ACADEMICS

Administration
Research
Departments
President Harrison:

Expansion Program Becomes a Reality

Serving his ninth year at Georgia Institute of Technology, Dr. Edwin D. Harrison has become an image maker — one who has established the image of not only a well-rounded institute, but a technologically advanced institute equal to any of its kind in the United States. With his eye on advancement, Dr. Harrison has transformed the expansion program this year from the drawing board into one of reality. Harrison says that it will be in the next few years that the Tech student will begin to realize and experience the areas of excellence that this expansion program is creating about.

With the managerial study and reorganization of the administration completed, Harrison thinks that this will bring about a more effective management that will tend to accelerate the betterment of Georgia Tech as a whole. This change has not only become apparent in the administration but in the growing physical facilities as well.
Administration

ABOVE: Robert E. Stiemke, Vice President — Programs.
ABOVE RIGHT: Paul Weber, Vice President — Planning.
RIGHT: William L. Carmichael, Registrar and Director of Admissions.
LEFT: James R. Anthony, Vice President-Comptroller. BELOW: James E. Dull, Dean of Students.

RIGHT: E. A. Trabant, Vice President-Academic Affairs. ABOVE: Joe W. Guthridge, Vice President-Development.
Administration (CONTINUED)

ABOVE: Arthur G. Hansen, Dean of Engineering College. ABOVE RIGHT: Wyatt C. Whitley, Director of the Engineering Experiment Station. RIGHT: R. T. Staton, Jr., Dean of Undergraduate College.
LEFT: Lawrence V. Johnson, Director of Engineering Extension Division. BELOW: Thomas W. Jackson, Dean of the Graduate Division.

ABOVE: A. P. DeRosa, Director of Placement. ABOVE RIGHT: Robert B. Wallace, Jr., Director of Publications and Information Services. RIGHT: James G. Wohlford, Director of Cooperative Division.
RIGHT: Fred W. Ajax, Director of Campus Affairs. BELOW: W. Roane Beard, Director of Alumni Affairs.

ABOVE: Harry L. Baker, Jr., Director of Research Administration. RIGHT: Clyde D. Robbins, Director of Campus Planning.
Administration (CONTINUED)

RIGHT: Mrs. J. Henley Crosland, Director of Libraries. BELOW: George C. Griffin, Dean of Students-Emeritus. BELOW RIGHT: Robert E. Winn, Assistant to President. BOTTOM: Jerry D. Purser, Assistant Dean of Students.
LEFT: W. Eugene Nichols, Associate Dean of Students. BELOW: Edwin P. Kohler, Assistant Dean of Students.

LEFT: Robert C. Commander, General Secretary of the YMCA. ABOVE: Dr. John B. Riggsbee, Director of Health.
Research:
An Integral Part of Tech

As an agency of the University System of Georgia, the Engineering Experiment Station at Georgia Tech exists to serve Georgia and the nation’s industry and government by conducting investigations in all fields of engineering and in many aspects of the physical, chemical and biological sciences. Last year alone, 77 articles published in scientific journals, 194 reports prepared and distributed, and 446 projects completed show the efforts of this station. This year these numbers will increase as the need increases for further knowledge. One of the station’s divisions, the High Temperature Materials branch, is an excellent example of the fine work the station is producing. They are presently carrying out work in the field of slip-cast fused silica radomes — only one of the many examples of research produced by the station which makes it a more integral part of Georgia Tech and the nation today.
BELOW: Georgia Tech joins with other research institutes in the all-important laser beam development. BOTTOM FAR LEFT: An organic preflight protective coating is sprayed on a fused silica radome.
Electronics is becoming one of Tech's more important areas of research.
RIGHT: Precision machined radome mandrel used to make molds for slip-casting. BELOW: Radioactive chemicals require mechanical hands for mixing.
Computer Research: A Look into The Future

Since its beginning in 1955, the Rich Electronic Computer Center is becoming more and more a part of the Georgia Tech research program. As a division of the Engineering Experiment Station, it is experiencing a new kind of computer relationship. In the RECC conference room, located in the EE building, the center can demonstrate some of the new improvements of computer systems. By the use of a remote terminal device, similar to a teletype machine, a program can be dialed directly to anywhere in the United States where this type of system exists. Through this demonstration, it can be seen that we are facing a near-tomorrow situation that can bring with it computer-communication utilities to make computer usage convenient and commonplace.
TOP LEFT: Remote terminal device, similar to a teletype machine, feeds programs directly into the computer. ABOVE: Key punch operators produce cards used in programming the computers.
Engineering Extension Provides Continuous Education

