment sales and service technicians, broadcast and radio technicians, and electronic research technicians.

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

C L T: Class hours Laboratory hours Total quarter hours					
First Quarter			Second Quarter		
	C L T			C L T	
T. Dr. 11 (Tech. Draw.)	0—6—2		Elec. T. 24 (Intro. to Elec.)	3—3—4	
T. Eng. 11 (Comp. and Rhet.)	5—0—3		T. Eng. 21 (Comp. and Rhet.)	3—0—3	
T. Math. 11 (Algebra)	5—3—6		Ind. T. 12 (Human Rel.)	3—0—3	
T. Phys. 12 (Electricity)	5—3—6		T. Math. 21 (Trig., Analyt.)	5—0—5	
	—————		T. Phys. 22 (Mechanics)	5—3—6	
Total	15—12—17		Total	19—6—21	
Third Quarter			Fourth Quarter		
	C L T			C L T	
Elec. T. 31 (A. C. Circuits)	5—3—6		Elec. T. 46 (Radio I)	5—6—7	
Elec. T. 33 (Vac. Tubes)	5—3—6		Elec. T. 47 (Telephony)	3—3—4	
T. Math. 31 (Applied Math.)	5—0—5		Elec. T. 58 (T. Lines)	5—3—6	
T. Phys. 32 (Ht., Sound, Light)	3—3—4		T. Eng. 52 (Tech. Speaking)	2—0—2	
	—————		Total	15—12—19	
Total	18—9—21				
Fifth Quarter			Sixth Quarter		
	C L T			C L T	
Elec. T. 51 (Ind. Electronics)	5—3—6		Elec. T. 67 (FM and TV)	5—3—6	
Elec. T. 56 (Radio II)	5—3—6		Elec. T. 68 (Microwaves)	3—3—4	
Elec. T. 59 (Spec. Problems)	2—6—4		Elec. T. 69 (Radio Sr. Repair)	2—6—4	
Elec. T. 66 (Antennas)	3—3—4		T. Eng. 62 (Tech. Writing)	2—0—2	
	—————		Ind. T. 67 (Seminar)	1—0—1	
Total	15—15—20		Total	13—12—17	
			Plus electives not to exceed 4 hours.		



Technicians are trained to use all types of new electronic devices and industrial equipment.



HEATING AND AIR CONDITIONING TECHNOLOGY

In the past few years the heating and air conditioning industry has become one of the largest in the country. Already air conditioning is a "must" for homes, offices, hotels, and theaters. New applications of air conditioning and refrigeration theory are announced daily.

The heating and air conditioning course is designed to train technicians to plan, install, operate, and maintain all types of heating, air conditioning and refrigerating equipment. Basic courses in physics, mathematics, mechanical drawing, shop, human relations, technical writing, public speaking, and supervisory training are included.

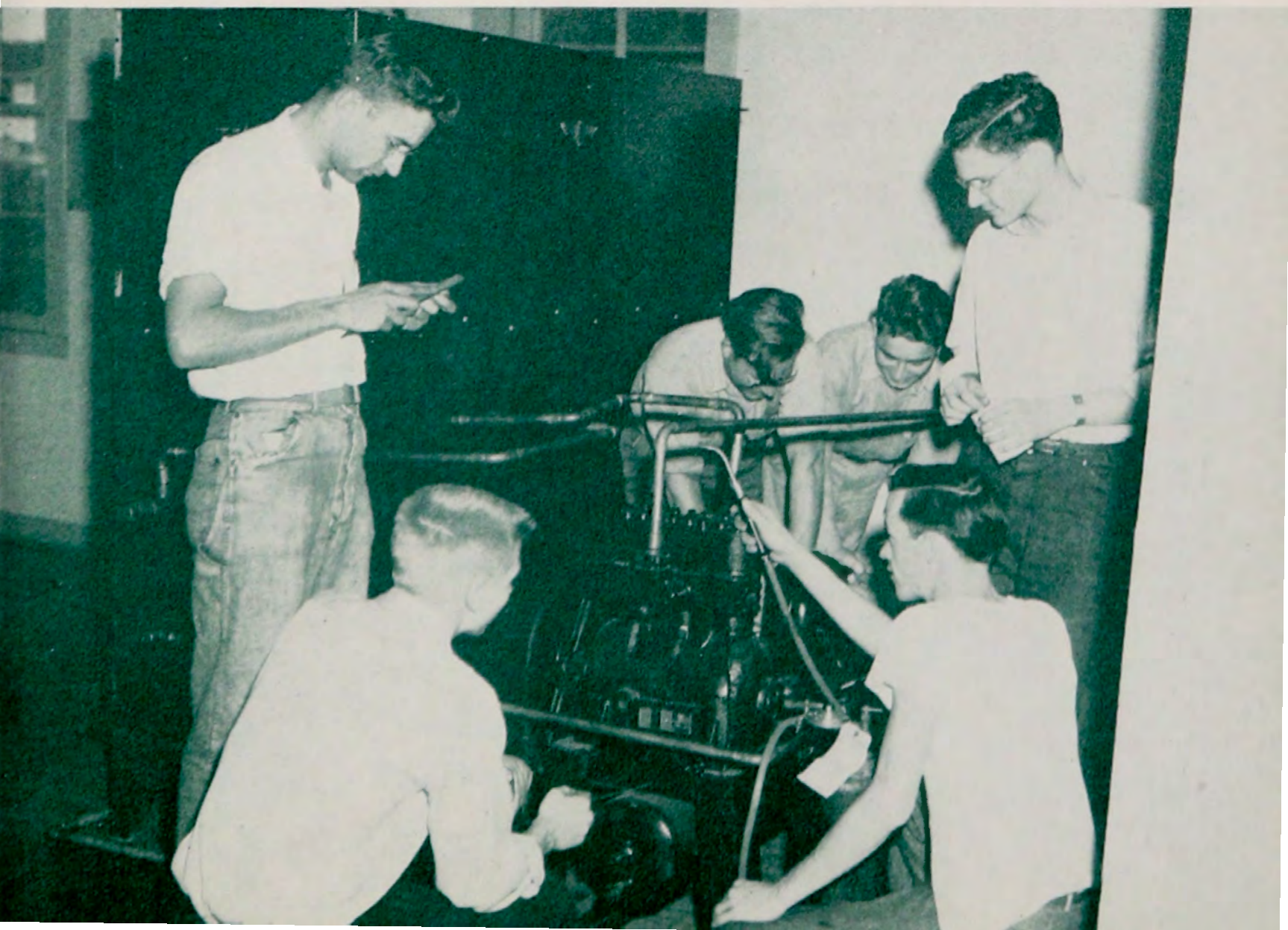
Successful graduates of the course will have excellent job opportunities leading to responsible positions in the rapidly expanding industry.

