1966

1966-1968 Southern Illinois University Bulletin (Division of Technical and Adult Education)

Southern Illinois University Carbondale

Division of Technical and Adult Education

1966-1968

Southern Illinois University Bulletin

OBJECTIVES OF SOUTHERN ILLINOIS UNIVERSITY

TO EXALT BEAUTY
In God,
in nature, and
in art;
Teaching how to love the best
but to keep the human touch;

TO ADVANCE LEARNING
In all lines of truth
wherever they may lead,
Showing how to think
rather than what to think,
Assisting the powers
of the mind
In their self-development;

TO FORWARD IDEAS AND IDEALS
In our democracy,
Inspiring respect for others
as for ourselves,
Ever promoting freedom
with responsibility;

TO BECOME A CENTER OF ORDER AND LIGHT
That knowledge may lead
to understanding
And understanding
to wisdom.

Division of Technical and Adult Education
1966-1968

Southern Illinois University Bulletin

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This Issue . . . . . .

of the *Southern Illinois University Bulletin* covers in detail questions concerning the Division of Technical and Adult Education. *This issue supersedes Volume 6, No. 2.*

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Schedule of Classes. Please specify *quarter* (fall, winter, spring, or summer) and *campus* (Carbondale or Edwardsville).
Guidelines for Prospective Students.
General Studies Catalog.
Graduate Catalog.
Division of Technical and Adult Education.
Financial Assistance.
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Undergraduate Catalog. The catalog is available for examination in high school guidance offices and libraries throughout Illinois and in some other states. Copies will be furnished free to educational institutions upon request and to new students upon matriculation. The catalog may be purchased at the University Bookstore for $1; mail orders should be sent to Central Publications and must include remittance payable to Southern Illinois University.

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Board of Trustees and Officers of Instruction

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Division of Technical and Adult Education

1

Southern Illinois University was established in 1869 as Southern Illinois Normal University. The shortened name became official in 1947 by action of the state legislature. The University now operates two major campuses, located at Carbondale and Edwardsville.

In September, 1953, the Division of Technical and Adult Education was established by action of the Board of Trustees, with the appointment of a regularly constituted academic dean. From 1950 to 1953, some types of instruction had been given under different administrative responsibility.

The responsibilities of the division, as set forth in the by-laws and statutes of the Board of Trustees, Southern Illinois University, are two-fold:

1. To administer the Vocational-Technical Institute as an agency in advisement and instruction of students enrolling in vocational and technical credit courses leading toward the two-year Associate in Business, Associate in Art, or Associate in Technology degree.
2. To administer noncredit adult education courses taught by staff of the Vocational-Technical Institute, other academic units of the University, and qualified persons successfully active in industry, business, and the professions.

Both functions of the division have experienced rapid growth due to the offerings which have met particular occupational training needs in business, merchandising, technical, and semiprofessional fields. The Vocational-Technical Institute's programs are carefully planned to meet changing demands in business and industry. Most of the adult education courses result from cooperative planning with local and association educational committees.

Vocational-Technical Institute

(Carbondale Campus)

The Vocational-Technical Institute was established in September, 1952, to provide college-level programs of instruction of shorter duration than the usual four-year programs. The Institute's programs qualify students for employment at the semiprofessional and technical level in industry and business. A combination of technical courses and general education courses is included in each curriculum to provide a comprehensive preparation for occupational competence.

Scientific and technical changes have increased the possibilities for employment at the technician's level. For every professional person, industry and business require two to seven properly trained technicians.

The Vocational-Technical Institute campus (Southern Acres) is located about ten miles east of Carbondale and five miles west of Marion on old Route 13. Buildings in the administration area of the former Illinois Ordnance Plant have been remodeled, and additional buildings have been added for instruction. See also Special Services, page 8.

DEGREES AND CERTIFICATES

The Vocational-Technical Institute offers four types of programs for high school graduates:

1. Two-year programs leading to the Associate in Business degree;
2. Two-year programs leading to the Associate in Technology degree;
3. Two-year programs leading to the Associate in Art degree;
4. One-year programs, each leading to a certificate in practical nursing, cosmetology, welding, calculating machines, bookkeeping-clerical, or stenographic.

Graduates of the Vocational-Technical Institute are trained to meet the continually increasing demands of industry and business for technicians in a variety of areas. While a technician is capable of performing certain skilled tasks, he must also be capable of applying basic problem solving techniques. He must know how to read and comprehend technical material. He must be able to speak and write with clarity and understanding. He must know something of the world of business and economics. He must be able to understand and get along with people.

In order to qualify for the Associate in Technology degree, the Associate in Business degree, or the Associate in Art degree, a student must have a required amount of general instruction, which is provided by the General Studies program. Requirements for general courses vary from field to field. Each program prescribes its required courses. Any General Studies course may be taken as an elective. Each candidate for an associate degree or for a certificate must have a *C* average. This average is required for the credit made at the University as well as for the total record.

The Institute's programs should not be confused with the first two years of any of the four-year programs offered by other academic units of the University. The extent to which credit earned in the various programs of the institute may be transferred to any of the four-year programs, or vice versa, will be determined by the Registrar in cooperation with the deans of the appropriate academic units. Transferrable credits will be evaluated on the basis of the student's previous course of study in relation to the requirements of his desired new program.

The *quarter hour* is the unit of credit used at Southern Illinois University and throughout this catalog. One quarter hour is two-thirds of a semester hour.

