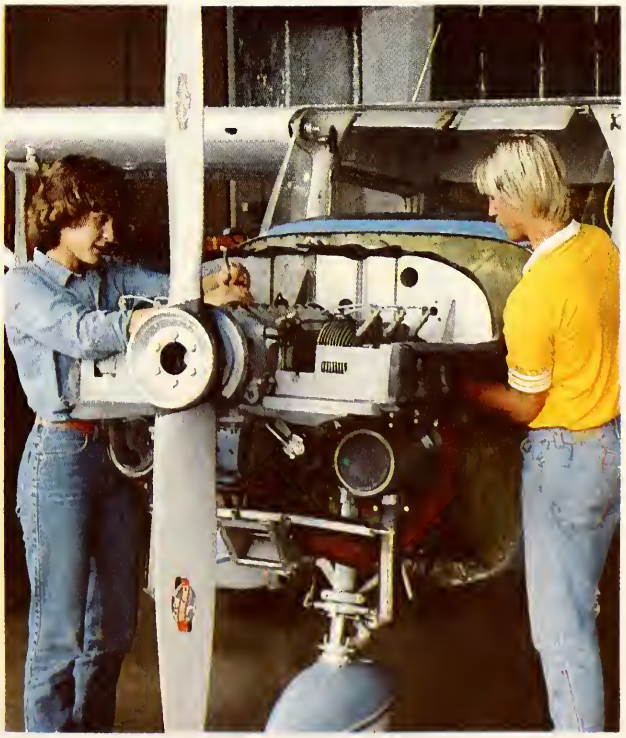
1982

1982-1982 Southern Illinois University Bulletin Carbondale Campus (School of Technical Careers Information)

Southern Illinois University Carbondale

Southern Illinois University at Carbondale Bulletin

1982-1983
School of Technical Careers
Information



University Calendar

Spring Semester, 1982

Semester Classes Begin	Monday, January 18, 8:00 A.M.
Lincoln's Birthday Holiday	Friday, February 12
Spring Vacation	Saturday, March 13, 12:00 noon—Monday, March 22, 8:00 A.M.,
Final Examinations	Monday, May 10—Friday, May 14
Commencement	Saturday, May 15

Summer Session, 1982

Eight Week Session Begins	Monday, June 14, 7:30 A.M.
Independence Day Holiday	Monday, July 5
Final Examinations	Thursday and Friday, August 5–6
Commencement	Saturday, August 7

Fall Semester, 1982

Semester Classes Begin	Monday, August 23, 8:00 A.M.
Labor Day Holiday	Monday, September 6
Thanksgiving Vacation	Saturday, November 20, 12:00 NOON—Monday, November 29, 8:00 A.M.
Final Examinations	Monday, December 13—Friday, December 17

Spring Semester, 1983

Semester Classes Begin	Monday, January 17, 8:00 A.M.
Lincoln's Birthday Holiday	Friday, February 11
Spring Vacation	Saturday, March 12, 12:00 NOON—Monday, March 21, 8:00 A.M.
Final Examinations	Monday, May 9—Friday, May 13
Commencement	Saturday, May 14

Southern Illinois University at Carbondale Bulletin

1982-1983 School of Technical Careers Information

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Southern Illinois University at Carbondale Bulletin (USPS 506–080)

Volume 23, Number 5, October 1981

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Index

to Programs, Specializations, and Options

Programs, specializations and related course groupings available for credit through the School of Technical Careers are listed here, with reference to the page on which a full description can be found. Programs leading to either the associate or baccalaureate degree are shown in **bold print.** Specializations and other course groupings are shown in *italic.*

Dental Laboratory Technology. A course of study in the fabrication of dental prostheses and related areas which leads to the A.A.S. degree. Fully accredited by the Council on Dental Education and Commission on Accreditation of the American Dental Association. Page 7.

Electronic Data Processing. Studies in computer programming and operation which leads to the A.A.S. degree. Page 27.

Electronics Technology. Studies in basic principals of electricity and electronics, communication systems, digital circuits, and industrial systems which lead to the A.A.S. degree. *Bio-medical Equipment Technology* is a third-year specialization for those who have completed this or a comparable associate degree program. Page 25.

Fire Science Services. Offered at various off-campus locations; designed to provide holders of the A.A.S. degree with studies leading to the B.S. degree. Page 22.

Flight Training. A sequence of pilot training courses available to any SIUC student by which an individual can be licensed at any level from private to commercial pilot. Does not lead to a degree in and of itself, but may be included in some programs on the baccalaureate level. Pilot training is not part of the aviation technology program. Page 18.

Helicopter Maintenance. Third year specialization in aviation technology. Page 16.

Information Processing Specialties. A proposed associate degree program combining elements of the programs in secretarial and office specialties and electronic data processing which is expected to be in effect for Fall, 1982. Specializations in *Word Processing, Data Processing, Court and Conference Reporting,* and *Office Specialties* (with secretarial concentrations in such areas as medical, legal, and administrative) will be offered. This program reflects trends in business, industry, and government toward the use of automated, integrated information systems. Additional information on this program is available from the director of the Division of Graphic Communications.

Law Enforcement. Provides academic background essential to support police training academy skills. Leads to the A.A.S. degree. Page 7.

Microcomputer Construction. Post-associate applied course in electronics technology. Page 27.

Mortuary Science and Funeral Services. The only such program in a public university in Illinois; leads to the A.A.S. degree. Page 8.

Nursing. A unique program, building upon practical nursing or its equivalent to prepare graduates to write the Illinois State Board Nursing Examination for registered nurse. Page 5.

Off-Campus Academic Programs. Bachelor of Science curricula in aviation management, construction management, electronic systems, fire science services, and health care services offered on military bases and at other locations throughout the U.S. Page 20.

Optical Electronics. Post-associate applied course in electronics technology. Page 26.

Photographic Production Technology. Technical photography and photo lab finishing. Leads to the A.A.S. degree. Page 28.

Physical Therapist Assistant. Associate degree program, approved by the American Physical Therapy Association, to allow the graduate to work under the supervision of a physical therapist. Page 9.

Radiologic Technology. A specialty in radiography in allied health careers specialties. Page 4.

Respiratory Therapy. A specialty in allied health careers specialties. Page 4.

Secretarial and Office Specialties. Associate degree program which provides specialized courses with secretarial concentrations in such areas as legal, medical, and administrative. *Court and Conference Reporting* is one specialization leading to the associate degree. Page 28.

Tool and Manufacturing Technology. Technician-level program with specializations in machine tool and metal fabrication which leads to the A.A.S. degree. Page 12.

Word Processing. A specialization in the proposed program in information processing specialties.

The School of Technical Careers

The School of Technical Careers (STC) is a unit unique to Southern Illinois University at Carbondale.

STC provides a full range of career-oriented programs, from the associate degree through post-associate specializations to individualized baccalaureate programs.

As one of the ten undergraduate units of Southern Illinois University at Carbondale, (SIUC), the School of Technical Careers offers both specialized training needed to meet career goals and the educational and cultural benefits of a major university to the nearly 4,000 students enrolled in its various programs.

The broad scope of STC provides opportunities to its students that are not usually found in the vocational-technical setting; the added benefit of access to the variety of academic disciplines, physical facilities, programs, intercollegiate athletics, and amenities such as fraternity and sorority life gives STC students a collegiate experience unmatched at any similar school in the nation.

The School of Technical Careers is geared to serve the educational needs of its students in their pursuit of immediate and long-range goals. Its progressive levels of instruction accommodate students' needs for recurrent or "stop-in, stop-out" education, permitting the student to enter the work force after attaining the associate degree or specialization before or during pursuit of the bachelor's or higher degrees. Additional opportunities are available through the bachelor of science in technical careers, and through other programs at SIUC such as business education, industrial technology, occupational education, and administration of justice, and at other institutions of higher education.

New high school graduates, college transfer students, returning veterans, teachers seeking to keep abreast of advancement in their fields, adults who want to improve or re-direct their career preparation, military personnel applying their service training to academic credentials—all of these and more find a place in the School of Technical Careers.

Associate and post-associate career programs are offered in 23 fields. These are high-demand programs which are not readily available in community colleges, such as aviation technology, or programs which draw from other resources of the university, such as physical therapist assistant. The school conducts the state's only public mortuary science and funeral service program. Law enforcement and correctional services programs have the benefit of cooperation with state and federal penal institutions and with the university's Center for the Study of Crime, Delinquency, and Corrections.

At the associate degree level, it is possible to design specialized programs for students whose career goals are so highly individualized that they cannot be met by structured programs.

Post-associate specializations, such as court and conference reporting and helicopter maintenance, give students the opportunity to build upon associate degree work with added studies necessary for licensure or to develop skills needed to meet the special requirements of a particular career field. These specializations usually consist of two semesters of concentrated study.

The baccalaureate degree program in technical careers is unique to this school. It is designed to meet the educational needs of the career oriented student which are not filled by existing programs. Many types of previous educational and occupational experiences may be applied to this program. The student, in consultation with advisers, develops a course of study designed to meet the individual's own career interests.

In addition to its on-campus offerings, the school conducts baccalaureate programs at approximately 35 military installations throughout the nation which give service personnel the opportunity to combine service training with academic studies, and cooperates with community

colleges in Illinois in providing degree programs in fire science services for active fire department personnel.

The most vital resource of any school is its fund of knowledge, the faculty which imparts that knowledge, and the students who seek and use it, but physical facilities and equipment also are important.

A number of STC programs now occupy a new three-story laboratory-clinic-classroom building near the SIU Arena, the first of two structures especially planned and equipped for career-oriented programs.

The second planned structure, STC II, is designed to meet the needs of the so-called "heavy" technologies, such as automotive, construction, and tool and manufacturing.

Aviation programs are conducted in facilities at the Southern Illinois Airport which also were designed especially for the educational function and house more than $6 million in instructional equipment.

Other STC programs, even though housed in temporary facilities at various locations on the Carbondale campus and at the former Vocational-Technical Institute campus near Carterville, are equipped and staffed to give students the finest education available.

This booklet gives a brief description of the School of Technical Careers, its programs, and the benefits available to its students as part of the educational community of Southern Illinois University at Carbondale.

Information on current admissions policies and procedures and tuition and fees can be found on page 30.

If you wish more specific information on the School of Technical Careers or any of its programs, consult the current Undergraduate Catalog of Southern Illinois University at Carbondale, or write to the coordinator listed with each program at the address shown inside the back cover.

Allied Health and Public Services

The School of Technical Careers offers a variety of programs in the allied health field. Many of these are at the associate degree level; others are post-associate specialties, and virtually all can be carried into the bachelor of science in technical careers.

Headquarters of this division are in the STC Building where the ground floor is occupied by a number of the programs. Clinical and laboratory facilities of the school are augmented by those of cooperating health care institutions in which students serve internships or find opportunities for specialized study.

Programs and specializations are described in some detail on the following pages. More complete information, including specific course descriptions, can be found in Chapter 4 of the SIUC Undergraduate Catalog.

Director of the Division of Allied Health and Public Services is Dr. Frederic L. Morgan.

Allied Health Careers Specialties

This program is especially designed to prepare specialists in combinations of two of the areas of clinical respiratory therapy, clinical medical laboratory technology, and clinical radiologic technology.

It is a highly individualized program which prepares graduates for service in medical facilities where they may be employed as single- or multi-competent technicians.