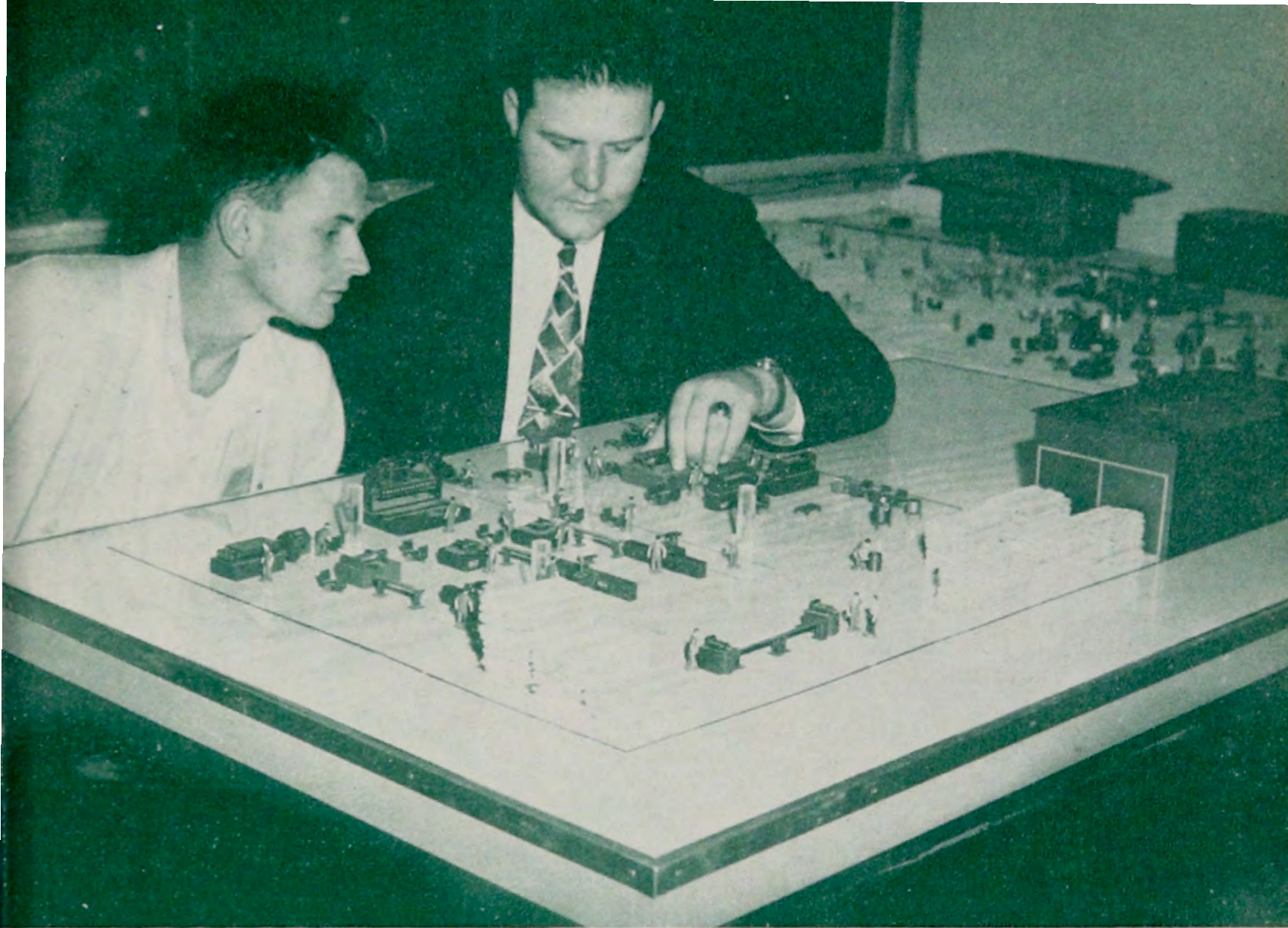
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Students are trained to use technical instruments and devices when supervising the installation of equipment.





Industrial technicians are trained for supervisory positions in modern plants and laboratories.