STUDENT ORGANIZATIONS AND ACTIVITIES

Students share in the government of the institute under the supervision of the administration. The Student Council sponsors activities and makes

recommendations on school matters to the director. Student activity is supplemented by various student clubs with local and national affiliations. Each of these student organizations offers further development of character, professional ethics, leadership, and wholesome social recreation.

Recreational facilities are available at Southern Acres for indoor and outdoor activities. Crab Orchard Lake, which is less than a mile away, and Campus Lake, at Carbondale, afford excellent facilities for swimming, fishing, boating, and picnicking.

ADMISSION

Admission to the Vocational-Technical Institute must be initiated through the Admissions Office at Carbondale. To be eligible for admission, a person must be either a graduate of a recognized high school (graduates of non-recognized high schools may be admitted by the Director of Admissions by examination), or must have passed the General Educational Development Test. A person seeking admission through the latter procedure will be considered only after his high school class would have graduated.

In-state high school graduates who rank in the upper half of their graduating class are permitted to enter any quarter. Those who rank in the lower half but who are not in the lowest one-third may enter any quarter other than the fall. Those who rank in the lowest one-third may enter, on academic probation, either the summer or spring quarters provided that they show adequate scores on the University entrance examination (American College Testing Program—ACT). Graduates who rank in the lower half of their graduating class may qualify to enter either the fall or winter quarters by achieving high scores on the University entrance examination.

Out-of-state high school graduates who rank in the upper forty per cent of their graduating class will be permitted to enter any quarter, while those in the lower sixty per cent of their graduating class will be permitted to enter, on academic probation, during the summer quarter provided that they show high scores on the University entrance examination (ACT).

Both in-state and out-of-state lower-ranking students who elect to enter during the summer quarter can qualify for fall quarter attendance by carrying a minimum academic load of eight quarter hours and completing them with at least a *C* average.

Students who rank in the upper quarter of their high school graduating class will be considered for admission after completion of the sixth semester. Upper quarter students who seek admission after the sixth semester must furnish University entrance examination scores prior to their first registration. All other students must furnish examination scores prior to their being admitted to the University.

All admissions granted students while in high school are subject to the completion of high school work and maintenance of rank upon which the admission was made.

PHYSICAL EXAMINATION REQUIRED FOR ADMISSION

Each new student admitted as a freshman or transfer student is required to have a physical examination performed by a private physician recorded on

the form provided by the University. This must be accomplished prior to registration in the University. In case of a religious belief which is in conflict with this plan, special arrangements may be made with the director of the University Health Service.

TUITION AND FEES

The fees charged students are established by the Board of Trustees and are subject to change when necessary. At the present time, the fees charged each undergraduate student for a quarter are as listed below.

Tuition	$ 42.00
(non-Illinois residents)	(172.00)
Student Activity fee	10.50
University Center fee	5.00
Student Welfare and Recreational Building Trust Fund fee	15.00
Book Rental fee	8.00
Total	$80.50
(non-Illinois residents)	($210.50) *

* Effective Winter Quarter 1967

ADVISEMENT

After students have been admitted to the University, they should contact the *Chief Academic Adviser* at the Vocational-Technical Institute. The Chief Academic Adviser, to insure that students are properly advised concerning their choice of program, will direct them to a selected member of the faculty representing their special field of interest. Advisers will assist students in planning their program in a way to provide them an opportunity to acquire the highest technical competence.

REGISTRATION

Students register for a quarter during the preceding quarter. Ordinarily registration starts during the third week of a quarter and continues throughout the quarter. New students have certain periods set aside for them during the advance registration period for their advisement and registration. A line-stand period is provided at the start of each quarter for students to register but all students, new and continuing, are encouraged to advance register.

Registration for any session of the University is contingent upon being eligible for registration. Thus, a registration including the payment of tuition and fees may be considered invalid if the student is declared to be ineligible to register due to scholastic reasons. The same situation may exist due to financial or disciplinary reasons if certified to the Registrar by the Dean of Students.

Detailed information about the dates and procedures for advisement and registration appears in the Schedule of Classes, available from Central Publications, Southern Illinois University, Carbondale, Illinois 62901.

ACADEMIC LOAD

The normal class load for a student is 16 hours. A maximum is 18 hours.

A student with a 4.25 grade point average or above for the preceding quarter may be allowed by the head of his academic unit to take as many as 21 hours. In no case may a student carry, or be credited with, more than 21 hours in any quarter.

A student on scholastic probation may not take more than 14 hours without approval of the head of his academic unit. A student employed full-time may not register for more than 8 hours.

Ordinarily, a student must carry 12 or more hours per quarter to be considered a full-time student. However, a number of programs may carry different requirements and a student attending the University under a scholarship, loan, governmental, or other type of program requiring full time enrollment, should check to make certain that he is meeting the requirements of his specific program. For example, Public Law 358 (the new GI Bill) requires 14 quarter hours on the undergraduate level for full-time, 10 to 13 is considered three-quarter load, and 7 to 9 hours, half load. A student concerned with Selective Service on the undergraduate level needs to carry 12 hours to be considered full-time. However, for Selective Service purposes, a student must also be making satisfactory progress. Therefore, he needs to accumulate 48 passing hours each year. Because of this, he must consider 12 hours as only a minimum load for full-time purposes with 16 hours per quarter as the average load he must maintain throughout the year. Further information on both Public Law 358 and Selective Service is available in the Registrar's Office.