In general, students take a common core of coursework applicable to all three specialties. This includes courses such as physiology, human anatomy, chemistry, technical writing, oral reporting, college algebra, and other specialty-related subjects.

Clinical studies in medical laboratory, respiratory therapy, and radiographic techniques are built upon this basic coursework. This portion of the program will be completed off-campus in health care facility settings.

Students in the clinical portion of the program should expect to spend about $60 to $100 per clinical specialty area for uniforms, books, and insurance in addition to tuition and fees.

Radiologic Technology. Radiography is an allied health specialty concerned with the production of x-ray films which enable the physician to diagnose disease processes occuring in the human body. The course of study involves mastering the ability to control radiation production and the ability to position the body properly in order to obtain radiographs of the required anatomical structure.

The curriculum is designed to prepare students to become registered radiologic technologists. Completion of the course provides graduates with the educational requirements necessary to take the national certification examination administered by the American Registry of Radiologic Technologists.

To be accepted into the radiologic technology degree program, the student must have completed the requirements for allied health careers specialties. These advanced radiologic technology courses combine classroom and clinical education. Upon completion the graduate becomes registry eligible and receives an associate of applied science degree in radiologic technology.

Respiratory Therapy. Respiratory therapy is concerned with the treatment, management, control, and care of patients with deficiencies and abnormalities associated with respiration. It involves the therapeutic use of medical gases and administering apparatus, environmental control systems, medications, ventilatory control and breathing exercises, cardiopulmonary resuscitation, and measures and maintenance on natural, artificial, and mechanical airways.

The respiratory therapy curriculum is designed to prepare students to become registered respiratory therapists. Completion of the course provides

graduates with the educational requirements necessary to take the national registry examination administered by the National Board of Respiratory Therapy.

The student must have completed the requirements of allied health careers specialties to be accepted into the respiratory therapy degree program. These advanced respiratory therapy courses combine classroom and clinical education, which upon completion allows the graduate to become registry eligible and to receive the associate in applied science degree in respiratory therapy.

For specific information on the program and its specialties, contact:
Arch Lugenbeel, coordinator.

Associate Degree Nursing

This program, offered through the Southern Illinois Collegiate Common Market, is developed as an open curriculum model and is designed to provide career mobility for persons who have completed a practical nursing program or its equivalency through formal or informal methods. Graduates are eligible to write the Illinois State Board Nursing Examination and become registered nurses.

A comprehensive testing program allows students the opportunity to validate past experiences. After assessment by the nursing faculty, an individualized prescriptive type educational program is developed for each student.

In addition to the prerequisite practical nursing curriculum or equivalent, the program normally requires two semesters and a summer term for completion of the associate in applied science degree in nursing. However, because nursing courses follow a unique calendar, the student's schedule will extend beyond normal semester periods.

In addition to gaining admission to the University, the practical nurse applicant must achieve satisfactory scores on the Psychological Corporation Pre-Entrance Examination for Schools of Nursing and satisfy program criteria of health, personal references, and interviews.

Those individuals seeking admission as "equivalent to a practical nurse" must satisfy the above criteria as well as satisfactorily demonstrate nursing knowledge and clinical skills by both practical and written exams.

Additional expenses of approximately $500 are required to cover textbooks, uniforms, pre-admission examinations, liability insurance, workshops, and other items. Since students travel to several hospitals for clinical experience, it is essential that they have access to private transportation.

The program is designed to prepare graduates for the practice of nursing as defined in the Illinois Nurse Practice Act and meets the requirements for accredited schools in associate degree nursing in Illinois.

For more specific information, contact:
Alice Hees, coordinator.

Correctional Services

Individuals who are interested in the broad field of corrections will find that this associate degree program offers a general background of understanding as well as specific knowledge and skills that will prepare them for the area in which they wish to work.

The demand for people trained in all phases of correctional services—from institutional custodial and counseling personnel to probation and parole officers —is growing with the increasing concern of society with dealing with the problems of crime.

The individual who is interested in a career that provides satisfaction through helping others will find a wide range of opportunities in this field. Both men and women are needed to work with juveniles and adults, in institutions and in the community.

This program is designed to provide educational opportunity for the individual who is entering the field and to assist those who are already employed and wish to upgrade their abilities. It combines classroom work with field study and a period of internship in which the student works with a correctional agency or in a social service agency.

Students learn various counseling theories and methods through classroom and group participation. In order to gain a working knowledge of these methods, students have an opportunity to demonstrate in actual therapeutic settings the skills they have gained.

Emphasis is placed upon supervision and administration of institutions, probation, parole, and social service agencies. Individual intrapersonal as well as organizational skills can be gained which will be an asset to the individual inside or outside the criminal justice system.

Current requirements for the associate degree include:

First Semester
Introduction to Criminal Justice
Treatment Methods in Criminal Justice
Interpersonal Relations in Criminal Justice
Supervision in Criminal Justice
English Composition

Second Semester
Treatment Practicum
Introduction to Corrections
Probation, Parole, and Community-Based Corrections
American Government and Politics
Technical Report Writing

Third Semester
Criminal Behavior
Criminal Law I
The Sociological Perspective
Public Communication
Introduction to Psychology

Fourth Semester
Criminal Law II
Internship in Criminal Justice Practice
Elective

Persons already employed in the correctional field may enroll in the program on a part-time basis. The faculty will work with these individuals in arranging schedules compatibly with their duty schedules.

For more specific information, write: Jerry Joplin, coordinator.

Dental Hygiene

The dental hygienist is an important member of the dental health team and is the only one other than the dentist who is permitted by law to work directly in the mouth of the patient. All states require the dental hygienist to be licensed and to work under the supervision of a licensed dentist.

The hygienist's area of responsibility includes oral prophylaxis, chairside assisting, x-ray examinations, laboratory techniques, office and administrative procedures, dental health education, and other areas of preventive dentistry.

This program is fully accredited by the Council on Dental Education and Commission on Accreditation of the American Dental Association.

First-year enrollment is restricted by availability of facilities. In addition to university application procedures, there is a separate admissions packet for the program. There are several important deadline dates in the application process.

Persons wishing to enroll in the Fall 1982 semester must have taken the Dental Hygiene Aptitude Test no later than November 1981, and must have completed the admissions process by January 15, 1982. Fifty-six applicants are accepted.

Applicants for the Fall 1983 semester must take the aptitude test no later than November 1982, and must complete the admissions process by January 15, 1983.

The aptitude test is sponsored by the American Dental Hygiene Assn., Suite 1136 666 N. Lake Shore Dr., Chicago IL 60611, and information on testing sites and dates is available from that organization.

Current requirements for the associate of applied science degree include four semesters and an eight-week summer session:

First Semester
English Composition
Public Communication
Survey of Chemistry
Anatomy of the Head and Neck
Pre-Clinical Dental Hygiene
Ethics, Jurisprudence, and Office Management

Second Semester
Survey of Chemistry
Survey of Human Anatomy
Principles of Physiology
Histology and Embryology
Pre-Clinical Dental Hygiene
Dental Radiology

Summer Session
Microbiology
Nutrition
Clinical Dental Hygiene
Dental Radiology

Third Semester
Pathology
Community Dentistry
Dental Materials and Assisting
Clinical Dental Hygiene and Radiology
Dental Pharmacology and Anesthesia
Periodontology

Fourth Semester
Introduction to Psychology
Social Perspectives
Community Dentistry
Clinical Dental Hygiene and Radiology
Seminar

The dental hygiene student has expenses of about $2600 in addition to University tuition and fees. This covers

the cost of instruments, uniforms, liability insurance, two weeks of internship at the SIU School of Dental Medicine at Alton, Illinois, and a basic professional library.

For more specific information, contact: Jo Ellen Wolaver, coordinator.

Dental Laboratory Technology

Dental laboratory technology is concerned with the construction of replacements for natural teeth which have been lost by disease or accident. The relationship of the dental technician to the dentist is similar to that of the pharmacist to the physician or the optician to the eye specialist. The technician is an important member of the dental health team.

The School of Technical Careers has been a pioneer in approved education for dental technicians. The curriculum and staff are fully accredited by the Council on Dental Education and Commission on Accreditation of the American Dental Association.

Applicants to this program must be admitted both to the university and to the program through two separate application procedures.

Each student must purchase a kit of instruments, to be retained after graduation, at a cost of approximately $225 each year.

Current requirements for the associate degree program are:

First Semester
Tooth Anatomy
Complete Dentures
Advanced Complete Dentures
Orientation to Dental Technology
English Composition
Inorganic Chemistry

Second Semester
Removable Partial Dentures
Advanced Removable Partial Dentures
Dental Orthodontics and Pedodontics
Oral Anatomy
Science of Dental Materials
Introduction to Physiology

Third Semester
Dental Occlusion
Beginning Crown and Bridge
Advanced Crown and Bridge
Professional Ethics
Science of Dental Materials
Technical Writing

Fourth Semester
Dental Ceramics
Advanced Dental Ceramics
Dental Lab Specialty
Public Communication
Applied Accounting

A number of these courses are conducted in five-week modules.

Career opportunities for graduates are excellent. The trained dental technician not only has a wide choice of geographic location, but can select from a variety of employment situations, such as dental offices, commercial laboratories, or the dental supply industry. Many are self-employed.

For more specific information on the program, contact:
Dennis Laake, coordinator.

Law Enforcement

Law enforcement officers in modern society must deal with situations undreamed of a generation ago, and use methods of crime prevention and detection that are the result of new technologies.

It is no longer sufficient for the law enforcement officer merely to be expert in the use of firearms, personal defense, or crowd control; the police officer must be a mature individual who knows a great deal about people and understands their motivations and is able to handle a diversity of problems.

This is the need that this associate degree program is designed to meet. It does not include the purely police skills which are offered in police academies, but emphasizes the broad range of knowledge upon which these skills are based.

Courses are designed to prepare students as practitioners in the law enforcement field on the local, state, and federal level. The program provides the student with both theoretical and practical course work in all aspects of law enforcement.

Currently, the program consists of these courses:

First Semester
Introduction to Criminal Justice
Criminal Behavior
Supervision in Criminal Justice
Interpersonal Relations in Criminal Justice
English Composition

Second Semester
Criminal Investigation
Police Administration
Probation, Parole, and Community Based Corrections

Technical Report Writing
American Government and Politics

Third Semester
Criminal Law I
Introduction to Psychology
The Sociological Perspective
Public Communication
Elective

Fourth Semester
Criminal Law II
Internship in Criminal Justice Practice
Elective

Both men and women are enrolled in this program. All students serve an internship in which they work under supervision with a police agency.

Provision is made to accommodate both the individuals who plan to attend full time and complete the course of study in two academic years and police officers who wish to attend part-time.

For more specific information, contact: Jerry Joplin, coordinator.

Mortuary Science and Funeral Service

The only mortuary science and funeral service program in a public university in Illinois, this associate degree course of study is fully accredited by the American Board of Funeral Service Education and by many individual state boards.

Those wishing to enroll must complete a mortuary science admissions packet as well as filing for admission to Southern Illinois University at Carbondale.

The curriculum is divided into two concentrations. One is funeral service education, or funeral directing, which involves counseling the family on a variety of matters including insurance, social security, and veterans' benefits, as well as all aspects of managing a funeral home. The other is mortuary arts and sciences, or embalming, which involves the disinfection, preservation and restoration of human remains for funeral ceremonies.

Preprofessional and professional courses have been combined to provide a carefully balanced course of study in four semesters of classroom and laboratory work and one summer internship.