MECHANICAL TECHNOLOGY

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

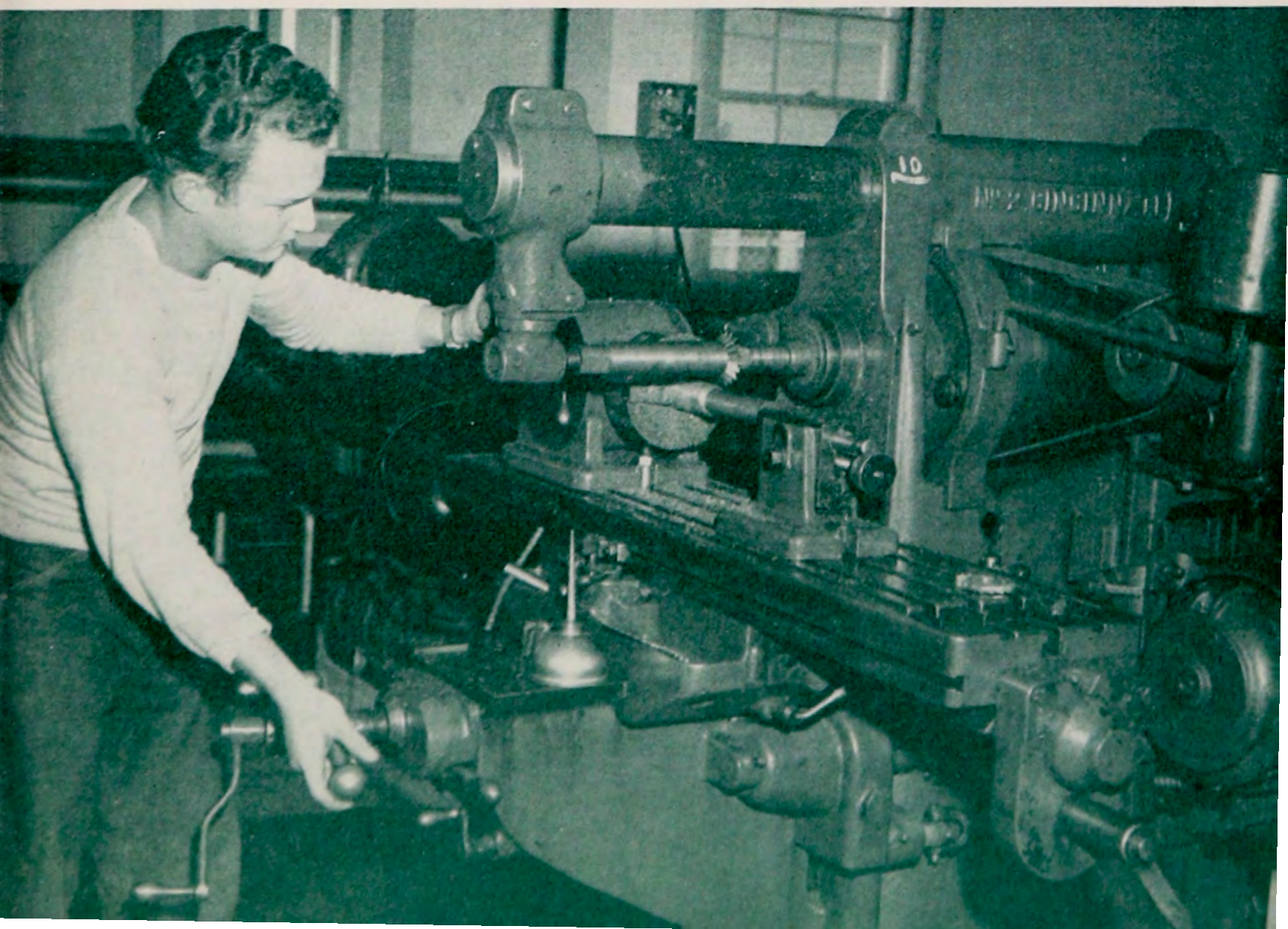
This field embraces the manufacture and production of mechanical products and the tools, machines, and processes by which they are made. In a broad sense mechanical technology is the creation and utilization of mechanical power, and as such enters into every business, industrial, and community activity. 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.

C L T: Class hours		Laboratory hours		Total quarter hours			
First Quarter			Second Quarter				
	C	L	T		C	L	T
T. Dr. 11 (Tech. Draw.)	0	6	2	T. Dr. 21 (Tech. Draw.)	0	6	2
T. Eng. 11 (Comp. and Rhet.)	5	0	3	T. Eng. 21 (Comp. and Rhet.)	3	0	3
T. Math. 11 (Algebra)	5	3	6	T. Math. 21 (Trig., Analyt.)	5	0	5
T. Phys. 12 (Electricity)	5	3	6	Mech. T. 11 (Tools & Methods)	3	0	3
	-----			Mech. T. 24 (Gen. Metal Shop)	0	6	2
Total	15	12	17	T. Phys. 22 (Mechanics)	5	3	6
				Total	16	15	21
Third Quarter			Fourth Quarter				
	C	L	T		C	L	T
Elec. T. 32 (Ind. Electricity)	5	3	6	Ind. T. 22 (El. of Ind. Safety)	3	0	3
Ind. T. 12 (Human Rel.)	3	0	3	Ind. T. 42 (Labor Rel.)	3	0	3
Mech. T. 34 (Mach. Shop)	0	6	2	Ind. T. 43 (Time, Motion)	2	3	3
Mech. T. 36 (Applied Mech.)	3	0	3	Mech. T. 42 (Met., Heat Tr.)	3	0	3
Mech. T. 37 (Gen. Woodwork)	0	6	2	Mech. T. 44 (Mach. Shop II)	0	6	2
T. Phys. 32 (Ht., Sound, Light)	3	3	4	Mech. T. 45 (Thermodynamics)	3	0	3
	-----			Mech. T. 47 (Pat. Making)	0	6	2
Total	14	18	20	Total	14	15	19
Fifth Quarter			Sixth Quarter				
	C	L	T		C	L	T
T. Dr. 41 (Mach. Sketching)	0	6	2	T. Dr. 61 (Mach. Draw.)	0	6	2
T. Eng. 52 (Tech. Speaking)	2	0	2	T. Eng. 62 (Tech. Writing)	2	0	2
Ind. T. 58 (Methods Improve.)	3	0	3	Ind. T. 41 (Plant Layout)	3	0	3
Mech. T. 51 (Strength of Mat.)	3	3	4	Ind. T. 62 (Supv. Train.)	5	0	5
Mech. T. 54 (Jigs & Fixtures)	2	3	3	Ind. T. 67 (Seminar)	1	0	1
Mech. T. 57 (Welding)	0	6	2	Mech. T. 55 (Tool Design)	3	0	3
Mech. T. 65 (Inspec. Methods)	3	0	3	Mech. T. 68 (Gen. Sheet Metal)	0	6	2
	-----			Total	14	12	18
Total	13	18	19	Plus electives not to exceed 3 hours.			