GRADING SYSTEM

Grades are expressed in letters as follows:	*Grade Points* (Per Quarter Hour)
A, Excellent	5
B, Good	4
C, Satisfactory (this is intended to be the average grade)	3
D, Poor, but passing	2
E, Failure	
W, Authorized withdrawal with no basis for evaluation established. Work may not be completed. Approved grading symbol only on graduate level except for unusual circumstances where an academic unit dean recommends a change in grade from AB to W for a student.	
Wp, Authorized withdrawal with passing grade.	
WE, Authorized withdrawal with failing grade.	
Inc, Incomplete. Has permission of instructor to be completed.	
Def, Deferred. Used only for graduate courses	

of an individual, continuing nature such as thesis or research.

Ab, Unauthorized withdrawal. Same as E for academic retention purposes.

S, Satisfactory. Used only for noncredit courses.

U, Unsatisfactory. Used only for noncredit courses.

Au, Audit. No grade or credit hours earned.

A grade given at the end of a course is final and may not be raised by additional work.

All complete grades and the grades of WE and Ab are included in determining student grade point averages for academic retention purposes.

Authorized course withdrawals made through the program change process do not receive grades when made during the first four weeks of a quarter. Thereafter, authorized withdrawals receive Wp for withdrawal with a passing grade, WE for withdrawal with a failing grade, or W (for graduate students only) when no basis for evaluation has been established.

Unauthorized course withdrawals which are made through failure of the students to continue in attendance receive a grade of Ab. An Ab grade for a student may be changed to a W in unusual circumstances upon the recommendation of the head of the student's academic unit.

An Inc grade may be changed to a completed grade within a time period to be designated by the instructor, not to exceed one year from the close of the quarter in which the course was taken; otherwise it remains as an Inc grade and is not included in grade point computation.

A def grade for course work of an individual nature such as research, thesis, or dissertation is changed to a completed grade when the project has been completed.

The grades of S and U are used to indicate satisfactory or unsatisfactory completion of a noncredit course.

A student registering for a course on an *audit* basis receives no letter grade and no credit hours. An auditor's registration card must be marked accordingly and he pays the same fees as though he were registering for credit. He is expected to attend regularly and is to determine from the instructor the amount of work expected of him. If an auditing student does not attend regularly, the instructor may determine that the student should not have the audited course placed on his record card maintained in the Registrar's Office. A student registering for a course for audit or credit may change to a credit status or vice versa through the official program change method during the first four weeks of a quarter. Thereafter the change may not be made.

The official record of a student's academic work is maintained in the Registrar's Office.

SCHOLASTIC PROBATION

To ensure that a student makes satisfactory progress toward his educational objective he is required to maintain both a 3.00 grade point average on a

quarter to quarter basis and a progressively improving grade point average as he accumulates specified numbers of hours to his record. Otherwise, he will be placed in categories other than Good Standing and may be required to discontinue attendance at the University for a period of time.

A student who is in Good Standing will be placed on Good Standing-Scholastic Warning at the end of a quarter in which he fails to make a 3.00 grade point average provided he has calculated hours and an accumulative grade point average as follows:

Fewer than 96 calculated hours and less than a 3.00 grade point average.

Ninety-six but fewer than 144 calculated hours and less than a 3.10 grade point average.

One hundred forty-four or more calculated hours and less than 3.15 grade point average.

He is returned to Good Standing at the end of a quarter in which he makes a 3.00 grade point average or better average while on Good Standing-Scholastic Warning.

When a student on Good Standing-Scholastic Warning fails to make a 3.00 grade point average for a quarter he is placed on Scholastic Probation and may be subject to suspension from the University for scholastic reasons at the end of a quarter in which he fails to earn a 3.00 grade point average while on Scholastic Probation.

A transfer student is subject to the above averages as applied to his academic record at this University and to his over-all academic record.

To ensure that a student is making progress toward the 3.00 grade point average required for graduation he must maintain a progressively improving accumulative grade point average. At the end of each spring quarter a student who has accumulated the number of calculated hours listed below must also have obtained the corresponding accumulative grade point average:

Quarter hours	*Required average*
48– 95.5	2.40
96–119.5	2.70
120–143.5	2.80
144–159.5	2.90
160–	2.95

Otherwise he will be suspended from the University for scholastic reasons. He may seek reinstatement after a minimum of two quarters interruption but must furnish tangible evidence that additional education can be successfully undertaken.

A transfer student is subject to the above accumulative grade point averages as applied to his academic record at this University and to his over-all academic record.

PROFICIENCY EXAMINATIONS

The University recognizes the importance of providing adequate encouragement for academically talented students. Thus, such students are permitted

to make application to demonstrate the mastery of certain courses through proficiency examinations. Applications are made at the Registrar's Office.

The following general rules govern the proficiency examinations for undergraduate credit:

1. Any student who feels qualified to take a proficiency examination is eligible to do so; students scoring in the top ten percent of ACT are particularly encouraged to avail themselves of this opportunity.

2. Credit not to exceed 24 hours, including credit through the College Entrance Examination Board, Advanced Placement Program, may be earned through proficiency examinations. Credit will be nonresident.