Current requirements are:

First Semester
Orientation to Funeral Service
Restorative Art
English Composition
General Psychology
Biological Science

Second Semester
Funeral Service Psychology
Public Communication
Accounting
Business Law
English Option
Health Education Elective

Third Semester
Embalming Chemistry
Mortuary Management
Embalming Theory and Practice
Mortuary Anatomy

Fourth Semester
Mortuary Management
Embalming Theory and Practice
Pathology
Microbiology

Summer Session
Management and Embalming Internships Seminar

Graduates of this program have satisfied requirements for the trainee license and are eligible to write the state board examinations in embalming and funeral directing.

Licensing and qualification requirements vary from state to state since laws governing the profession are enacted at a state level. Licensure in one state does not assume automatic qualification in another, but most state boards have some reciprocal agreements with other states. Prospective students should contact the licensing body of the state in which they decide to attempt licensure.

This program is the home of Alpha Chapter of Sigma Phi Sigma, mortuary science fraternity.

For more specific information, contact:
Donald Hertz, coordinator.

Physical Therapist Assistant

This program is designed to prepare graduates to work under the direction of a licensed physical therapist to treat disabilities resulting from birth defects, disease, or injury. Under the direction of a physical therapist, the assistant helps the patient to develop strength, mobility, and coordination, and provides relief from pain.

The program has been accredited by the American Physical Therapy Association. The physical therapist assistant program's ethical standards in education are planned in accordance and are consistent with the ethical guidelines recommended by the American Physical Therapy Association's Committee on Accreditation in Education. The program's ethical standards include the provision of an educational experience which will ensure that the graduates will become qualified physical therapist assistants, fairness in academic credit and tuition, accurateness in advertising, and responsible, nondiscriminatory recruitment practice.

In addition to University admission, prospective students must complete an admission packet for the program. Applicants for Fall 1982 must be admitted to the University by October 30, 1981, and have completed the program admission application by November 27, 1981. Enrollment is limited by size of faculty and physical facilities.

Admission is limited to the fall semester.

Prospective students should make early application.

Students should plan to spend approximately $100 for uniforms and insurance, as well as make provision for spending 12 weeks away from campus while serving internships in two separate hospitals.

All credit earned in completion of a physical therapist assistant program may not be applicable to further studies in a physical therapy program at another institution.

Current requirements of the program include:

First Semester
Chemistry for Non-Science Majors
English Composition
Zoology
Physical Therapy Orientation
Therapeutic Modalities I
Massage

Second Semester
Principles of Physiology
Physiology Laboratory
Introduction to Psychology
Interpersonal Communications
Human Anatomy
Physical Rehabilitation Techniques
Physical Therapist Assistant Practicum I

Third Semester
HiFi Sound-Laser Beams
First Aid
Kinesiology of Normal and Pathological Conditions
Therapeutic Exercise I
Pathology
Therapeutic Modalities II

Fourth Semester
Physiological Bases-Human Movement
Training Room Techniques
Psychology
Physical Therapy Science
Therapeutic Exercise II
Physical Therapist Assistant Practicum II

Summer Session
Clinical Internship
Clinical Seminar

The Health Careers Council of Illinois reports that the field of physical therapy is one of the five most critical areas in which a manpower shortage exists. There are growing demands for physical therapy services in hospitals, extended care and nursing home facilities, and in private practices.

More specific information on the program is available from:
Ted Okita, coordinator.

Applied Technologies

The so-called "heavy technologies" offered by STC are conducted on the Carterville Campus, original home of the school established in 1951. This facility is located 11 miles east of Carbondale on old state route 13 at the edge of the Crab Orchard National Wildlife Refuge. It is served by University buses which transport students free of charge on a regular schedule.

The campus has undergone considerable modernization during the past year. Out-dated and unused structures have been removed and others have been remodeled. Students have participated in the construction of research structures for the study of energy conserving building materials and methods.

Programs in automotive technology, construction technology, and tool and manufacturing technology are described in this section of the bulletin. As with other associate degree programs conducted by STC, these are applicable to the bachelor of science in technical careers degree. Complete course descriptions are given in Chapter 4 of the SIUC Undergraduate Catalog.

Harry R. Soderstrom is director of the Division of Applied Technologies and administrative officer of the Carterville Campus.

Automotive Technology

This associate degree program is unique because instruction progresses through an orderly sequence of classroom and laboratory experiences that emphasize "why" more than "how." Its basic objective is to provide students with a solid foundation of knowledge, experience, and skills that will assist in job entry and career advancement in many facets of automotive service and related industries.

Developments in the automotive industry and the trend to more fuel-efficient, less polluting motor vehicles require highly skilled service technicians who specialize in specific service areas. This program recognizes the various needs of the industry and the needs of its future technicians and offers the flexibility for the student to develop these required specialties, with the option of continuing past the associate degree to obtain further technical specialties.

During the first year, each student takes a series of core courses which provide the skills and technical information essential to all service technicians. During the second year the students may choose any four of eight possible specialties. In most cases, these will deal with advanced instruction in areas covered in the core courses.

Current requirements for the associate degree are:

First Semester
Automotive Engines and Fuel Systems Lab
Automotive Engines and Fuel Systems Theory
Brakes and Chassis Laboratory
Brakes and Chassis Theory
Related Shop Laboratory
English Composition

Second Semester
Engine Electrical Laboratory
Engine Electrical Theory
Drive Trains Laboratory
Drive Trains Theory
Technical Mathematics
Public Speaking

Third Semester
Applied Physics
Courses in Areas of Specialization

Fourth Semester
Technical Writing
Courses in Areas of Specialization
Chemistry of Fuels and Lubricants

Specialization: with the aid of an adviser and subject to availability of courses, the student will choose any four (two per semester) lab and theory combination courses:

Automatic Transmissions
Automotive Power Accessories
Automotive Air Conditioning
Advanced Fuel and Emissions Systems
Advanced Brakes and Chassis
Advanced Engine
Advanced Electrical Systems
Fuel Injection Systems

The student should expect to spend about $400 for a basic tool kit of domestic and metric tools and supplies.

Upon completion of requirements for the associate degree, and at the option of the student, additional automotive studies may be continued for part or all of a third year in areas in which courses are available. This allows the student to develop additional skills and knowledge in the various areas of specialization offered.

Graduates of the program find a wide range of opportunities in service, sales, research, and manufacturing areas.

For more specific information, contact: James White, coordinator.

Construction Technology—Building

This curriculum is designed to meet the needs of the individual who is entering the construction industry on the technician level.

The technician must be able to talk the language of the industry and interpret instructions. The technician also must be capable of working in the area between the architect and the contractor who is expected to carry out the mandates of the design.

Sufficient theory and laboratory work is included in this program to allow the graduate to perform in areas of material testing, drafting, construction methods, estimating, and surveying.

Current requirements for the associate in applied science degree include:

First Semester
Drafting
Construction Materials
Basic Construction I
Technical Mathematics

Second Semester
Building Construction Surveying
Basic Construction II
Statics and Strength of Materials
Applied Physics

Third Semester
Statics and Strength of Materials
Construction Materials
Advanced Construction I
English Composition

Fourth Semester
Construction Cost Estimating
Advanced Construction II
Technical Writing
Applied Accounting I
Elective (Social Science or Humanities)

Students should expect to spend about $50 for instruments and supplies.

The curriculum is designed to accept both beginning freshmen and transfer students. Those entering with industrial experience or courses taken in the military may earn credit by proficiency or transcript evaluation.

Graduates may find employment as construction engineering aids, assistants to a contractor supervisor, building materials salespersons, inspectors, and estimators.

For more specific information, contact:
Harold W. Osborn, coordinator.

Tool and Manufacturing Technology

Students in this program are trained on a variety of modern machines and testing equipment by faculty members who have broad experience in education and industry.

Tool and manufacturing technology majors are offered a choice of two specializations: *Machine Tool (Numerical Control)* or *Metal Fabrication and Processes.*

The *Machine Tool* specialization offers students extensive experience in a well-equipped machine shop with the training necessary to build basic jigs and fixtures, to set up and operate production machines such as the turret lathe, to build various forms of shop tooling, and to build metal stamping dies and casting dies. Hands-on experience on advanced forms of machinery such as numerical controlled machines and electrical discharge machines is a vital part of the students' experience. Electronic data processing facilities are used to prepare machine tool students for work with computer assisted programming of numerical controlled machines. They learn to design and test industrial types of electric, hydraulic, and pneumatic power circuits; to read blueprints and make shop sketches; and to alter existing machines for structural changes.

Metal Fabrication and Processes majors combine machine shop training with training in welding and fabrication. These students will learn to operate such machine tools as lathes, milling machines, grinders and drill presses. They will develop proficiency in a wide variety of welding skills and learn to use oxy-acetylene, electric arc, metallic-inert gas and tungsten-inert gas welding machines.

A student chapter of the Society of Manufacturing Engineers gives its members an early start in the development of their careers.

A successful graduate of the program may work as a tool and manufacturing technician, who functions in the industrial area between the mechanical and manufacturing engineering and the skilled craftsman. The technician has the technical background required to work with engineers in research, development, and testing, plus the skills in metal cutting and fabrication that give him the abilities of a tool maker, machinist, or welder.

The technician may run tests on experimental equipment and material, alter and fabricate pilot models of equipment, build jigs, fixtures an dies, or operate and supervise operation of machine tools and fabricating equipment.

Students spend about $100 for tools, instruments and supplies.

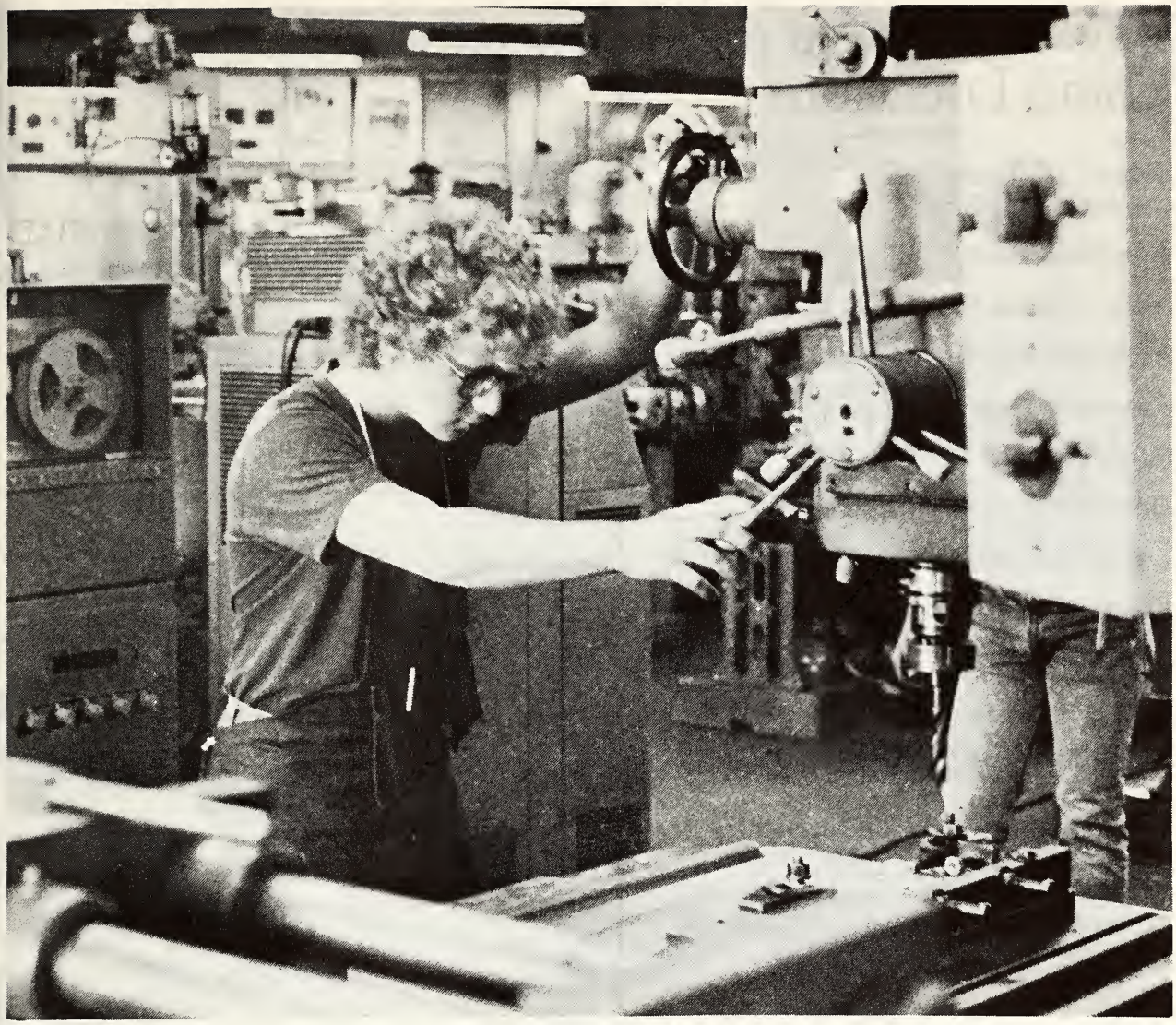
Current requirements for the Associate in Applied Science degree are:

Machine Tool (Numerical Control) Specialization

First Semester
Basic Tool and Manufacturing Lab
Introduction to Machine Tools
Technical Drawing
Hydraulics and Pneumatic Control
Technical Math

Second Semester
Milling Machine and Grinding Lab
Machinability of Metals
Technical Drawing
Social Science Elective
English Composition

Third Semester
Numerical Control, Electrical Discharge Machining, Tool and Die



Numerical Control, Inspection Practice, and Electrical Discharge Machining
Metallurgy
Numerical Control Programming
Applied Physics

Fourth Semester
Advanced Numerical Control, Tool and Die, Production Machining
Tool and Die, Production Machining, Process Planning
Manufacturing Processes
Metallurgy
Communication Elective

Metal Fabrication and Processes Specialization

First Semester
Basic Tool and Manufacturing Lab
Introduction to Machine Tools
Technical Drawing
Hydraulics and Pneumatic Control
Welding I

Second Semester
Milling Machine and Grinding Lab
Machinability of Metals
Welding II
English Composition
Technical Math

Third Semester
Welding III
Welding Blueprint Reading
Metallurgy
Certified Welder Training
Applied Physics

Fourth Semester
Manufacturing Processes
Metallurgy
Certified Welder Training
Social Science Elective
Communication Elective

For more specific information, contact:
H. R. Soderstrom, coordinator.

STC Programs and Their Locations

School of Technical Careers Building

Administration

Allied Health Careers Specialties

Architectural Technology

Associate Degree Nursing

Baccalaureate Studies

Dental Hygiene

Dental Laboratory Technology

Electronics Technology

Mortuary Science and Funeral Service

Off-Campus Academic Programs

Secretarial and Office Specialties

Technical Careers Annex

Commercial Graphics—Design

Photographic Production Technology

Faner Hall

Correctional Services

Law Enforcement

Electronic Data Processing

Wham Education Building

Physical Therapist Assistant

Southern Illinois Airport

Aviation Technology

Avionics Technology

Helicopter Maintenance

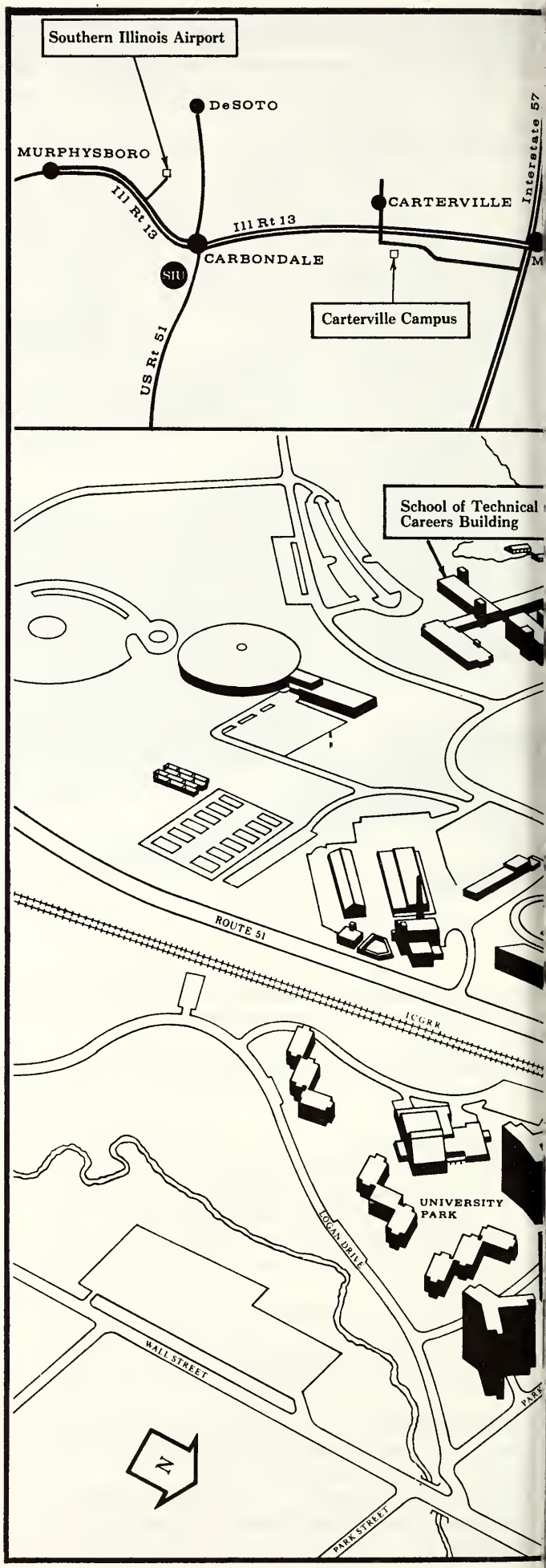
Flight Training

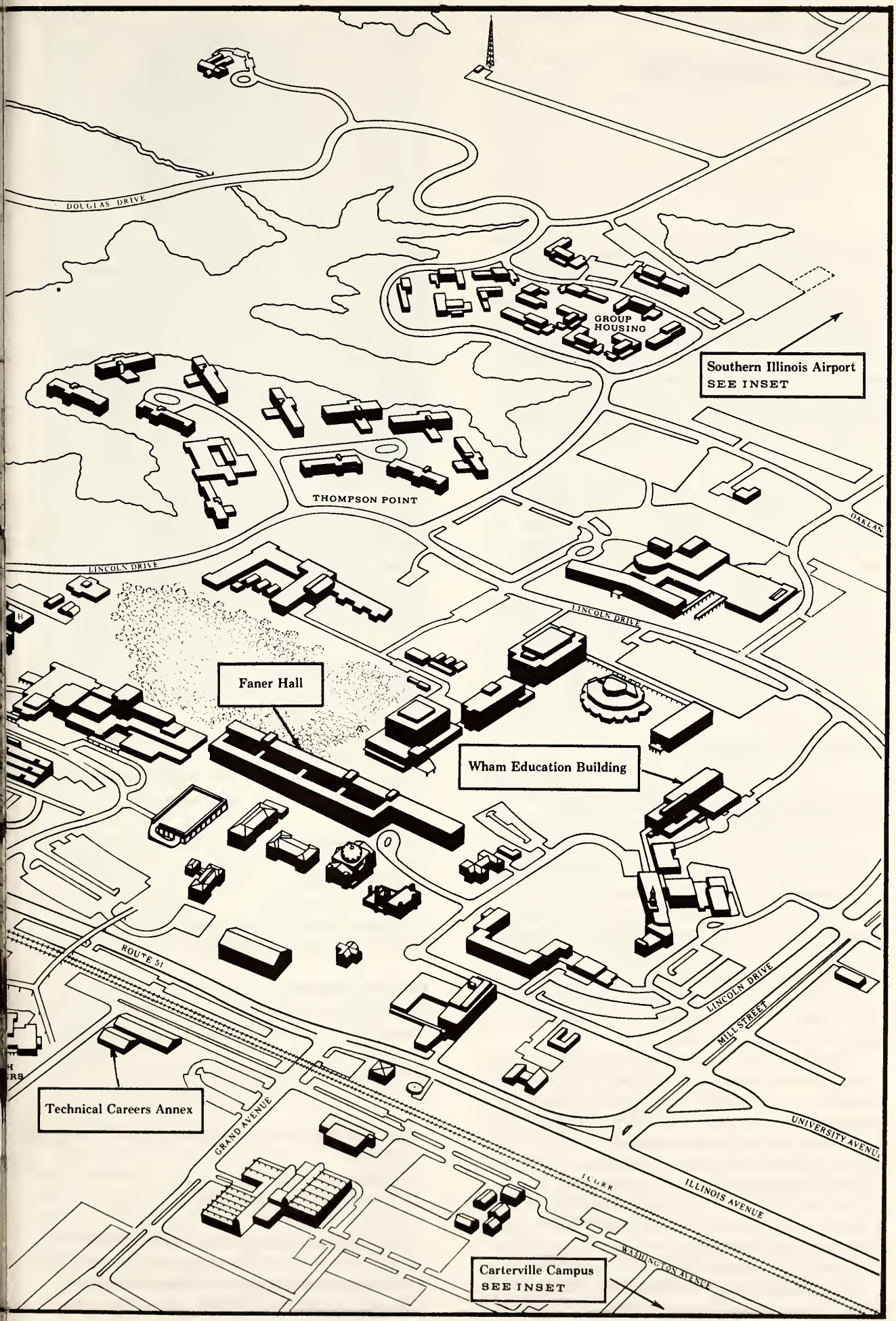
Carterville Campus

Automotive Technology

Construction Technology

Tool and Manufacturing Technology




DOUGLAS DRIVE
GROUP HOUSING
Southern Illinois Airport
SEE INSET
THOMPSON POINT
LINCOLN DRIVE
LINCOLN DRIVE
Faner Hall
Wham Education Building
ROUTE 51
LINCOLN DRIVE
MILL STREET
Technical Careers Annex
GRAND AVENUE
UNIVERSITY AVENUE
ILLINOIS AVENUE
WASHINGTON AVENUE
Carterville Campus
SEE INSET

Aviation Technologies

The School of Technical Careers offers one of the most comprehensive aviation education programs in the nation, including FAA-approved programs in airframe and powerplant, avionics, helicopter maintenance, flight training, and aviation management. Aviation students can apply associate degree studies to the bachelor's degree through the STC Division of Baccalaureate Studies.