Complete mechanical facilities are available for training the mechanical technician to supervise the operation of all types of modern machinery.



SUBJECT DESCRIPTIONS

BUILDING CONSTRUCTION TECHNOLOGY

- Arch. T. 12—ARCHITECTURAL HISTORY 3—0—3
Prerequisite—None
A study of the progress of architecture. The material covered by this subject includes a review of architectural forms from early Egyptian to Modern Engineered Architecture.
- Arch. T. 24—BLUEPRINT READING 3—0—3
Prerequisite—None
A study of architectural blueprints for all students who must translate drawings into actual existing structures. This course is also useful for students who must use them for general layout of electrical, plumbing, and air conditioning systems.
- Arch. T. 31—GRAPHICS 3—6—5
Prerequisite—T. Draw. 11
An introductory study in architectural drawing and in the principles of visual design. This subject equips the student with a basic knowledge of descriptive geometry, shades and shadows, and perspective.
- Arch. T. 33—BUILDING MATERIALS 3—0—3
Prerequisite—None
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.
- Arch. T. 41—BUILDING DESIGN 2—12—7
Prerequisite—Arch. T. 31
Residential design. This subject includes working drawings and details with the actual construction of a model of a small house.
- Arch. T. 51—BUILDING DESIGN 3—6—5
Prerequisites—Arch. T. 41, Arch. T. 52 or concurrently
Architectural design, working and structural drawings of more complex structures than those studied in Arch. T. 41. Structural computations are required.
- Arch. T. 52—WOOD AND STEEL CONSTRUCTION 3—6—5
Prerequisites—Mech. T. 51 and Civil T. 21
A study of the design of beams, girders, and columns in both steel and wood. Included is a study of the various timber fasteners, steel and timber trusses, and steel frameworks.
- Arch. T. 54—BUILDING EQUIPMENT 3—3—4
Prerequisite—T. Phys. 32
A brief survey of the principles of heating, ventilating, plumbing, air conditioning, lighting and electrical wiring of buildings from the construction viewpoint.
- Arch. T. 55—COSTS AND ESTIMATES 3—3—4
Prerequisites—Arch. T. 33
Preparation of material and labor quantity surveys from actual working drawings and specifications.

Arch. T. 61—BUILDING DESIGN 3—9—6

Prerequisites—Arch. T. 51

A continuation of Arch. T. 51 with the necessary working and structural drawings. More complex structures than those in Arch. T. 51 are studied and a small scale model is required.

Arch. T. 62—CONCRETE CONSTRUCTION 3—6—5

Prerequisites—Mech. T. 36 and Mech. T. 51

A study of the properties of reinforced concrete with the determination of direct stresses and bending stresses in beams, slabs, girders, and columns. Laboratory work consists of problems and the actual testing of various concrete members.

CIVIL TECHNOLOGY

Civil T. 21—GRAPHIC STATICS 0—3—1

Prerequisite—To be taken concurrently with T. Phy. 22

Graphical methods of calculating reactions, stresses, shears, moments and their application in various structural problems.

Civil T. 32—ELEMENTARY SURVEYING 3—9—6

Prerequisite—To be taken concurrently with T. Math. 21

Construction, care, and use of surveying instruments; theory and practice of chaining; differential and profile leveling; traversing; computation of areas and earthwork; theory and practice of stadia and its application to topographic surveying; U. S. Government System of public land surveys; lines and grades; city surveys; reduction and plotting of field notes.

Civil T. 41—ROUTE SURVEYING 3—6—5

Prerequisite—Civil T. 32

Reconnaissance, preliminary location, and construction surveys for routes of all kinds, including simple, compound, and reverse curves, spiral and easement curves used on highways; superelevation of curves; computation of earthwork; construction of quantity, haul and mass diagrams. For a final project each student must lay out a complete highway location and submit the plans and profiles for this location.

Civil T. 42—HIGHWAYS 3—0—3

Prerequisite—Civil T. 41

The historic, economic, and structural phases of highway construction; study of traffic census; traffic classification as related to the type of highway; methods of construction and design of highway and road types, including grades, curves, sight distance and other safety features.

Civil T. 43—TOPOGRAPHICAL DRAWING 1—3—2

Prerequisite—Civil T. 32

The interpretation and plotting of field notes of topographic surveys; the drafting of a number of topographic maps, including the contours as well as the planimetric details.

- Civil T. 44—WATER AND SEWAGE PLANT OPERATION
 Prerequisite—Civil T. 45 or concurrently 3—0—3
 Basic principles of water supply and sewerage, with special reference to operating techniques involved. This course acquaints the student with the ordinary operating practices of water supply and sewage treatment plants.
- Civil T. 45—HYDRAULICS 5—0—5
 Prerequisite—T. Phy. 22 and Mech. T. 36
 Elementary principles of fluid mechanics with special emphasis on flow through pipes, channels and over weirs; a study of the various types of pumps to cause flow through pipes.
- Civil T. 51—TOPOGRAPHIC AND CONTOUR SURVEYING
 Prerequisite—Civil T. 32 2—6—4
 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; description of aerial surveying and mapping; theory, description and purposes of the many types of maps, plans and profiles used by engineers.
- Civil T. 62—LAND SURVEYS 3—6—5
 Prerequisite—Civil T. 32
 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 geographic coordinates; Georgia Land Lot System of land subdivision.
- Civil T. 63—STRUCTURAL DRAFTING 0—6—2
 Prerequisite—T. Draw. 11
 Detailing steel, timber and concrete drawings. This subject will be offered only if 10 or more students elect to take it.
- Civil T. 64—CONSTRUCTION METHODS 3—3—4
 Prerequisite—Arch. T. 33
 Heavy construction practices. This subject acquaints the student with the many common pieces of heavy construction equipment and apparatus; operation, use, limitations, and maintenance of this equipment are covered, along with the methods, organization, and management for both large and small jobs. Field trips are made to construction projects to illustrate the usage of the various pieces of equipment.