3. Upon passing a proficiency examination in a course with a credit of "passing," a student will be granted regular credit toward graduation or toward any other legitimate objective. His record will show the name of the course, the hours of credit granted, and a notation "credit granted by proficiency examination"; however, this credit will be neutral in the calculation of grade point average. If a student fails a proficiency examination, his record will show nothing, but the report will be appropriately filed.

4. A student may not take a proficiency examination for the same course more than one time. Neither may he take a proficiency examination in a course in which he has previously received a grade.

5. No credit granted by proficiency examinations will be recorded until the student has earned at least 16 hours of credit of *C* grade or above in residence at Southern Illinois University.

6. A student applying to take a test for advanced standing only should initiate the request at an advisement office. No credit is recorded regardless of the grade earned.

HONORS DAY

In recognition of high scholarship, an Honors Day convocation is held each spring. A candidate for a bachelor's degree in June or August who has maintained a grade point average of 4.25 or more for all of his work through the winter quarter of his senior year receives special honor. Each junior having a 4.25 grade point average and each sophomore and freshman having a 4.50 grade point average is also honored at the convocation. Except in the case of a graduating senior, a student must be attending full time to be eligible. A transfer student must have earned the average indicated for work here only, as well as for the total record.

SPECIAL SERVICES

Students at the Vocational-Technical Institute enjoy the benefits and privileges available to other students of the University. Meals may be purchased at the cafeteria at the Vocational-Technical Institute and at the University Center at Carbondale. Regular facilities of the Health Service are supplemented by a local doctor, a nearby hospital, and a nurse whose headquarters are at the Vocational-Technical Institute campus. Textbooks are issued at the

Vocational-Technical Institute at the beginning of each quarter through the Textbook Service and are returned at the end of the quarter. Supplies and supplemental educational materials may be purchased at the University Store. The Placement Service, which is in contact with industrial, business, and professional groups, arranges interviews for graduates and provides credentials to prospective employers. Assistance from the Placement Service is available at the Vocational-Technical Institute. A branch of the University Libraries operates at the Institute, and the facilities of Morris Library at Carbondale are available. Hourly bus service between the Vocational-Technical Institute campus and Carbondale is free for students and faculty.

HOUSING

A student desiring University Housing at Carbondale or at the Vocational-Technical Institute campus should apply to the Housing Office in Carbondale as early as possible because contracts are awarded in order of receipt of applications. Housing applications for an academic year are accepted anytime after September 1, of the preceding year. However, housing contracts are not awarded until admission requirements have been satisfied. In order to assure favorable housing conditions students are advised to complete their admission processing as early as possible in the permissible time period.

STUDENT WORK PROGRAM

The Student Work Program serves two major purposes: It provides financial assistance in the form of part-time employment; and it provides work experience which relates, if possible, to the student's academic program. Students employed on campus are expected to participate in training programs. The kind of training and length of the programs are determined by the employing unit in cooperation with the Student Work Office.

The Student Work Office, which is the administrative office for the program, is a referral agency and cannot promise jobs to students. However, every effort is made to place capable, needy students in either on-campus or off-campus jobs.

An application for student employment, or information about work possibilities, may be obtained by writing to the Student Work and Financial Assistance Office, Southern Illinois University, Carbondale, 62901.

STUDENT FINANCIAL ASSISTANCE

The financial assistance program at Southern Illinois University has been organized so that it may function as an integral part of the total educational experience of the student. Insofar as possible, an attempt is made not only to assist needy and deserving students with their financial obligations through the program but to contribute to their general development and learning experience.

The program of financial assistance includes scholarships, awards, prizes, grants-in-aid, and student loan funds. As a part of the award program, the Board of Trustees of the University has established tuition awards known as Southern Illinois University Scholarship and Activity Awards. To apply for awards, entering freshmen are required to have ranked in the upper half of their graduating class and to have achieved a minimum comprehensive high school average of *C;* enrolled students are required to have a minimum average of *C* for all college work. For scholarships available to upperclassmen, a minimum average of *C* is required for all college work; for some scholarships higher averages are required.

The comparative limitations of such forms of assistance in terms of both number and amount available make it inadvisable for an undergraduate student to expect to meet all university expenses from such sources. The family, including parents, friends, and relatives, is the primary resource for a student's college costs. The student himself normally supplies one-third to one-half of his finances through work during the summer or during school, and through his savings. The University assists in making up the difference between college costs and the student's resources through scholarships, awards, and loans.

Students desiring to apply for financial assistance must be officially admitted and should request an application for financial assistance from the Student Work and Financial Assistance Office on the campus of their choice. In general, students should apply for assistance between January 1 and March 15 prior to the September when assistance is needed.

ADVISORY COMMITTEES

In order that the Vocational-Technical Institute programs be kept up-to-date and responsive to the needs of business and industry, advisory committees have been formed to assist in the evaluation of these programs and to recommend improvements in curriculum, course content, and laboratories. Each committee meets at least once a year and when circumstances demand. The members are selected from national, state, and local levels on the basis of leadership in their fields and/or opportunities they have to observe the work of graduates of the Vocational-Technical Institute. In many cases, members serve as visiting lecturers and bring directly to the students the latest developments in their respective areas of specialization. They also forecast trends affecting employment and specific areas of training.