Aviation facilities are located at the Southern Illinois Airport just off Illinois Route 13 mid-way between Carbondale and Murphysboro. Free University bus service is provided to transport students to and from classes there.

Specific course descriptions for aviation programs described in this section of the bulletin can be found in Chapter 4 of the SIUC Undergraduate Catalog.

Joseph Schafer is director of the Division of Aviation Technologies.

Aviation Technology

Graduates of this program are qualified to obtain the Federal Aviation Agency airframe and powerplant certificate and are prepared to work as maintenance technicians in airlines or general aviation. The associate degree program can be completed in two academic years, or four semesters, but students wishing to qualify for the FAA A&P license must complete an additional eight-week summer term.

Helicopter maintenance is available as a third-year specialization to graduates of this or similar programs.

Aviation Technology is conducted in a combination hangar-laboratory-classroom facility at the Southern Illinois Airport between Carbondale and Murphysboro. It is offered as part of the most comprehensive aviation training program in an Illinois public university and is acclaimed by many in the aviation industry and government as the best program in the nation.

It is fully accredited by the FAA.

Equipment and training aids valued at more than $6 million are used in teaching reciprocating and jet powerplants, hydraulics, fuel systems, ignition-starting systems, carburetion and lubricating systems, instruments, and powerplant testing in a coordinated program of classroom and laboratory work. Students are prepared an animated training panels representing such modern jet aircraft as the Boeing 707 and 727, and Douglas DC8 and DC9.

Current requirements for the associate degree are:

First Semester
English Composition
Technical Math
Material & Metal Processing
Aircraft Electricity
Aircraft Instruments and FAR

Second Semester
Technical Report Writing
Aircraft Structures
Aerodynamics and Weight and Balance
Aircraft Hydraulics
Cabin Environment and Jet Transport Systems

Third Semester
Introduction to Psychology
Airframe and Powerplant Electrical & Ignition Systems
Reciprocating Powerplant
Carburetion, Lubrication

Fourth Semester
Public Communications
Social Science Elective
Propellers
Powerplant Testing
Jet Propulsion Powerplant

Summer Session (Required for FAA A&P)
Aircraft Inspections
Powerplant Inspections

Helicopter Maintenance. This area is available as a third-year specialization and is made up of four specialized courses offered in two semesters:

First Semester
Helicopter Theory and General Maintenance Practices
Helicopter General Maintenance Laboratory

Second Semester
Helicopter Power Train and Inspection
Helicopter Power Train Laboratory

Students spend about $400 for a tool kit and special study materials.

Graduates of the program in aviation technology are in demand as skilled technicians throughout the rapidly-growing aviation industry.

Students in the aviation technology program may enroll also in flight training.

Enrollment in the program is limited by requirements of FAA accreditation. In recent years, admission has been closed well in advance of the Fall semester, and those interested in enrolling should apply early.

For more specific information, contact: Larry Staples, coordinator.

Avionics Technology

This associate degree program prepares graduates to work as skilled technicians in the field of aviation electronics. These skills are in demand for the installation and maintenance of the sophisticated systems required by modern aircraft with still increasing demands in the future.

Because of the new technological advances in these areas, STC has made every effort one of the most comprehensive programs in this field of study by utilizing cources in electronics technology and facilities of the aviation technology program to train the avionics technician in the area of electronics and the specifics of aviation equipment.

The first year of this course utilizes courses in basic electronics taught on the STC campus and provides the student with extensive electrical background. In addition to these courses, courses are taught at the aviation technologies facility emphasizing the aircraft and the relationship of the avionics equipment to the whole aircraft.

The second year of the program is devoted entirely to the equipment that is found on modern aircraft and includes navigation and communication equipment, transporters, distance-measuring equipment, integrated flight systems, and weather radar.

Requirements for the associate degree can be completed in two academic years (or four semesters), but students who wish to meet strict federal and industry standards should plan to attend a group of courses offered in additional summer term.

Current requirements for the associate degree are:

First Semester
DC-AC Circuit Analysis
DC-AC Circuit Laboratory
Electronics Devices
Aircraft Systems
Technical Mathematics

Second Semester
Electronics Circuit Theory
Electronics Circuit Laboratory
Avionics Shop Practices
Avionics Shop Laboratory
English Composition

Third Semester
Flight System Theory
Avionics Laboratory
Aircraft Electrical Systems
Technical Report Writing
Interpersonal Communications

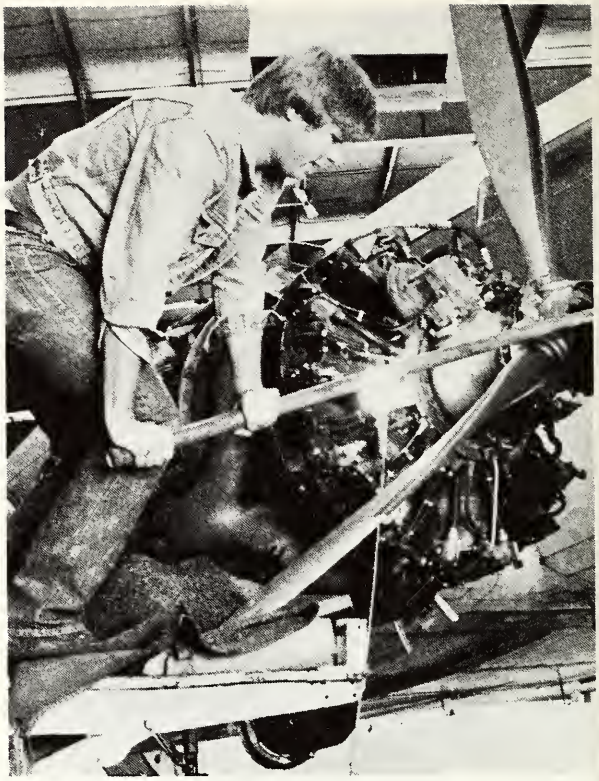
Fourth Semester
Aircraft Communications and
Navigation System Theory
Avionics Laboratory
Avionics Logic Circuits and
Pulse System Theory
Avionics Laboratory

Summer Session
Avionics Laboratory
FCC Regulations
Avionics Radar System Theory

Students should expect to purchase basic tool kits and study materials at an approximate cost of $140.

Graduates of the program are prepared to install, maintain, test, and repair airborne communications and navigation systems, and radar equipment. They find opportunities with airlines, in general aviation, and in aircraft manufacturing.

For more specific information, contact:
Larry Birkhead. avionics coordinator.



Flight Training

Any student enrolled in Southern Illinois University at Carbondale may take flight courses from private pilot through airline transport pilot for up to 18 hours of credit. Many are interested in learning to fly for personal reasons and complete only the private pilot courses.

Students who wish to apply this training to degrees in aviation may do so through the bachelor of science in technical careers program.

As explained elsewhere in this booklet, a special bachelor's degree curriculum can be designed to prepare the graduate for virtually any aviation-related career, such as aviation management, fixed base operations, or commuter airline operations. The possibilities are limited only by career opportunities and student determination and imagination.

Some students want to earn credit in flight courses to complement or supplement a major course of study in the university. These include students enrolled in the highly regarded associate degree programs in aviation technology and avionics technology in the School of Technical Careers. Students need not be enrolled in an aviation-related program, or even in the School of Technical Careers, however. Pilot training courses may just as well be taken by students in agriculture, physical education, or liberal arts, for example.

Pilot training courses are conducted at the Southern Illinois Airport, where a full range of modern, fully flight instrument equipped and superbly maintained aircraft is available for student use.

All full-time flight faculty hold the ATP as well as the full range of flight instructor credentials.

Ground school courses are held in small classroom groups as well as one-to-one in more casual settings. All airborne instruction is schedule at the student's convenience, on weekends as well as during the week.

Fees for flight training are assessed in addition to regular tuition and fees paid by the student.

At the time of publication, costs for private pilot training totaled approximately $1700. Instrument commercial pilot training costs were an additional $5,100. Various other ratings through airline transport pilot are available. Flight training fees are subject to change; the current schedule is available from the supervisor.

Individuals who wish to incorporate flight training into a degree program in the School of Technical Careers should contact an adviser in either the baccalaureate or associate degree division.

For more specific information on flight training, contact:
Elliott Ketring, chief pilot and supervisor.

Bachelor Degree Programs

The School of Technical Careers offers a baccalaureate degree which is tailored specifically to the needs of individuals who are in occupational-technical programs or career tracks.

Students who are enrolled in or who have completed associate degree career programs at STC or at other educational institutions can apply these studies to individually designed baccalaureate programs which fit their specific career needs.

STC offers this educational opportunity on-campus through the Division of Baccalaureate Studies and at locations throughout the nation through the Office of Off-Campus Academic Programs.

These programs are described in some detail in this bulletin.

Dr. Larry McDougle is director of the Division of Baccalaureate Studies and Dr. John R. Sutton is assistant dean for Off-Campus Academic Programs.

Baccalaureate Studies

The Bachelor of Science degree in technical careers offered by Southern Illinois University at Carbondale is unique.

It is designed for individuals, college age or older, who are following a career path for which there is no existing program leading to the bachelor's degree. More specifically, it is designed for students who have completed an occupational associate degree (or its equivalent) and who would like to add to or broaden their career preparation. It allows the career-oriented student to design an individualized course of study that exactly fits the individual's educational needs.

This degree is not for everyone, however. It is not accredited for professional fields such as architecture, for example. And those who wish to be certified elementary or secondary school teachers should look at the programs offered by the College of Education. This is not the proper program if there is an existing program in any unit of SIUC or another college which accommodates the student's career goals.

Unlike conventional programs, the STC baccalaureate studies program has no established curriculum or required courses. With the help of an STC baccalaureate faculty member, each student designs a program of study to give the preparation needed for advancing in a particular field.

In preparing a program of study, a student may choose courses from any of the undergraduate colleges and schools at SIUC. For example, a student with an associate degree in automotive technology who wishes to work in automotive service management may include courses in small business management, business law, management and supervision, personnel psychology, and applied accounting. A student with an associate degree in commercial graphics who wishes to be a writer and illustrator of children's books may design a curriculum which includes courses in art, children's literature, creative writing, and child psychology.

In addition to admission to SIUC, the student must meet these requirements in order to be admitted to the individualized baccalaureate studies program:

- Have completed at least two terms of post-secondary education
- Have an approved learning contract on file with the program
- Special approval if more than 90 semester hours of post-secondary education have been accomplished

Requirements for the Bachelor of Science degree in technical careers include:

- Complete two years of study (approximately 60 hours) beyond the occupational associate degree, including all SIUC baccalaureate degree requirements
- Complete the requirements listed in the learning contract
- Obtain credit for approved work experience or internship
- Be enrolled in the baccalaureate studies program for at least two terms

The learning contract is the heart of the program. It is an agreement which sets forth the specific courses which will be taken by a student to complete the Bachelor of Science degree in technical careers. It covers these points:

A title for the individual program or course of study. This is discussed with the adviser before acceptance.

A career goal statement, which is a description in the student's own words of the career being prepared for, why it was chosen, and how the student intends to prepare for it. The complete statement has three major paragraphs, covering these points:

What career. In what type of business or industry the student intends to work, specific kind of position sought, and the knowledge and skills needed.

Why the career was selected. Previous work experience, and relevant technical training the student has; an outline of post-secondary academic history to this point, including schools attended, major, minor, degrees received; and an explanation if there is a change of major.