In this day of such rapidly increasing knowledge, a professional man's education is often obsolete before he has had much chance to use it. To meet the need produced by this circumstance, the Engineering Extension provides refresher and advanced courses to graduates and professional people after they have completed school and are working. These courses vary from one day to one year in length and are given at such hours and places as to permit these people to take them. In all the Engineering Extension served almost twelve-thousand people in this capacity last year. Another facet of the Engineering Extension is Southern Technical Institute located in Marietta. Approximately eleven-thousand students are enrolled in the twelve, two year curricula offered at Southern Tech. These students receive college degrees, Associate in Engineering, upon graduation.
Aerospace Expands Facilities

With the new four story building, the Space Science Technological Center, near completion, the School of Aerospace Engineering expects rapid growth into areas of new development. This new building will house such equipment as hypersonic and plasma shock tunnels, hypersonic wind tunnels and gas dynamics apparatus. The equipment is only a portion of the new facilities that will play an important part of research expansion.

With its eye on facility expansion, the Aerospace Engineering Department expects rapid growth in both undergraduate and graduate population also. With an undergraduate enrollment of approximately 750 students and a graduate population increase of 30 percent over last years enrollment, one can see why this department holds the second largest enrollment of any other engineering school on campus.

FAR LEFT: Student uses card catalogue in AE library to do research. BELOW: Dr. Arnold L. Ducoffe, Director.
Architecture: “We’re Number One”

Architecture is the study of design, with related exercises in drawing, graphics, visual composition and model building. With this in mind, the architect here at Tech is given an opportunity to develop his creative as well as his analytical abilities.

The claim that “We’re Number One” came when six senior architects from Tech entered and swept through the annual national competition for architects under thirty. Six out of the thirteen cash awards, including grand prize and first runner-up went to Tech students. No other college in the country placed more than one among the winners.
Biology Department
Hosts Conference

With the beginning of the bioengineering addition to the radioisotopes lab, the Biology Department at Tech looks forward to an expansion toward betterment. In keeping with the technological university idea, biological aspects of engineering problems will be emphasized even more than before.

Even though the focus of the department is on basic biology, its seven members carry out research in areas such as enzyme reactions, molecular pathological states, and radiation damage at genetic levels. As host of a conference on electron spin spectrometers this year, the Biology Department participated in frontiering research in this area.
Ceramics Department to Offer Ph. D.

The advent of the space age has greatly increased the need for ceramic engineers by the demand for materials capable of withstanding environments faced in space exploration. The Ceramics Department at Georgia Tech has realized the need for high quality ceramic engineering graduates and is constantly expanding and improving its curriculum. Work began this year toward offering two new degrees which will be offered next year. A Ph. D. will be offered in Ceramic Engineering, and a M.S. in Geophysical Science. Dr. C. W. Weaver and Mr. Joe Cochran joined the staff while new courses in Computer and Nuclear Technology were added to its regular curricular. With the Ceramics Department housed in the most modern facilities, it is definitely a department for the future.
New Lab Equipment For Ch.E.’s

The Chemical Engineering Department is spending approximately twenty-five thousand dollars this year to buy new transport phenomena and unit operations lab equipment. Along with this new equipment, the Chemical Engineering department has several new research grants. Dr. Engles has a contract with the National Science Foundation to work on a project entitled: “Investigation of Bonding Energies In Atomic Lattices As Related To Distance and Direction”, and Dr. Hockman has a contract with the Naval research lab to work on a project entitled: “Studies in Stress Corrosion Cracking”.
Chemistry Department
Purchases Mass Spectrometer

With the advent of next fall, the Chemistry Department will have acquired a new mass spectrometer. This piece of equipment will be capable of determining atomic and molecular weights with extreme accuracy. It will also be very useful in determining structure of unknown compounds.