ACCOUNTING

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COSMETOLOGY

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DENTAL HYGIENE

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DENTAL LABORATORY TECHNOLOGY

V. A. Beadle, D.D.S., Carbondale, Illinois; **Leonard Kulweic,** C.D.T., President of National Association of Dental Laboratories, Orland Park, Illinois; **Clifford Neill,** D.D.S., Carbondale, Illinois; **Willard T. Vondran,** C.D.T., Oak Lawn, Illinois

ELECTRONIC DATA PROCESSING (Business or Industrial Option)

James Adams, Education Director, Data Processing Management Association, Park Ridge, Illinois; **Neil T. Dohr,** Supervisor of Administration, McDonnell Automation Center, St. Louis, Missouri; **Harold D. Hamilton,** General Manager, Fas-Tab Corporation, Naperville, Illinois; **Thomas Purcell,** Ph.D., Director Data Processing and Computing Center, Southern Illinois University, Carbondale, Illinois; **Ted Riddle,** Data Processing Supervisor, Norge Division of Borg-Warner Corporation, Herrin, Illinois

ELECTRONICS TECHNOLOGY

David Litke, Manager of Assembly Operations, General Electric Company, Decatur, Illinois; **Eshmal Porter,** Lead Engineer, Instrumentation and Standards Laboratory, McDonnell Aircraft Corporation, St. Louis Missouri; **John Schultz,** Plant Supervisor, Illinois Bell Telephone Company, Springfield, Illinois; **Howard N. Schlechte,** Field Manager, IBM Field Engineering Division, St. Louis, Missouri; **Carl Remy,** Senior Electrical Engineer, Electric Energy Inc., Joppa, Illinois; **Thomas A. Sorbers,** Manager, Education and Training Products, Philco Corporation, Philadelphia, Pennsylvania

FOREST PRODUCTS TECHNOLOGY

C. D. Dosker, Forest Products Engineer, 317 Mockingbird Hill Road, Louisville, Kentucky 40207; **K. J. Heinzelman,** President, Union Tool Corporation, Warsaw, Indiana 46580; **W. D. Page,** Executive Vice President, Plywood Fabricator Service, Inc., P.O. Box 7, Riverdale Station, Chicago, Illinois 60627; **Darrell Ward,** Editor, Hitchcock's Woodworking Digest Magazine, Wheaton, Illinois 60188; **Robert L. Youngs,** Chief, Solid Wood Products Research Division, Forest Products Laboratory, U.S. Forest Service, Madison, Wisconsin 53705

MACHINE DRAFTING AND DESIGN TECHNOLOGY

John Nichol, Industrial Engineer, Union Carbide Corporation, Nuclear Division, Paducah, Kentucky; **W. Miller Owen,** Asst. Chief Engineer of the Engineering Training Division of the Peoria Engineering Department, Caterpillar Tractor Company, Peoria, Illinois; **Lavern W. Olson,** Engineering Manager, Ingersoll Milling Machine Company, Rockford, Illinois; **Burt Snyder,** Chief Engineer, Argonne National Laboratory, Argonne, Illinois; **Nick Veracalli,** Drafting Configuration Control Supervisor, Olin Mathieson Company, Ordill, Illinois

MORTUARY SCIENCE AND FUNERAL SERVICE

James Couch, Chicago, Illinois, Illinois Selected Morticians, State Board Funeral Directors & Embalmers; **Wayne Dieterle,** Aurora, Illinois, Illinois Funeral Directors Association; **William Froelich,** Gridley, Illinois, Illinois Funeral Directors Association; **Nyle Huffman,** Carbondale, Illinois, Illinois Funeral Directors Association; **Daniel Justin,** McHenry, Illinois, State Board of Funeral Directors & Embalmers;

Joseph McCracken, Pana, Illinois, Illinois Funeral Directors Association; **Joseph Schilling,** Mattoon, Illinois, Illinois Funeral Directors Association; **James Wilson,** Marion, Illinois, Illinois Funeral Directors Association; **Roger Ytterberg,** Springfield, Illinois, Executive Secretary, Illinois Funeral Directors Association

PRACTICAL NURSING

Mrs. Edith Breniman, Director of Nurses, Doctors Hospital, Carbondale, Illinois; **Louise M. Dailey,** R.N., Supervisor of Health Occupations Education, Board of Vocational Education & Rehabilitation, Office of Superintendent of Public Instruction, Springfield, Illinois; **Mrs. Marcella Ebersohl,** Illinois Department of Public Aid, Marion, Illinois; **Dr. Penelope Kupsinel,** Associate Professor, Home Economics Department, Indiana State University, Terre Haute, Indiana; **David Richardson,** M.D., Director, Williamson-Franklin Bi-County Health Department, Johnston City, Illinois; **Mr. Glen Zilmer,** Administrator, Holden Hospital, Carbondale, Illinois

PRINTING TECHNOLOGY

Dr. Ray Cornwell, Managing Editor, McKnight and McKnight Publishing Company, Bloomington, Illinois; **Ed Soldner,** Assistant Manager, Republican-Leader, Marion, Illinois; **Dennis Schutte,** St. Louis Manager, Varityper Corporation, St. Louis, Missouri; **Edward A. Taylor,** Editor and Publisher, Pulaski Enterprise, Mounds, Illinois