DRAWING, TECHNICAL

- T. Dr. 11—TECHNICAL DRAWING 0—6—2
 Introduction to drawing, use of instruments, lettering, geometric construction, orthographic projection, auxiliary views, dimensioning, and drawing conventions.

T. Dr. 21—TECHNICAL DRAWING 0—6—2

Prerequisite—T. Dr. 11

Continuation of topics introduced in Technical Drawing 11, plus threads and fasteners, sectioning, conventional representation, working drawings, and ink tracings.

T. Dr. 41—MACHINE SKETCHING 0—6—2

Prerequisite—T. Dr. 21

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.

T. Dr. 61—MACHINE DRAWING 0—6—2

Prerequisite—T. Dr. 21

Study of gears, cams, and complete assembly drawings of a small machine, together with manufacturing specifications.

ELECTRICAL TECHNOLOGY

ELECTRONIC AND RADIO TECHNOLOGY

Elec. T. 22—D. C. MACHINES 5—3—6

Prerequisite—T. Phys. 12, T. Math. 21 concurrently

Construction, characteristics, control, and industrial applications of direct-current motors and generators. Laboratory work, laboratory reports, and problem solving ability are particularly stressed in this subject.

Elec. T. 24—INTRODUCTION TO ELECTRONICS 3—3—4

Study of basic components, electronics nomenclature, care and use of test equipment, and a broad survey of radio and television transmission and reception.

Elec. T. 31—A. C. CIRCUITS 5—3—6

Prerequisite—T. Math. 21

Study and practice in the fundamentals of circuit calculations. The subject material includes the following: A. C. power measurements and calculations, complex notation, properties of resistance, inductance and capacitance, series and parallel A. C. circuits, the admittance methods of calculations, and polyphase circuits. To facilitate the calculations necessary for this subject the student will find a sliderule, upon which are the A, B, C, D, CI, L, S, T, and ST scales, most useful.

Elec. T. 32—INDUSTRIAL ELECTRICITY 5—3—6

Prerequisite—T. Physics 12 and T. Math. 21

Electrical fundamentals, electrical machinery, electrical controls, and the industrial applications of electrical equipment. This is a survey subject for non-electrical students.

Elec. T. 33—VACUUM TUBES 5—3—6

Prerequisite—T. Phys. 12, T. Math. 21, Elec. T. 24, Elec. T. 31 concurrently

Basic study of the control of free electrons, electron emission, triode, tetrode, pentode, beam power vacuum tubes, load lines, rectifier circuits, basic amplifier circuits, gas filled tubes, and thyatron control.

- Elec. T. 42—A. C. Machines 5—3—6
 Prerequisite—Elec. T. 22, Elec. T. 31, T. Physics 22, T. Math. 31
 Construction, characteristics, control and operation, and industrial applications of alternators and transformers. Problems and laboratory work which approximate the situations found in industry are an integral part of this subject.
- Elec. T. 43—ILLUMINATION 2—3—3
 Illumination principles and practices. A survey of modern illumination principles, calculations, and equipment occupies most of the time available for this course. The laboratory work for this subject consists of several design problems in which the student is expected to design complete fluorescent and incandescent lighting installations. The economics of illumination receive particular attention throughout the entire subject.
- Elec. T. 46—RADIO I 5—6—7
 Prerequisite—Elec. T. 31, Elec. T. 33, T. Math. 31
 Study of resonant systems, resistance-coupled amplifiers, tube input capacitance, impedance-coupled amplifiers, feedback amplifiers, RC and RL time constants and transient analysis, simple receiving circuits, tuning circuits, and detector circuits. In the laboratory emphasis is placed on circuit tracing of power supplies, receivers, transmitters, and industrial equipment.
- Elec. T. 47—TELEPHONY 3—3—4
 Prerequisite—Elec. T. 31, Elec. T. 33
 Study of the operating principles of telephone equipment and circuits, basic local battery and common battery manual exchanges, and automatic exchanges.
- Elec. T. 51—INDUSTRIAL ELECTRONICS 5—3—6
 Prerequisite—Elec. T. 33
 A study of basic industrial electronic circuits and of the applications of these circuits to such devices as motor-control systems, electronic timers, voltage regulators, electro-static air cleaners, and induction and dielectric heating equipment.
- Elec. T. 52—A. C. MACHINES II 5—3—6
 Prerequisite—Elec. T. 42
 Construction, characteristics, operation and control and industrial applications of induction and synchronous motors. This subject is a continuation of Elec. T. 42.
- Elec. T. 53—ELECTRIC EQUIPMENT FOR BUILDINGS
 AND NE CODE 5—3—6
 Prerequisite—Elec. T. 31
 Study of electrical wiring of building, building wiring tools, and building wiring methods. The subject material of Elec. T. 53 includes the following: Hand tools common to electrical crafts and trades and their uses, wire, cable, and bus-type electrical conductors, methods of joining small and large conductors, soldering methods, basic wiring

circuits, signal wiring, annunciator circuits, open wiring, conduit work, commercial cable installation, and multiple switch control. Throughout the subject particular emphasis is placed upon the standards established by the National Electrical Code.

Elec. T. 56—RADIO II 5—3—6
Prerequisite—Elec. T. 46

Study of radio-frequency and power amplifiers, basic filters and their applications in circuits work, modulation, amplitude-modulation transmitters, and superhetrodyne receivers. Each student builds a superhetrodyne receiver.

Elec. T. 57—FCC RULES AND REGULATIONS 3—0—3
Prerequisite—Elec. T. 46

Study of the rules and regulations of the Federal Communications Commission. The examination elements for radio telephone and radiotelegraph licenses are covered in detail.