At last there is salvation for Tech's chemists. Ground will be broken this spring for the construction of the new chemistry building. Then it will only be a matter of time before chemistry students can move from the ancient, acid eaten labs of Lyman Hall into their new facilities.
Civil Engineering Department
Receives National Recognition

The Civil Engineering Department at Georgia Tech, one of the oldest on campus, has established itself over the years as one of the finest in the nation. The American Council on Education recently published a study it made of college departments, especially on the graduate level. The Civil Engineering Department received one of the highest ratings in this report. Two new professors, Dr. Tsioglou and Dr. Westfield were added to the staff in the field of Sanitary Engineering. Upon the resignation of Dr. Schultz in January, Dr. Saunders was appointed acting director.
Dr. Paul H. Sanders, Director

E. E. Ozborn  R. J. Paquette  F. G. Pohland  G. M. Slaughter  W. M. Snyder  E. A. Starke
Electrical Engineering: Live Better Electrically

Since a large part of society is influenced by the work of electrical engineers, it is important for the students in the Electrical Engineering Department to receive the best training possible. Advancement in society requires advancement in the teaching techniques. To meet these changes the Electrical Engineering Department is proposing a new curriculum next fall.

Even though the student population of the EE department has decreased slightly this year, compared to the past years increases, the department added four or five new professors this year. Research, however, is on the increase. Work with physical electronics, lasers, and alteration of microwave frequencies are only several examples of work carried out by this department.
The Department of Engineering Graphics offers the student basic knowledge of the language of engineers. For six hours each week freshmen in the various engineering schools of Tech frequent the Engineering Graphics labs. Here they find graphics to be an exact type of language in which the engineer communicates with the technician in order to transform his ideas into reality. The engineering schools at Tech require three graphic courses: one on the basics of drawing; one on the theory of points, lines, and planes; one on graphical conventions. Higher courses tailored to meet the needs of the various engineering schools are also offered.

Dr. R. Kenneth Jacobs, Director
Engineering Mechanics: Forces on Bodies

Mechanics is defined as that part of the physical sciences which deals with the action of forces on bodies. Engineering Mechanics here at Tech combines the curriculum of physics and mathematics for engineering applications.

Recent advances in science and technology are demanding the solution of problems in mechanics by trained analysts. The strong foundation given here at Tech trains such analysts to meet the needs of a demanding society. Successful completion of the curriculum provides the graduate with a basis to enter into any one of a number of engineering or research programs.

LEFT: Dr. Milton E. Raville, Director
To keep pace with the increasing literary quality of Tech's entering freshmen this year, the English Department revamped their freshmen curriculum. Discarding their old theory that Techmen could not write but had to be taught to do so, the freshman courses of the new curriculum are now literature courses.

The quality of Tech's English professors is also notable. Dr. Young received Tech's first annual Outstanding Teacher Award. Dr. Rubin, chosen as a Fulbright Professor, spent this year teaching American Literature at the University of Bergen in Norway.

Tech's English professors are not without literary renown. Esta Seaton has had some of her poetry published and soon Dr. Rubin will have some of his poetry published.
ABOVE: Dr. J. D. Young, winner of Tech’s outstanding teacher award last year.
I. E. Department Hosts Japanese Professor

An expanding program has caused several changes in the Industrial Engineering Department. Dr. Abruzzi, Dr. Aaronson, and Dr. Gotterer were added to the staff to cope with increased enrollment. Also, teaching in the Industrial Engineering Department at Tech this year was Dr. S. Senju, a visiting professor who was here in a NSF Senior Foreign Scientist Fellowship, from Keio University in Tokyo, Japan. Dr. Senju is a recognized authority in operations research and industrial engineering in Japan.

One notable change in curriculum was effected this year. Students in Industrial Engineering now have two options in design to choose from during their senior year. One deals with information and control systems while the other deals with operations and facilities design. Another milestone for the I.E. Department was the authorization for construction of another new building which is hoped will be completed by late '69 or early '70.
Industrial Management
Requires New Courses in Math

Realizing that its math requirements were inadequate, the I. M. Department added two more quarters of required math to its curriculum. These were not the standard math courses, but rather new ones developed in conjunction with the math department which stress linear algebra and contain just those elements of calculus which are needed by I.M.'s. Woe be the jocks!