How the student plans to prepare. Why the School of Technical Careers was chosen over other options; the areas of intended study to complete the B.S. degree, including a major and a proposed secondary area of concentration; and the relationship of the courses chosen to the career goal.

A program of study listing the courses already taken and future courses planned in order to complete all the requirements for the Bachelor of Science degree in technical careers. It consists of a primary concentration (usually an occupational associate degree), an individualized secondary concentration (composed of courses taken beyond the associate degree and related to the career goal), and credit for approved work experience or internship.

In addition to being able to design individualized courses of study, it also is possible for students to receive credit for previous civilian and military work experience as well as for military schools. This experience, of course, must be related to the career goal.

Admission to the STC baccalaureate studies program does not imply admission to any STC associate degree program. Students who wish to take courses in an associate degree program, must also apply for admission to that program.

Because the STC baccalaureate program takes a limited number of students, early application is advisable. Those who have specific questions about the program which this booklet does not answer should write:

Larry McDougle, director
Division of Baccalaureate Studies.

Off-Campus Academic Programs

The School of Technical Careers conducts programs on more than 30 military and civilian locations throughout the United States which give working individuals the opportunity to apply specialized training and other educational experience to an academic program leading to the Bachlor of Science degree in technical careers.

Currently, the school offers aviation management, electronic systems, health care services, fire science services, and construction management.

These curricula are designed to provide classwork in concentrated sessions, with scheduling to accommodate work assignments. At each location where the program is available, a representative of the school is assigned to provide advisement and counseling. Courses are taught by faculty members who travel to the location to deliver instruction.

Every effort is made to accommodate the special needs of working individuals in these programs.

Course work provided by the school consists of upper division studies which build upon military or civilian technical training and general education acquired by the student through completion of courses at any accredited institution of higher education or by credit received through CLEP, USAFI, DANTES, or by proficiency examination.

Specific information is available through the base education office or from the representative of the School of Technical Careers at installations where the programs are offered.

Coures of study now available at off-campus locations include:

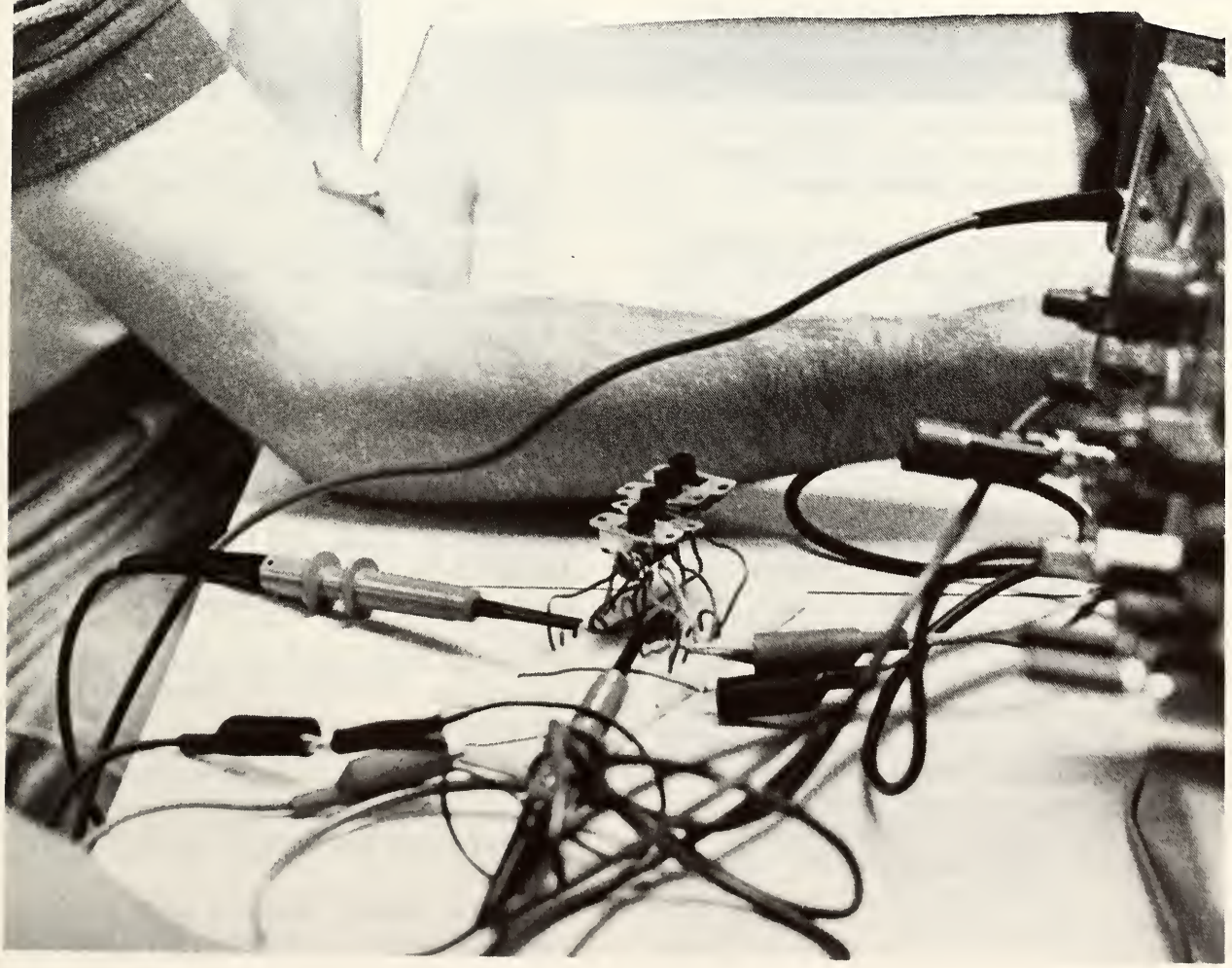
Aviation Management. This curriculum coincides with many Army, Navy, Marine Corps, and Air Force career specialties such as ground equipment, electrical systems, general flight line maintenance, pneudraulic systems, powerplant, propeller, environmental and ejection systems, communications, navigation, avionics instruments, radar, and others included in the aviation career specialty listings.

Courses provided by the school include:
Airport Planning

Aviation Industry Regulations
Airport Management
Airline Management
Technical Writing
Systems Design and Development
Labor/Management Problems
Fiscal Aspects of Aviation Management
Professional Development
Legal Aspects of Aviation Management
General Aviation Operations
Occupational Safety and Health Standards
Internship
Technical Careers Subjects

Construction Management. This course of study leads to the Bachelor of Science degree in technical careers and is designed especially for individuals who hold the Associate in Applied Science degree or its equivalent in a construction related field of study.

The curriculum consists of upper division construction management courses



offered at designated off campus sites. This specific curriculum is not available to students on the Carbondale Campus.

Class schedules are arranged to accomodate unique work schedules. A total of three formal classroom courses and an independent study or internship activity are required each semester for four semesters.

Required construction management courses work includes:

- Fiscal Aspects of Construction
- Legal Aspects of Construction
- Construction Sub-Contractor Management
- Construction Organization Theory
- Construction Company Operations
- Electrical and Mechanical Systems in Construction
- Construction Bidding
- Alternative Energy Applications
- Technical Careers Subjects
- Purchasing
- Labor Management Problems
- Land Use in Construction
- Systems Design and Development

While this curriculum is designed primarily for those who have the associate degree, provision is made for those who have not yet completed work on the degree.

Electronic Systems. This curriculum coincides with military career specialties such as ground equipment electronic systems, communications, navigation, avionics instruments, radar, and others listed in the aviation career specialty listings.

Courses provided by the school include:

- Telemetry and Industrial Circuits
- Digital Circuits
- Advanced Solid State Devices
- Introduction to Electronic Biomedical Instrumentation
- Technical Writing
- Labor/Management Problems
- Quality Control
- Professional Development
- Production and Inventory Control
- Occupational Safety and Health Standards
- Systems Design and Development

Health Care Services. This curriculum coincides with military career specialties of medical corps, medical service corps, hospital corpsman, dental technician, and similar health care specialties.

Courses provided by the school include:

- Legal Aspects of Health Care
- Health Economics
- Data Interpretation
- Internship
- Technical Careers Subjects
- Systems Design and Development
- Seminar in Health Care Services
- Health Care Management
- Fiscal Aspects of Health Facilities
- Professional Development
- Community Health Administration
- Staff Development
- Equipment and Materials Management in Health Facilities
- Technical Writing
- Labor/Management Problems

Fire Science Services. This course of study leads to the Bachelor of Science degree in technical careers and is designed especially for individuals who hold the Associate in Applied Science degree or its equivalent in a fire science related field from a community college or technical institute.

The curriculum consists of upper division fire science service courses offered at designated off-campus sites for civilians, and for military personnel at selected bases. It is not available to students on the Carbondale campus.

Class schedules are arranged to accommodate the unique work schedules of fire personnel. A total of three formal classroom courses and an independent study project are required each semester for four semesters.

Required Fire Science Services coursework includes:

- Applied Specialty Law-Fire Services
- Fire Insurance Rating and Grading
- Purchasing and Inventory Management
- Occupational Safety and Health Act
- Industrial Safety
- Fiscal Aspects of Fire Science
- Fire Prevention and Inspection
- Systems Design and Development
- Labor-Management Problems
- Collective Bargaining and Dispute Settlement
- Public Financial Administration
- Introduction to Public Administration
- Technical Careers Subjects

While this curriculum is designed primarily for those who have the associate degree, provision is made for those who have not yet completed work on the degree.

Specific information on admission procedures, evaluation of previous training and educational experience, course requirements and other aspects of the program are available from the School of Technical Careers representative on the location where the program is offered, or from:

John R. Sutton, assistant dean, Office of Off-Campus Academic Programs.

Graphic Communications

Programs which relate to visual and electronic production of various means of communication are administered by the Division of Graphic Communications.

Many of these are inter-related, allowing students to take advantage of rapidly-emerging technologies in such fields as word processing and data processing.

The division has its main offices in the STC Building, where some program facilities also are housed. Commercial graphics—design and photographic production technology are located in the Technical Careers Annex, and data processing facilities are in Faner Hall.

Opportunity to advance to the baccalaureate level is available to those who are enrolled in associate and post-associate programs in this field. Complete course descriptions of programs described in this section of the bulletin are given in Chapter 4 of the SIUC Undergraduate Catalog.

Director of the Division of Graphic Communications is Dr. Dorothy Bleyer.

Architectural Technology

This associate degree program is structured so that the graduate is immediately employable in an architectural office, yet has the solid basis for further development through education and experience.

The technically-trained individual is able to work in the area between the draftsman who simply produces drawings of another's ideas and the licensed architect who creates. The graduate of this program will find a variety of positions available within the architectural profession.

The program is approved by the American Institute of Architects. Faculty members are architects who hold professional degrees and have many years of professional and teaching experience.