SECRETARIAL

Betty M. Bone, Manager, Women's Personnel, Monsanto Company, St. Louis, Missouri; **Herman Colombo,** Internal Revenue Service, Herrin, Illinois; **Irwin S. Ginsburg,** Employment Manager, Argonne National Laboratory, Argonne, Illinois; **Lois Nelson,** Secretary to the President, Southern Illinois University; **Robert E. Prothero,** C.P.A., Management Controls Department, Peat, Marwick, Mitchell & Co., St. Louis, Missouri; **Pearl Roberts,** Certified Professional Secretary, Johnston City, Illinois; **Elsie E. Weekly,** Manager, Women's Personnel, Ralston Purina Company, Checkerboard Square, St. Louis, Missouri

TOOL AND MANUFACTURING TECHNOLOGY

Rudy Andolsek, Vice President in charge of manufacturing, Diagraph-Bradley Industries, Inc., Ordill, Illinois; **James R. Elliott,** General Foreman, Machine Shop, Union Carbide Corporation, Nuclear Division, Paducah, Kentucky; **Edward Lach,** Assistant Superintendent of Central Shops, Argonne National Laboratory, Argonne, Illinois; **Lavern W. Olson,** Engineering Manager, Ingersoll Milling Machines, Rockford, Illinois; **Herbert Wright,** Coordinator of Training, Cincinnati Milling & Grinding, Inc., Cincinnati, Ohio

WELDING

Mr. R. J. Lukuc, Olin Mathison Corporation, Marion, Illinois; **Mr. Thomas M. Devardo,** Fabick Machinery Company, Marion, Illinois; **Mr. Clifford L. Schulze,** Continental Boiler and Sheet Iron Works, St. Louis, Missouri; **Mr. Emmett F. Condon,** McDonnell Aircraft Corporation, St. Louis, Missouri

GENERAL STUDIES REQUIREMENTS

The art of communication is provided by English composition, correspondence, English analysis, technical report writing and speech. A refresher on the mathematical tools includes a review of arithmetic, algebra, geometry, and trigonometry. The sciences are represented by basic studies in physics and chemistry. The life sciences are represented by biology and physiology.

Government, economics, and psychology are offered to help students meet the problems of the business and technical world.

ASSOCIATE IN ART DEGREE PROGRAMS

The Vocational-Technical Institute offers the Associate in Art degree in two fields of specialization: Commercial Art and Dental Hygiene. Each program includes courses in general studies in addition to intensive training in the special subjects and skills required for entrance into the professional world of work.

Candidates for the Associate in Art degree must complete the prescribed course of study with an over-all grade point average of *C*.

COMMERCIAL ART

Commercial Art will enable the serious career-minded student to meet the exacting demands of today's advertising field and industry. Only professional methods are taught in a professional atmosphere by practicing professional artists. Student laboratories, problem assignments, and work standards closely parallel to those in the field in which the student, upon graduating, will be engaged.

Successful completion of this course of study culminates with the preparation of a portfolio of professionally acceptable samples which will enable the student to compete for the initial position, not only in his chosen field, but in most phases of commercial art.

Each student is required to purchase a small amount of basic equipment and supplies.

Candidates for the Associate of Art degree must complete the prescribed course of study with a minimum of 100 hours and an over all *C* grade average.

FIRST QUARTER

Art Analysis	VTI N 101–3
Techniques, Theory and Practice	VTI N 125–10
English Composition	GSD 101–3

SECOND QUARTER

Advertising Design and Production	VTI N 130–10
Culture, Behavior and Society	GSB 201c–3
English Composition	GSD 102–3

THIRD QUARTER

Introductory Advertising and Story Illustration	VTI N 140–10
Political Economy	GSB 211b–4
Oral Communication of Ideas	GSD 103–3

FOURTH QUARTER

Advertising and Story Illustration, Theory and Practice	VTI N 210a–8
Technical Illustration, Theory and Practice	VTI N 230a–7

FIFTH QUARTER

Advertising and Story Illustration, Theory and Practice	VTI N 210b–8
Technical Illustration, Theory and Practice	VTI N 230b–7
Technical Writing	VTI G 102–3

SIXTH QUARTER

Advertising and Story Illustration Theory and Practice	VTI N 210c–7

Technical Illustration, Theory and Practice	VTI N 230c–6
Printing, Theory, and Practice	VTI J 235–5

RECOMMENDED ELECTIVES

Technical Mathematics	VTI G 107–3
Introduction to Physical Science	GSD 101a–3

DENTAL HYGIENE

The dental hygienist is the only one of the auxiliary dental health team who works directly in the mouth like the licensed dentist, and, like the dental practitioner, she must obtain a license from the state in which she expects to practice. She is required to complete successfully a comprehensive practical and written examination given under the direction of the State Board of Dental Examiners. Each student is required to provide her own uniform, caps, and equipment and to be responsible for instruments used. She should set aside about $150 for these items, for they are not covered by the fees paid to the University.

The hygienist's area of service includes prophylaxis (scaling and polishing of the teeth), dental health education, X-ray examinations, receptionist, administrative procedures, chairside assisting, and some laboratory techniques. All her work is done under supervision of a licensed dentist.

Dental Hygiene is provisionally approved by the Council of Dental Education of the American Dental Association. Applicants are required to take the Dental Hygiene Aptitude Test which is offered three times yearly on the campus under the auspices of the Student Counseling and Testing Center. This is a prerequisite for admission to the program. Seven terms of residence in sequence are required to complete the program.