Two noted publications were products of the I. M. Department this year. *Study of the Economic Impact of the Braves on Atlanta* was written by Professor W. A. Schaffer and graduate students G. D. Houser and R. A. Weinberg. *Study of the Economic Impact of the Falcons on Atlanta* was also written by W. A. Schaffer and graduate student M. Despeaux.

RIGHT: Dr. Sherman Dallas. BELOW: Joe Black plans computer program to meet increased demand of public for faster data processing.
Information Science is on the move at Tech. Established in 1963, the Information Science Department offered courses to graduate students only. Now that the department has expanded, with the purchase of a 2.75 million dollars Univac computer, courses will be offered to undergraduates and are being entered into many of the department's curricula.

Information Science can be defined as the field of study concerned with the control and use of information. It also contributes to the understanding of organization, and to the formalization of such information based processes as problem solving, decision making, communication and learning. Information Science pertains to most every area of science, management, and education that Tech has to offer.
Modern Language: Technology In Other Languages

With a majority of the technological and scientific books in the Tech library written in foreign languages, it is important for the Tech student to obtain a firm background in a foreign language. The Modern Language Department attempts to furnish the student tools with which to further his knowledge of today's rapidly changing technology.

Not only does the department attempt to prepare the student for scientific reading but it also tries to inform the student of the civilization and literature of the countries where that language is spoken. This thorough background in a language is becoming a necessity for work in any graduate area.
ABOVE: Student measures wet and dry bulb temperatures.
ABOVE RIGHT: Dr. Joseph P. Vidosic, Director.
RIGHT: Students perform analysis of turbine engine.
NASA Increases M.E. Research Facilities

With many new research grants being received by the Mechanical Engineering Department and the requirement that all graduate students be engaged in a research project, the present facilities became insufficient. The National Aeronautic and Space Administration solved this problem by financing the construction of Space Sciences building. The ground level and first floor of the new Space Science and Technology Building No. 1 will be used entirely as research facilities for the professors and graduate students of the ME Department. Directly across the street from this new building, construction is well underway on Space Science and Technology Building No. 3. Once completed this building will provide only classroom and lecture hall space. Cost of construction is being handled jointly by the State of Georgia and the National Institute of Health.
Mathematics:
A Necessary and Sufficient Education in Calculus

Due to the rapid growth of knowledge in science and technological areas during the past few years, the Mathematics Department has programmed its curriculum to include a wide variety of courses at Tech. The curriculum not only serves the function of training students in basic mathematics for use in engineering and natural sciences, but also for providing more advanced training for those who plan to make mathematics their career. By providing thorough and careful training in the concepts and technique of mathematics, the department is able to prepare the student for the needs that relating fields require. To meet these needs, numerous advanced undergraduate and graduate courses are offered which may be used as electives.

Dr. Bertram M. Drucker, Director
Nuclear Engineering: Reactor Capacity Increased

After a year of redesigning, Tech will shut down its nuclear reactor and convert it from its present one megawatt capacity to a five megawatt capacity. When this renovation is completed next fall, no other college will have a larger reactor than Tech (though MIT's is "as large"). Plans are also being completed to add a second working shift in the very near future to the operation time of the reactor. The addition of the second shift will be the first step toward eventual continuous operation of the reactor.

ABOVE: The NE Department houses such equipment as the neutron spectrometer shown here. RIGHT: Dr. G. I. Roberts, Director.
The primary objective of the physical training is to insure that students remain physically fit while attending Georgia Tech. Basic fundamentals are taught in the freshmen courses which consist of track, skills in swimming, and gymnastic techniques. Sophomore year students enjoy more recreational courses of tennis, football and basketball. The department aims at instilling a motivation for the student to utilize those physical activities which will be of great help in staying healthy after this work at Tech has been completed.

Even though physical training was primarily restricted to male participation, this year saw the advent of coed participation when several girls succeeded in taking swimming — What next?
New Physics Building Nears Completion

Physics is an exciting field. Here at Georgia Tech the faculty has this feeling of excitement and tries to communicate it in a way by serving other relating fields, educating physicists and advancing knowledge of physics through research. Late this summer the department expects to move into their new building which will benefit not only the expansion of the department but also expansion into research.