During their two years of study, students gain an understanding of the architectural and design professions and other components of the building industry, the design and production process, and the historical, mathematical, and physical factors involved. The program covers building materials, systems, and construction, as well as preparation and interpretation of technical communications such as architectural drawings, models, charts, and architectural delineations. Currently, the curriculum includes:

First Semester
Architectural Drafting
Architectural Graphics
Architectural History
Technical Mathematics
English Composition

Second Semester
Architectural Drawings I
Architectural Design I
Public Speaking
Applied Physics
Technical Writing

Third Semester
Architectural Drawings II
Architectural Design II
Architectural Engineering
Architectural Systems
Architectural Surveying

Fourth Semester
Architectural Drawings III
Architectural Design III
Architectural Engineering II
Architectural Estimating
Architectural Specifications

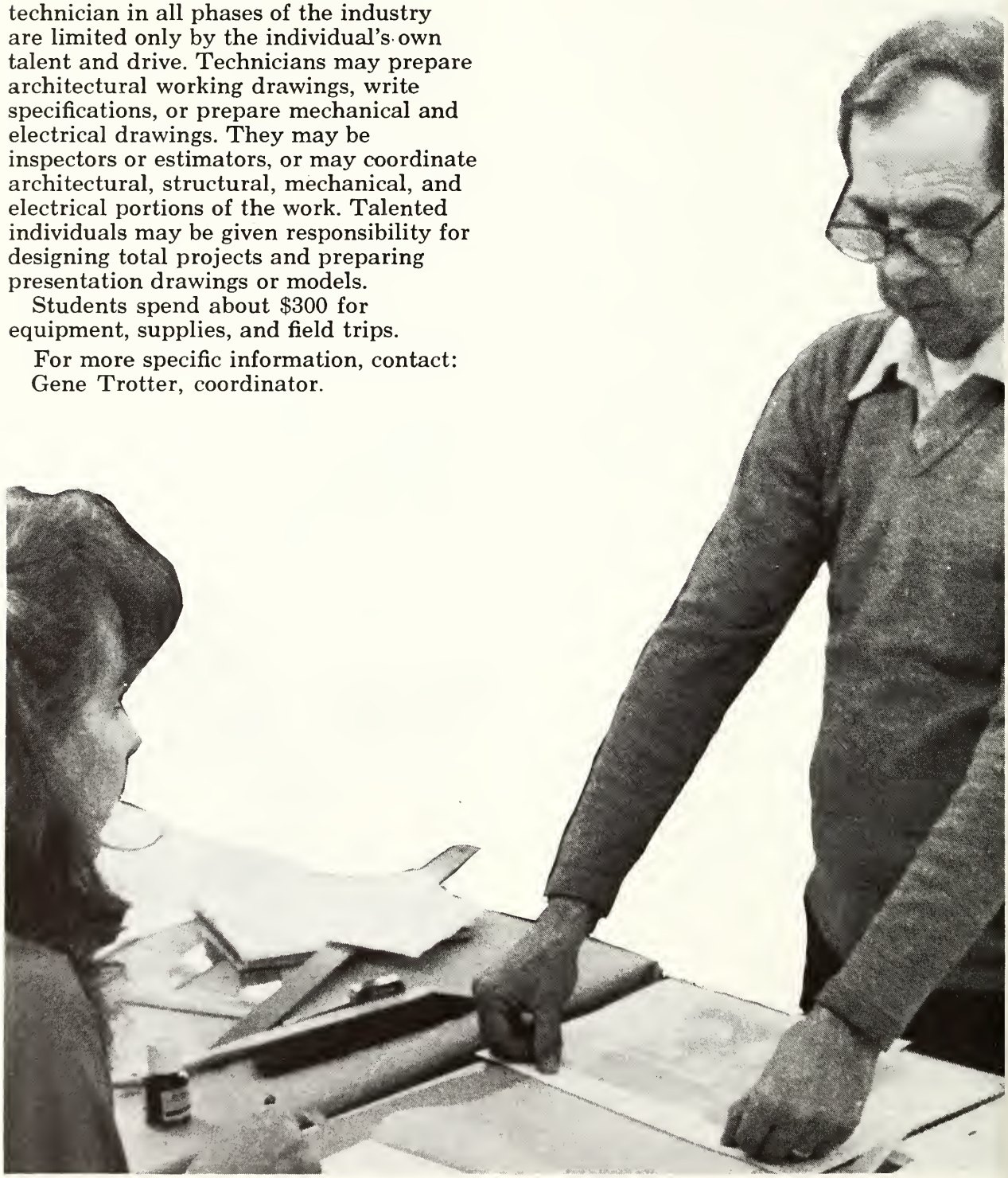
Opportunities for the architectural technician in all phases of the industry are limited only by the individual's own talent and drive. Technicians may prepare architectural working drawings, write specifications, or prepare mechanical and electrical drawings. They may be inspectors or estimators, or may coordinate architectural, structural, mechanical, and electrical portions of the work. Talented individuals may be given responsibility for designing total projects and preparing presentation drawings or models.

Students spend about $300 for equipment, supplies, and field trips.

For more specific information, contact:
Gene Trotter, coordinator.

Commercial Graphics—Design

The advertising business is a growing field, presenting ever-increasing opportunities for men and women who have creative and artistic ability. Trained people are needed to develop story illustrations, advertising layouts, billboard design, point-of-purchase displays, package designs, direct mail pieces, annual report designs, television commercials, finished lettering, fashion illustrations, airbrush and photo-retouching, and many others.



Students in this program develop multiple art skills so that they may qualify for initial positions in many different areas of advertising art and design. Each graduate has a base upon which to build a career according to individual interests and talents.

Each graduating design student is required to score 90 percent or above on a vocabulary proficiency test and to have compiled a professionally acceptable portfolio of work.

Current requirements for the associate in art degree include:

First Semester
Art Appreciation (History)
Artistic Anatomy and Color Perception I
Technical Drawing for Graphic Design
Graphic Layout and Typography I
English

Second Semester
Artistic Anatomy and Color Perception II
Airbrush and Photo-Retouching
Copyfitting
Graphic Layout and Typography II
Individual Study—Photography
Psychology
Public Speaking

Third Semester
Advertising Graphics
Publication Graphics
Technical Writing

Fourth Semester
Graphic Design and Advertising Illustration
Dimensional Design
Job Orientation

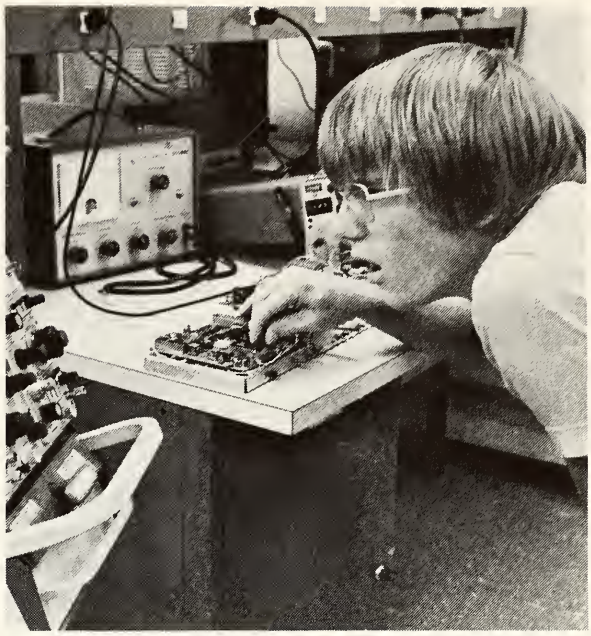
Faculty members are professionals in the field, and the program is served by an advisory committee whose members are active in the advertising and graphic design profession.

This is an extremely high demand program; those wishing to enroll should apply one year in advance.

The student should expect to spend approximately $1000 to $1200 for supplies, equipment, and materials over a two-year period.

For more specific information, contact: John L. Yack, coordinator.

Electronics Technology



Electronics is one of the most rapidly developing and expanding of the modern technologies. Less expensive electronics components have opened new horizons in electronics applications. This rapid development has created a great demand for men and women to serve as technicians. Those capable of working as part of the team in the design and application of the technology have a challenging future where chances for advancement are excellent and salaries compare excellently with those in other skilled occupations.

Classroom and laboratory experience in electronics and general education have been combined in a carefully balanced course of study for this associate degree program in which students gain the knowledge and manual skills necessary to take their place on the technical team.

Each student spends at least two hours in the laboratory every day throughout the curriculum, developing the ability to apply classroom theory to real life situations. Students see the application of general studies such as math, physics, and English by solving problems connected with laboratory equipment and reporting these problems in data sheets, graphs, and technical reports.

Currently, the program includes these studies:

First Semester
Electronics Devices
DC AC Circuit Analysis Theory
DC AC Circuit Analysis Lab
Technical Math

Second Semester
Electronics Circuit Theory
Electronics Circuit Lab
Public Speaking
English Composition

Third Semester
Telemetry and Industrial Circuits Theory
Telemetry and Industrial Circuits Lab
Electronic Systems Analysis
Physics

Fourth Semester
Digital Circuits Theory
Digital Circuits Lab
Computer Programming
Propagation and Coupling
or
FCC Test Preparation
Technical Writing

Workbooks and supplies required for laboratory courses cost approximately $150.

An accelerated program is available for individuals who have prior electronics experience in such settings as high schools, area vocational centers, community colleges, and the military. A proficiency test is given to determine the point of entry into the electronics curriculum. This program is designed to meet the needs of advanced individuals by offering substantial savings in time and money.

For example: A vocational center student would take the proficiency test while visting campus in April of his/her senior high school year. The proficiency test would address the topics covered in ELT 101, DC AC Circuit Analysis Theory; ELT 111, DC AC Analysis Laboratory; and ELT 121, Electronics Devices. Upon successful completion of this proficiency the student would be given fourteen (14) semester hours credit. In the summer semester, or approximately two weeks after high school graduation, the student would enroll in courses ELT 102, Electronics Circuit Theory; and ELT 112, Electronics Circuits Laboratory. In August of that year the student would begin the second year courses. The following spring, or one year after graduation from high school, the student will have completed all electronics requirements for the Associate in Applied Science degree. The student may be short some general studies requirements, but these courses should be available in the summer semester following completion of electronics requirements.

Two indicators of the quality of the program are student performance in competition and placement of graduates. STC students regularly sweep the field in the digital, linear and microprocessor portions of the annual electronics trouble shooting contest conducted by the Illinois Association of Electricity and Electronics Educators. Graduates are employed in indirect and direct support positions by such concerns as Bell Labs, IBM, Texas Instruments, Argonne Labs, International Business Machines, Univac, and Los Alamos Labs.

Biomedical Equipment Technology. This sequence of courses is offered as a third-year specialization beyond the associate in applied science in electronics technology.

The biomedical equipment technician is among the newest of the specialists working in the electronics field. The job has developed with the creation of complex electronic equipment used to diagnose, prevent, and cure disease and illness.

The technician is called upon to install, maintain, calibrate and repair biomedical equipment. This includes the heart pacemaker, electro-cardiograph, heart-lung machine, artificial kidney, chemical analyzer, radiation meter and spectrophotometer.

Applicants for this specialization should have completed either the associate degree program in the School of Technical Careers or its equivalent. An equivalent program is one which has included study in the fundamentals of electricity, electronics, electro-mechanics, digital electronics, and industrial instrumentation.

Those who have not completed such a program may be admitted to the specialization with the understanding that they will take the required basic courses in addition to those required for the specialization. In this case, it will take longer than the normal two semesters to complete the necessary course work. Evaluation of previous work is done by the faculty.