Elec. T. 58—TRANSMISSION LINES 5—3—6
Prerequisite—Elec. T. 46 concurrently

Study of high-frequency transmission-line concepts and their practical applications, with a smooth transition from the student's previous knowledge of low-frequency lines and circuit phenomena. Emphasis is placed on impedance-matching concepts and methods and on the use of the transmission-line circle diagram for the solution of practical problems. Laboratory practice demonstrates and supplements classroom theory and provides experience in the use of standard radio-frequency measuring equipment.

Elec. T. 59—SPECIAL PROBLEMS IN ELECTRONICS 2—6—4
Prerequisite—Elec. T. 46

Special projects dealing with study, modification, and improvement of existing equipment. Each student gives an oral progress report and a written final project report.

Elec. T. 61—ELECTRIC POWER DISTRIBUTION 3—3—4
Prerequisite—Elec. T. 42

Study of the principles of construction, operation, and maintenance of high-voltage distribution lines, substations, electric utility organization, and the types of customer loads supplied by electric utilities.

Elec. T. 62—A. C. MACHINES III 5—3—6
Prerequisite—Elec. T. 52

Construction, characteristics, operation and control, and industrial applications of synchronous converters, single-phase motors, and mechanical and electronic rectifiers. This subject is a continuation of Elec. T. 42 and 52.

Elec. T. 64—SEMINAR 1—0—1
Prerequisite—Completion of four quarters' work

Scheduled meetings at which individual students present oral and written reports on important electrical developments. Each report is followed by group discussion and criticism.

- Elec. T. 66—ANTENNAS 3—3—4
 Prerequisite—Elec. T. 58
 Study of propagation, transmission lines, basic antenna theory, antennas for low-frequency and high-frequency work, and measuring techniques.
- Elec. T. 67—FM AND TELEVISION 5—3—6
 Prerequisite—Elec. T. 56
 Study of the basic principles of FM and television, followed by a study of standard FM and television transmitting and receiving systems.
- Elec. T. 68—MICROWAVES 3—3—4
 Prerequisite—Elec. T. 46, Elec. T. 58
 Study of multivibrators, wave guides, and cavity resonators. Laboratory work includes the study and operation of the ASC and APS radars.
- Elec. T. 69—RADIO SERVICE AND REPAIR 2—6—4
 Prerequisite—Elec. T. 56
 Study and application of servicing to both receivers and transmitters.

ENGLISH, TECHNICAL

- T. Eng. 11—COMPOSITION AND RHETORIC 5—0—3
 Grammar study and drill, punctuation, correct usage, sentence structure, elimination of errors in sentence structure, and writing for comprehension. All students attend classes five days a week for the first two weeks. Students who make satisfactory grades on a proficiency test at the end of two weeks and who maintain "C" averages are required to attend only three classes a week. Students who fail to make the necessary grades on the proficiency test or who fail to maintain a "C" average are required to attend classes five days a week.
- T. Eng. 21—COMPOSITION AND RHETORIC 3—0—3
 Prerequisite—T. Eng. 11
 Vocabulary building, dictionary study, practice in developing sentence style, precise writing, paragraph technique, and business correspondence.
- T. Eng. 31—SURVEY OF HUMANITIES 2—0—2
 Prerequisite—T. Eng. 21
 An elective subject designed to provide for those students who are interested, a brief survey of our literary heritage, to encourage them to read thoughtfully, to help them increase their ability to think and learn.
- T. Eng. 52—TECHNICAL SPEAKING 2—0—2
 Prerequisite—T. Eng. 21
 Study and practice in the fundamentals of public speaking. The subject includes training in selecting a subject, obtaining and organizing material, and presenting speeches effectively. Each student makes several speeches before an audience.

T. Eng. 62—TECHNICAL WRITING 2—0—2
Prerequisite—T. Eng. 21

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 technicians.

INDUSTRIAL TECHNOLOGY

Ind. T. 12—HUMAN RELATIONS 3—0—3

Training in development of personality, ability to analyze problems involving human relations, and the development of good foundations for personnel relations. Actual cases of human relations problems in industry are studied with a view toward developing the technique of working with superiors, associates, and subordinates.

Ind. T. 22—ELEMENTS OF INDUSTRIAL SAFETY 3—0—3

A basic study of industrial accident prevention considering the nature and extent of the accident problem. A practical study is given the technique for control of industrial hazards together with the fundamentals of good organization.

Ind. T. 23—JOB EVALUATION 2—0—2

A study of the techniques and principles of job analysis and evaluation as a means for developing sound wage and salary administration.

Ind. T. 31—SAFETY STANDARDS 3—0—3

A survey of recognized safety standards and codes to permit their ready, intelligent use in the industrial plant; use of machine safeguards in minimizing accident possibilities in connection with the use of industrial machinery; principles of fire prevention and control, including the use of first-aid fire equipment.

Ind. T. 32—INDUSTRIAL SALES AND PURCHASING 3—0—3

Methods and principles of Industrial sales and service engineering as encountered in the basic industries; the nature of the purchasing function, including the art of the interview and conference, sources of purchasing information, forecasting ultimate values, and reciprocity purchasing.

Ind. T. 41—PLANT LAYOUT 3—0—3

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

Ind. T. 42—LABOR RELATIONS 3—0—3

Personnel policies, selection and employment, interviewing and testing, employee records, training, employee benefits, collective bargaining and employer-employee relations, grievance procedure, wage and salary standards, and use of practical industrial psychology.

Ind. T. 43—TIME & MOTION STUDY 2—3—3

Principles of motion economy, tools for motion study, time study methods and practice; standard data and formula construction; use of methods-time measurement as a substitute for time studies.