Since advancement is necessary for physics to exist, the development of research plays the most important part of physics today. Scattering high frequency phonon (sound) waves off crystal lattices, theoretical studies of solid state, areas in nuclear physics are only a few examples of the types of research that play an important part of the development of the department today.
ABOVE LEFT: Dr. Vernon Crawford, Director. ABOVE: Graduate student adjusts equipment used in his research project. LEFT: Last year for sophomore physics labs in present building.

J. Q. Williams  L. A. Woodward  L. D. Wyly
Psychology Secures Position In Industry

One of the most notable changes in American Industry since World War II has been the greatly increased utilization of psychological techniques for the solution of personnel, production and design problems. To meet this change Georgia Tech offers a curriculum leading to a degree in Applied Psychology. This curriculum stresses fundamentals, providing opportunity for broad training in math, chemistry, psychology, biology and a number of basic engineering, management and humanities subjects.

Through a broad educational experience, reading and self study, a firm educational base upon which a program of graduate study might be built and preparation to equip the graduate for employment, the psychology department has designed its course of study.

ABOVE: Dr. Payne edits notes for Psychology 304 lecture. LEFT: Dr. Edward H. Loveland, Director. BELOW: Psychologists use a great number of rodents in their experiments.
Social Science: More Humanities For the Engineer

With basic courses in sociology and American Government presented in the freshmen year, the Social Science Department offers other courses in the remaining years as electives. From study in fields of history, government, sociology, and philosophy, the student acquires the fundamental knowledge which is a basis for a universal understanding between educated people. The Social Science Department tries to stress the point that a graduate must not only be familiar with his field of study, but also with the political, economic, and social policies of the state and nation.

LEFT: Dr. George Hendricks, Director.
The textile industry today is rapidly changing its methods and the materials. King Cotton has long since been replaced as the only practical raw material by the development of more man-made fibers. The oft-times poorly educated and underpaid “lint head” has been replaced by well trained personnel with an understanding of the science and engineering applied to textile production.

The A. French Textile School has followed this trend by changing from vocational instruction to a curriculum containing organic and inorganic chemistry, strength of materials, quality evaluation, and the study of man-made fibers, polymers, and plastics. Emphasis is placed on bridging the gap between science and industry.
FAR LEFT: Student and lab instructor demonstrate loom for group of high school students touring the school.
LEFT: Student tests fibers in chemical testing lab. ABOVE: Cotton is sorted and classed before being sent to the physical testing lab. Eventually the school plans to test every bale of cotton grown in Georgia.
Army ROTC: Realistic Training in the Field

The Army ROTC Department obtained the use of five hundred acres of wilderness in Tate, Georgia this year which they have named Camp Drennon in honor of Tech's Professor of Military Science who will retire this year. Saturday afternoons find interested cadets, headed by Cadet Swep Davis, in realistic field training which includes first-aid; survival; compass and map reading; small unit tactics; reconnaissance patrols; bridge building; and stream crossing. Training sessions at Camp Drennon are conducted in army fatigues and m-1 rifles with blank ammunition are used.
Navy Offers
Condensed Program

A new program has been initiated this year in NROTC which allows students to skip the first two years of basic naval science courses and enter the program as a Junior. Students participating in this program have to attend a summer camp conducted at the University of North Carolina before they are eligible to begin NROTC as a Junior. Other than this new program, tradition continues with NROTC scholarship students liable for four year active duty and contract students liable for three years active duty.

BELOW LEFT: Brigade Staff, Left to Right, Commander Sellars, Lt. Smith, Lt. Commander Fitzpatrick, Captain Sands, Midshipman First Class Serkin, Battalion C. P. O. Neville. BELOW RIGHT: Col. L. P. Harris, USMC, Professor of Naval Science.
Air ROTC: Second Highest Number of Scholarships

For the first time at Tech, freshman and sophomore cadets in Air Force ROTC were issued uniforms instead of having to buy their own. Other monetary gains were made in the field of scholarships. New scholarships were made available to sophomore cadets this year. The Tech Air ROTC Department has given the second highest number of scholarships to its students this year of all the college Air Force ROTC departments. Also, this year Lt. Col. James B. Freeman replaced Lt. Col. Alexander K. Johnson as Professor of Air Force Aerospace studies.