Current requirements for the specialization include:

First Semester
Introduction to Electronic Biomedical Instrumentation
Electronic Biomedical Instrumentation Lab
Physiology

Second Semester
Biomedical Internship
Courses related to specialization selected from recommended list

Optical Electronics. This is an applied course intended as a post-associate

offering, primarily for electronics majors, providing exposure to the technical aspects of an important emerging area of electronics. The student is required to identify the basic principles of light physics as they relate to laser and fiber optic theory. Integration of electronic control, measuring, and sensing devices is accomplished within an industrial and communication framework. A systems approach is utilized involving laser, fiber optic, and electronic discrete and integrated components.
Optical Electronics Theory
Optical Electronics Laboratory

Microcomputer Construction and Troubleshooting. This course is a post-associate offering, primarily for electronics majors. Microprocessors and microcomputers systems are so important in today's electronics that all electronics technicians must know how to construct and use them. This course is designed to acquaint the student with microprocessors and provide hands-on experience in constructing and troubleshooting a microcomputer system.
Microcomputer Theory
Microcomputer Laboratory

For more specific information on this program and its specializations, write to:
Paul A. Harre, coordinator.

Electronic Data Processing

The growth of electronic data processing in both the expansion of installations and in the complexity of hardware and software has increased the need for competent computer programmers and systems analysts. Accurate and effective information processing is essential in any organization or institution.

Even though there are more computer programmers working today than ever before, data processing is still a growing, challenging field. The task of persons who design data processing application is becoming more complex with the increasing power of computers and related information processing equipment.

This associate degree program is offered in a well-equipped center, with a curriculum designed to give the student much more than a good general working knowledge of a programming language. Graduates should have a sufficient depth of understanding to grow with new demands placed upon them.

Current requirements of the program include:

First Semester
Accounting I
Introduction to Business
Introduction to Data Processing
Introduction to Programming
English Composition

Second Semester
Data Processing Math
COBOL I
RPG
Accounting II
Technical Writing
Speech

Third Semester
Introduction to Systems and Application
COBOL II
JCL
Database
Psychology

Fourth Semester
Assembler
Data Processing Project
Systems Design and Development
Data Communications

An outstanding feature of the program is the availability of an IBM 370 computer for student use. The hardware and software configuration is representative of large computer installations in industry. The data center is accessible for approximately 100 hours per week.

Graduates are qualified to apply currently available programming techniques to a defined problem with a minimum of supervision, program any particular computer with a minimum of

orientation, understand and master special techniques as the point of need occurs, and communicate properly documented programming decisions to other personnel concerned.

For more specific information, contact: Byron Johnson, supervisor.

Photographic Production Technology

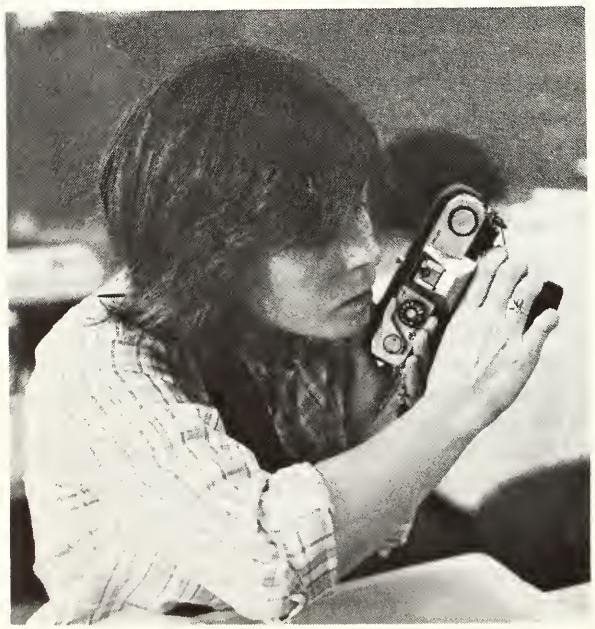
This program provides students a technical photographic laboratory curriculum which is recognized by Photo Marketing Association International.

Technical photographic courses are designed to prepare students as photographic laboratory technicians or photo finishers in industrial and commercial photographic processing agencies. Emphasis is placed on quality black and white and color photographic processes and materials. Students learn still photographic techniques in lecture/laboratory sessions and tour industrial and commercial photographic processing agencies to obtain practical understanding of commercial systems.

Students should expect to invest approximately $600 for the production of a portfolio and the purchase of special photo chemicals and supplies. Second year students are required to provide their own fully adjustable cameras.

Current requirements are:

First Semester
Photo Processing I
Photo Processing II
Photo Equipment Operation



Chemistry for Non-Science Majors
Interpersonal Communications

Second Semester
Graphics for Photography
Photo Processing III
English Composition
Typing

Third Semester
Photo Processing IV
Photo Processing V
Personal Finance
Introduction to Mathematics

Fourth Semester
Photo Lab Management (Lecture)
Photo Lab Management (Lab)
Computers for Business Administration

Graduates of the program are limited only by their own talent, motivation, and willingness to move to where jobs are available. Pay is commensurate with the technician's ability, resourcefulness, and drive.

For more specific information, contact: Robert White, coordinator.

Secretarial and Office Specialties

Current developments in office systems and related technology have resulted in many opportunities for information support personnel with special interests and extensive, specialized skills. Both men and women find rewarding careers in administrative support, information systems, and court reporting fields.

Students in this program are not forced into a mold. They gain shorthand and typing proficiency and other office skills through a core of basic courses, and then draw from a variety of allied health, technical, and business programs to specialize.

Students who have an excellent background in office skills are eligible for the Program of Advanced Curriculum Entry (PACE) which allows students to complete an associate degree in one summer and one year.

Associate degree programs are available in a variety of specialties. Individualized specialties may be devised for students with career goals which do not fit available programs.

Most instruction is individualized. In addition to classroom meeting times, most courses require the student to spend individual study time in the secretarial learning center.

The purchase of cassette tapes and supply packets is mandatory for students enrolled in learning center courses. A list of the requirements for all learning center courses will be sent upon request. Over a two-year period this would amount to $20 to $60 per student.

Basic requirements of the program, which are to be met during the first and second semesters or through advanced placement, proficiency testing, or transfer credit, include:

Keyboarding
Gregg Shorthand
Introductory Machine Transcription
Reprographics
Filing
Calculating Machines
Applied Accounting I
English Composition
Interpersonal Communication
or
Public Communication
Business Communication

Specialty requirements are met during the third and fourth semesters or filled by advanced placement, proficiency testing, or transfer credit.

Currently available specialties include administrative assistant, insurance administrative assistant, and legal/government administrative assistant.

All specialties include a minimum of 225 hours of on-the-job experience as part of the academic program.

Court and Conference Reporter, Reporting Stenographer, Notereader, Specialized Reporter. These specialties require a summer session in addition to the four semesters of the associate degree program. The court and conference reporter specialty includes a minimum of 40 hours of courtroom experience.

Students entering court reporting must be able to type 30 words per minute. In addition, good language skills are recommended. Court and conference reporting may be pursued as a specialization within the associate degree program, and also is offered as a post-associate specialization for those who have completed an associate degree in a related field at a community college or other post-secondary institution.

Students enrolled in court reporting are required to purchase a shorthand machine at the end of their first year at a cost of approximately $300.

Requirements for the reporting specialties are:

First Semester
Machine Shorthand I and II
Keyboarding (Intermediate Typewriting)
Business Communications
Pre-Transcription Skills
Introduction to Court Reporting

Second Semester
Machine Shorthand III
Introduction to Legal Testimony
Keyboarding (Advanced Typewriting)
Anatomy and Physiology
Legal Term/Documents
Public Speaking

Summer Session
Legal Testimony I
Literary/Medical I
Keyboarding (Pre-Specialty Typewriting)
Medical Terminology

Third Semester
Legal Testimony II
Literary/Medical II
Business Communications
Applied Law I
Applied Accounting I

Fourth Semester
Legal Testimony III
Literary/Medical III
Court Practicum
Applied Law II
American Government

Those completing the post-associate specialty who attain a shorthand speed of 225 words per minute are qualified to take the Certified Shorthand Reporters Association test.

Specific information on the program is available from:
Michael Payne, coordinator.

General Information

Admission

Students seeking admission to associate degree programs in the School of Technical Careers can qualify for admission any semester if they rank in the upper two-thirds of their graduating class or achieve a minimum ACT composite score of 15 or higher (SAT 690). Students who do not qualify for admission under these requirements may be granted conditional admission for the spring semester, provided the program to which they are applying allows spring admission.

Students are admitted only in the fall semester to programs in commercial graphics—design, dental hygiene, dental laboratory technology, mortuary science and funeral service, and physical therapist assistant.

Students may be admitted in any term to architectural technology, construction technology, electronic data processing, and electronics technology, but may begin studies in the major only in the fall semester. Those who choose to enter these programs other than in the fall may need more than four semesters to complete the associate degree.

All other programs in the School of Technical Careers admit students in any term.

Students seeking admission to dental hygiene, dental laboratory technology, mortuary science and funeral service, nursing, or physical therapist assistant programs must meet requirements of the specific program as well as university entrance requirements. All students applying for admission to one of these programs will be sent additional information on admissions by the program supervisor.

Transfer students applying for admission to the STC Division of Baccalaureate Studies who have an overall *C* average as determined by SIU grading procedures in all college work and at least 26 semester (39 quarter) hours are eligible for admission any term. Transfer students who have at least a *C* overall average but fewer than 26 semester (39 quarter) hours must also meet freshman requirements.

Veterans are admitted regardless of their previous collegiate academic record provided no additional education has been attempted since separation from active duty, or such credit attempted must amount to *C* average or higher. Previous educational records will determine the scholastic status of entering veterans. Veterans considering enrollment are encouraged to contact the Office of Veteran Affairs.

All inquiries regarding admission procedures and requests for admission materials should be directed to:

Office of Admissions and Records, Southern Illinois University at Carbondale, Carbondale, IL 62901.

Housing

All freshmen and sophomores under the age of 21 who do not live with parents or guardians must live in University-owned and operated housing or University-approved off-campus housing. Juniors, seniors, graduates, married students, veterans, or those students over 21 years of age may live where they choose.

All University-owned housing is located on the Carbondale campus; free bus service is provided for students who attend classes on the Carterville campus or at the Southern Illinois Airport.

Costs

Tuition and fees for an Illinois resident enrolled as a full-time student currently total $525 per semester or $1,050 per academic year. Out-of-state residents pay $1,228.20 per semester or $2,456.40 per academic year for full-time enrollment.

Room and board in university residence halls is $2,004.00 per academic year. Housing available for married students ranges from $194 to $242 per month, depending upon type.

Tuition and fees and other costs are those which are in effect as determined by the Board of Trustees at the time of the student's enrollment. Career programs of the School of Technical Careers require also the purchase of tools, uniforms, insurance, supplies, or books as determined by the nature of the individual program.

Information Request

Please Send

☐ Application for Admission

☐ I plan to enroll in:

_____

_____

☐ Information on campus visit

☐ Other

_____

_____

Clip and Mail to:
Office of Admissions and Records
Southern Illinois University
at Carbondale
Carbondale, IL 62901

(Please Print)

☐ MR. ☐ MISS ☐ MRS. NAME

_____

ADDRESS

_____

CITY

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STATE ZIP

If coupon has been used

For further information about programs of the School of Technical Careers, write to the coordinator of the program at:

School of Technical Careers
Douglas Drive
Southern Illinois University
at Carbondale
Carbondale, IL 62901

Telephone 618–536–6682

For further information about Southern Illinois University at Carbondale or for admission information or material, write:

Office of Admissions and Records
STC Information
Southern Illinois University
at Carbondale
Carbondale, IL 62901

Telephone toll free (Illinois residents only) 800–642–3531
Others may call 618–453–4381

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