All students are required to accept and abide by the official "Rules and Regulations" of the program as approved and published by the Vocational-Technical Institute. One hundred thirteen hours of credit and approvals of staff and administration are required to qualify for graduation. After graduation and licensing, she is eligible to become a member of the American Dental Hygienists' Association which is closely associated with the American Dental Association.

FIRST QUARTER

Orientation to Dental Hygiene	VTI Y 130–2
Head and Neck Anatomy	VTI Y 132a–4
Oral Basic Science—Histology	VTI Y 135a–4
English Composition	GSD 101–3
Principles of Physiology	GSA 301–4

SECOND QUARTER

Head and Neck Anatomy—Dental Anatomy	VTI Y 132b–4
Oral Basic Science—Microbiology	VTI Y 135b–4
Preclinical Dental Hygiene	VTI Y 137a–4
Culture, Behavior, and Society	GSB 201c–3
English Composition	GSD 102–3

THIRD QUARTER

Oral Basic Science—Pathology	VTI Y 135c–3
Preclinical Dental Hygiene	VTI Y 137b–4
Dental Nutrition	VTI Y 139–3
Dental Pharmacology	VTI Y 140–2
Introduction to Chemistry—Inorganic	VTI G 115a–3
Oral Communication of Ideas	GSD 103–3

FOURTH QUARTER

Dental Hygiene Clinic	VTI Y 209–5
Clinical Dental Roentgenology	VTI Y 218a–2
Introduction to Chemistry—Organic and Biochemistry	VTI Y 115b–3
Science of Dental Materials—Restorative	VTI Y 113b–3

FIFTH QUARTER

Clinical Dental Hygiene	VTI Y 210a–5
Dental Assisting	VTI Y 213a–3
Dental Administration and Practice	VTI Y 216a–2
Clinical Dental Roentgenology	VTI Y 218b–2
Culture, Behavior, and Society	GSB 201b–3

SIXTH QUARTER

Clinical Dental Hygiene	VTI Y 210b–5
Dental Assisting	VTI Y 213b–3
Clinical Dental Roentgenology	VTI Y 218c–2
Dental Health Education	VTI Y 217–2
Elective	–3

SEVENTH QUARTER

Clinical Dental Hygiene	VTI Y 210c–5
Dental Public Health	VTI Y 220–3
Dental Administration and Practice	VTI Y 216b–2
First Aid	HEd 334S–4
Elective	–3

RECOMMENDED ELECTIVES

Communicable Disease	HEd 300–3
Technical Writing	VTI G 102–3
Typewriting	VTI S 101a–3

ASSOCIATE IN BUSINESS DEGREE PROGRAMS

Two-year programs in various phases of business leading to the Associate in Business degree are designed to train young men and women for their initial jobs in: accounting; electronic data processing; executive, legal, or medical secretary; and retailing. In addition to skill training, related courses are required which give the student background information as a basis for occupational competency and future advancement.

Each candidate for the Associate in Business degree must complete the minimum number of hours of approved courses, plus any deficiency requirements in the chosen field of specialization which are apparent when the adviser prepares the student's program. The total hours required for completion of a program varies with each particular field of study.

For those programs requiring typewriting and shorthand, placement tests are given to students who have had typing and shorthand in high school. Evidence of proficiency, as shown by the placement tests will permit a student to take electives in lieu of certain required courses.

ACCOUNTING

These courses offer thorough and practical training for a position as bookkeeper, payroll clerk, junior accountant, or assistant to an accountant or auditor. Positions with governmental agencies and in public accounting are also filled by graduates.

A minimum of 100 hours must be completed for graduation.

FIRST QUARTER

Accounting I	VTI B 101a–6
Typewriting I	VTI S 101a–3
Data Processing Mathematics	VTI E 100–5
English Composition	GSD 101–3

SECOND QUARTER

Accounting II	VTI B 101b–5
Calculating Machines	VTI K 101a–3
English Composition	GSD 102–3
Political Economy	GSB 211a–4
Elective	–3

THIRD QUARTER

Accounting III	VTI B 101c–4
Business Law I	VTI B 226a–4
Culture, Society, and Behavior	GSB 201c–3
Oral Communication of Ideas	GSD 103–3
Political Economy	GSB 211b–3

FOURTH QUARTER

Accounting	VTI B 201a–4
Job Cost Accounting	VTI B 130–4
Business Law II	VTI B 226b–4
Office Administration and Supervision	VTI B 227–5

FIFTH QUARTER

Process Cost Accounting	VTI B 204–4
Federal Taxes	VTI B 233–5
Business Statistics	VTI B 235–4
Job Orientation	VTI X 201–2

SIXTH QUARTER

Accounting V	VTI B 201b–4
Auditing	VTI B 230–5
Credits and Collections	VTI B 275–4
Elective	–3

RECOMMENDED ELECTIVES:

Calculating Machines	VTI K 101b–3
Automatic Data Processing Machines	VTI E 101a–3
Punched Card Preparation	VTI B 109–3
Filing and Duplicating	VTI S 107–3
Labor Management Relations Problems	VTI G 232–4
Personnel Management	VTI R 227–3
Business Correspondence	VTI G 101–3

ELECTRONIC DATA PROCESSING
(*Business Option*)

Punched card preparation, electromechanical machines operation, and electronic computers are processes and equipment used by the student who aspires to become a programmer. Courses in the theory of accounting, cost accounting, and related fields in business are required to complete this two-year program. Upon successful completion of this course, the student will be sufficiently trained to work in data processing and computer centers where the knowledge of programming is a prerequisite for working with electronic computers and related machines.