- Ind. T. 45—MATERIALS HANDLING 2—0—2
 Selection and use of modern equipment and methods for handling material in the industrial processes.
- Ind. T. 47—WAGE INCENTIVES 2—0—2
 Basic requirements of a sound wage incentive plan, control of quality in incentive installations, union participation. Subject matter includes a study of five types of wage incentive plans.
- Ind. T. 51—CONTRACTS AND SPECIFICATIONS 3—0—3
 The general laws of contracts, agency, sales agreements, and engineering specifications as incorporated into contracts; the business, legal, and ethical phases of engineering.
- Ind. T. 52—PRODUCTION CONTROL 3—0—3
 The preparation for production, planning based on sales forecasts, operation sheets, routing, scheduling, dispatching, follow-up, inventory control, receiving, stores and shipping, control forms and reports.
- Ind. T. 53—SAFETY SUPERVISION 3—0—3
 Methods for the training of the various persons within the industrial organization in their respective safety duties, the recognition and evaluation of industrial health hazards, and techniques for their control.
- Ind. T. 58—METHODS IMPROVEMENT 3—0—3
 Study of the various production methods, batch and mass production techniques; practice in writing standard procedures, raw material specifications, and manufacturing instructions. The application of the "questioning attitude" in the search for better manufacturing methods and job procedures and the 4-step method of job improvement are also studied.
- Ind. T. 61—INDUSTRIAL ECONOMICS 5—0—5
 Output and life of equipment, operation costs, depreciation rates, economic selection of equipment, determination of economic lot sizes, and cost studies on representative problems.
- Ind. T. 62—SUPERVISORY TRAINING 5—0—5
 Line of responsibility and authority, technique of job instruction, personal leadership, technique of conducting a conference, how to produce for a profit. The subject treats problems of the supervisor as cost man, as safety man, as production man, as quality man, as personnel man, as the manager of his department.
- Ind. T. 63—QUALITY CONTROL 2—0—2
 Principles of inspection and quality control, specifications and limits, equipment, methods, records and control charts.
- Ind. T. 66—INDUSTRY ANALYSIS 1—6—3
 A survey and study of the various fields of industrial activity such as textile, steel, chemical, wood products, food processing, and mechan-

ical assembly. Field trips and detailed reports will be included in order to enable the student to make a better choice of the particular type of industry he desires to enter.

Ind. T. 67—SEMINAR 1—0—1

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

Ind. T. 68—SMALL BUSINESS MANAGEMENT 2—3—3

Training in the operation of a small business concern including a practical knowledge of accepted accounting procedures, order billing, credits and collections, costs, payroll procedures, taxes, and information about standard business and office machines.

Ind. T. 69—COST CONTROL 2—0—2

Control of material and labor costs, determination of labor requirements, cost studies for use in estimating product prices.

MATHEMATICS, TECHNICAL

T. Math. 11—TECHNICAL ALGEBRA 5—3—6

Fundamental operations in algebra, factoring, fractions, exponents, radicals, complex numbers, equations, formulas, primes and subscripts, simultaneous equations, Kirchoff's laws, determinants, quadratic equations, ratio and proportion, variation, graphical solution of simultaneous equations, logarithms, and computations on the slide rule. Remedial practice work in each topic is stressed. The laboratory period is devoted largely to slide rule computations and logarithms.

T. Math. 21—APPLIED TRIGONOMETRY AND ANALYTIC
GEOMETRY 5—0—5

Prerequisite—T. Math 11

Trigonometric functions, plane right triangles, reduction formulas, fundamental relations, addition formulas, double angles, half angles, inverse functions, and solution of oblique triangles. Approximately two-thirds of the quarter is devoted to topics in trigonometry. During the remainder of the quarter topics in analytics are considered. Rectangular coordinate systems, locus and equations, the straight line, the circle, the parabola, and the hyperbola are the topics covered.

T. Math. 31—APPLIED MATHEMATICS 5—0—5

Prerequisite—T. Math. 21

An application of mathematics to problems ordinarily not solvable by algebra or trigonometry. The subject, therefore, consists mainly of an introduction to the more elementary principles and concepts of calculus. The application of the calculus is directed toward problems pertinent to the student's major field of study.

T. Math. 32—BUSINESS MATHEMATICS 3—0—3

Short methods of computation, interest and discount, annuities, amortization, depreciation, valuation and yield of bonds.

MECHANICAL TECHNOLOGY

- Mech. T. 11—TOOLS AND METHODS 3—0—3
An introduction to the field of metal work and industrial manufacturing for mechanical 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 technician or the engineer.
- Mech. T. 24—GENERAL METAL SHOP 0—6—2
An introduction to metal work, giving the students both actual practice and related information in lathe work, shaper work, bench metal, acetylene welding and cutting, and forging. The proper use and care of hand tools are stressed along with maintenance of shop equipment. Lectures are given on the most frequently used hand tools, measuring devices, and specifications of ordering materials and supplies.
- Mech. T. 34—MACHINE SHOP I 0—6—2
Prerequisite—T. Dr. 11
Fundamental machine operations of drilling, reaming, turning between centers, chuck work, thread cutting, shaper work, layout, and finishing. Special attention will be given to cutting speeds, tool and drill grinding, and machine upkeep.
- Mech. T. 36—APPLIED MECHANICS 3—0—3
Prerequisites—T. Math. 21 and Phys. 22
Statics and dynamics, including equilibrium of forces, center of gravity, couples, friction, rectilinear and curvilinear motion, rotation, Newton's Laws of Motion, moment of inertia, work, and power and energy.
- Mech. T. 37—GENERAL WOODWORK 0—6—2
Prerequisite—T. Dr. 11
An introduction to woodwork designed to give students a background of basic woodworking processes. Topics include use of hand tools, sharpening and the upkeep of tools, basic woodworking principles of design and construction. A study is made of different types of material and their relation to each other.
- Mech. T. 38—FUELS AND BURNERS 3—0—3
Study of the fuels used in domestic and commercial heating, the types of equipment used to burn these fuels, and automatic controls as applied to heating.
- Mech. T. 41—AIR CONDITIONING 5—3—6
Prerequisite—T. Phys. 32 or concurrently
A study of the basic principles of heating and air conditioning. The subject matter includes properties of air and vapor mixtures, heating and humidification, cooling and dehumidification, calculation of heating

and cooling load, noise control, and automatic control for systems. Demonstration work is carried out on instruments, controls, and air conditioning equipment.

Mech. T. 42—METALLURGY AND HEAT TREATING 3—0—3
Prerequisite—Mech. T. 11 and Mech T. 24

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.

Mech. T. 43—HEAT POWER 3—0—3
Prerequisite—T. Physics 22

This course is intended to give the student a broad conception of applied energy. It includes a study of fuels, combustion, heat transfer, vapors, steam and internal combustion engines, boilers, fans, compressors, heating, power plants and efficiencies.

Mech. T. 44—MACHINE SHOP II 0—6—2
Prerequisite—Mech. T. 34

A continuation of Machine Shop I with the following additions: Use of gages, taper turning, gear cutting, square thread cutting, and types of fits. The topics studied are applied practically in the shop as the required projects are made.

Mech. T. 45—THERMODYNAMICS 3—0—3
Prerequisites—T. Phys. 32 and T. Math. 21

A subject intended to acquaint the students with some of the basic concepts in the field of thermodynamics. It includes a study of the First Law of Thermodynamics, non-flow energy relations, steady-flow processes, solids, liquids and gases, gas laws, specific heat of gases, steam tables, frictionless non-flow ideal gas and vapor changes, air compressors, and refrigeration cycles.

Mech T. 47—PATTERN MAKING 0—6—2
Prerequisite—Mech. T. 37

A basic study of pattern making. Different type patterns are made and the various allowances, finish, and color code are coordinated and presented in both lecture form and on the projects.

Mech. T. 48—GAS FUELS AND BURNERS 1—6—3

A continuation of Mech. 38, dealing exclusively with gas fuels and burners. Emphasis is placed on practical laboratory work.

Mech. T. 51—STRENGTH OF MATERIALS 3—3—4
Prerequisites—T. Math. 11 and 21, T. Phys. 12 and 22

A study of the effects of externally applied forces. Topics include properties of materials, stresses and strains in axially loaded members, riveted and welded joints, thin-walled cylinders, torsion of circular shafts, bending and shear stresses and deflection in statically determinate beams, column theory, and combined strains.

Mech. T. 52—AIR CONDITIONING AND DESIGN 5—6—7
Prerequisite—Mech. T. 41

A continuation of the work given in Mech. T. 41, with design work in domestic or commercial heating systems. This subject includes selection of equipment and its placement on blueprints.

Mech. T. 53—REFRIGERATION 3—3—4
Prerequisite—T. Phys. 32 or concurrently

The fundamentals and application of refrigeration. This subject is a study of the refrigeration cycles, refrigerants, compressors, evaporators, condensers, control equipment, domestic refrigeration, load calculations, and commercial systems. Laboratory work parallels the class theory.

Mech. T. 54—JIGS AND FIXTURES 2—3—3
Prerequisites—Mech. T. 24 and 34

Factors involved in large quantity production by 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.

Mech. T. 55—TOOL ENGINEERING PROBLEMS 3—0—3
Prerequisites—Mech. T. 51

A study of the applications of principles of strength and rigidity that are necessary in machine tool elements. The theory of strength of materials is put into practice in designing the assigned problems.

Mech. T. 57—WELDING 0—6—2
Prerequisite—Mech. T. 24

Fundamentals of both arc and acetylene welding. A study is made of the most economical methods in regard to welding time, machinability, and ductility. Methods of manufacturing rods, types of rods, color code of rods, safe practices in welding, and welding symbols are covered in lectures.

Mech. T. 60—GAS FUEL EQUIPMENT 5—3—6

A subject devoted to the study of the operation, installing and servicing of the commonly used gas appliances.

Mech. T. 62—AIR CONDITIONING AND DESIGN 5—6—7
Prerequisite—Mech. T. 52

A continuation of Mech. T. 52. This subject concerns specific applications such as residences, offices, restaurants or school buildings; after calculating the air conditioning load, the student selects equipment and lays out the job on drawings.

Mech. T. 65—INSPECTION METHODS 3—0—3
Prerequisites—Mech. T. 24 and 34

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. Field trips will be taken to observe different methods used in industry.

Mech. T. 68—GENERAL SHEET METAL 0—6—2

Prerequisite—T. Dr. 11

Shop problems including layouts and methods of fabrication of sheet metal.

Mech. T. 69—SHEET METAL LAYOUT 0—6—2

A continuation of Mech. T. 68 for the Heating and Ventilating students, dealing with layout and fabrication of the different heating and ventilating problems such as parallel line development, radical line development, and triangulation.

PHYSICS, TECHNICAL

T. Chemistry 31—GENERAL CHEMISTRY 5—0—5

A survey of general chemistry with the emphasis on inorganic. Numerous classroom demonstrations are used to illustrate principles studied.

T. Physics 12—ELECTRICITY 5—3—6

An introduction to electricity and a study of its simpler applications. The subject matter includes magnetism, electrostatics, potential differences, work and power in electrical circuits, Joule's Law, resistances in series and parallel, Ohm's Law, electro-chemical effects, motors, generators, induced electromotive forces, Lenz's Law, electromagnetic effects, electrical measuring, high frequency oscillations. The laboratory work parallels the work in the classroom.

T. Physics 22—MECHANICS 5—3—6

Prerequisite—T. Math. 21 or concurrently

An introduction to Newtonian mechanics. Subject matter includes measurement, coplanar concurrent forces, coplanar parallel forces, forces in space, work and energy, simple machines, accelerated motion, friction, vibratory motion, rotary motion, gravitation, fluids in motion, elasticity and strength of materials. Laboratory exercises parallel the work in the classroom.

T. Physics 32—HEAT, SOUND, LIGHT 3—3—4

Prerequisite—T. Physics 22

The elementary principles of heat, sound, and light and their technical applications. Class work includes discussions of temperature and its measurement, thermal expansion, heat units, work and heat, transfer of heat, change of state, meteorology, heat engines, wave motion, sound, propagation of light, photometry, reflection, refraction, spectra, color, and optical instruments. Laboratory exercises parallel the work in the classroom.