A minimum of 102 hours must be completed for graduation.

FIRST QUARTER

Data Processing Mathematics	VTI E 100a–5 [1]
Automatic Data Processing Machines	VTI E 101a–3
Accounting	VTI B 101a–6
English Composition	GSD 101–3

SECOND QUARTER

Data Processing Mathematics	VTI E 100b–4
Automatic Data Processing Machines	VTI E 101b–5
Accounting	VTI B 101b–5
English Composition	GSD 102–3

THIRD QUARTER

Computer Programming	VTI E 103–5
Data Processing Applications	VTI E 104–3
Data Processing Information	VTI E 107–2
Accounting	VTI B 101c–4
Calculating Machines	VTI K 101a–3

FOURTH QUARTER

Business Computer Programming	VTI E 203a–5
Systems Design and Development	VTI E 205–5

[1] Students who score below a satisfactory level on the mathematics part of the ACT examinations must take VTI G 106–0 prior to taking VTI E 100a–5.

Job Cost Accounting	VTI B 130–4
Technical Writing	VTI G 102–3
FIFTH QUARTER	
Business Computer Programming	VTI E 203b–5
Programming Systems	VTI E 206a–3
Office Administration and Supervision	VTI B 227–5
Business Statistics	VTI B 235–4
SIXTH QUARTER	
Programming Systems	VTI E 206b–7
Data Processing Field Project	VTI E 207–3
Culture, Society, Behavior	GSB 201c–3
Political Economy	GSB 211b–4
RECOMMENDED ELECTIVES:	
Business Law	VTI B 226–8
Labor Management Relations Problems	VTI G 232–4
Political Economy	GSB 211a–4
Oral Communication of Ideas	GSD 103–3

EXECUTIVE SECRETARIAL

Students who wish to prepare for positions as professional secretaries in business, industrial, and governmental offices should follow this course of study.

The designated courses offer a combination of general education and skill-building courses which provide a high degree of occupational competence, as well as a general knowledge for the responsible execution of secretarial duties.

A minimum of 100 hours must be completed for graduation.

FIRST QUARTER	
Typewriting	VTI S 101a–3
Shorthand	VTI S 104a–6
Filing and Duplicating	VTI S 107–3
English Composition	GSD 101–3
SECOND QUARTER	
Typewriting	VTI S 101b–3
Shorthand	VTI S 104b–6
Fundamentals of Business	VTI B 126–3
English Composition	GSD 102–3
THIRD QUARTER	
Typewriting	VTI S 101c–3
Shorthand	VTI S 104c–6
Culture, Society, and Behavior	GSB 201c–3
Calculating Machines	VTI K 101a–3
Business Correspondence	VTI G 101–3
FOURTH QUARTER	
Typewriting	VTI S 205a–3
Shorthand	VTI S 209a–6
Data Processing Mathematics	VTI E 100–5
Business Law I	VTI B 226a–4
FIFTH QUARTER	
Job Orientation	VTI X 201–2
Legal Shorthand	VTI S 224–6
Secretarial Accounting	VTI B 104–5
Political Economy	GSB 211b–4
SIXTH QUARTER	
Typewriting	VTI S 205b–3
Shorthand	VTI S 209b–6
Secretarial Office Procedures	VTI S 223–5
Oral Communication of Ideas	GSD 103–3
RECOMMENDED ELECTIVES	
Medical Shorthand	VTI S 225a–7
Accounting	VTI B 101a–7
Office Administration and Supervision	VTI B 227–5
Calculating Machines	VTI K 101b–3
Business Law	VTI B 226b–4

LEGAL SECRETARIAL

The courses provide, in addition to the secretarial skill, specialized courses in law-office routines and legal knowledge. Graduates may secure positions as legal secretaries with attorneys, judges, or legal departments; or students may continue their studies in order to become conference or court reporters.

A minimum of 101 hours must be completed for graduation.

FIRST QUARTER	
Typewriting	VTI S 101a–3
Shorthand or	VTI S 104a–6
Machine Shorthand	VTI H 120a–6
Fundamentals of Business	VTI B 126–3
Business Correspondence	VTI G 101–3
SECOND QUARTER	
Typewriting	VTI S 101b–3
Shorthand or	VTI S 104b–6
Secretarial Accounting	VTI B 104–5
Machine Shorthand	VTI H 120b–6
Filing and Duplicating	VTI S 107–3
English Composition	GSD 101–3
Culture, Society and Behavior	GSB 201c–3
THIRD QUARTER	
Typewriting	VTI S 101c–3
Shorthand or	VTI S 104c–6
Machine Shorthand	VTI H 120c–6
English Composition	GSD 102–3
FOURTH QUARTER	
Typewriting	VTI S 205a–3
Medical Shorthand	VTI S 225a–6
Secretarial Office Procedures	VTI S 223–5
Business Law	VTI B 226a–4
FIFTH QUARTER	
Legal Shorthand	VTI S 224–6
Business Law	VTI B 226b–4
Calculating Machines	VTI K 101a–3
Political Economy	GSB 211b–4
SIXTH QUARTER	
Typewriting	VTI S 205b–3
Jury Charge	VTI H 112–4
Two-Voice Testimony	VTI H 210–4
Job Orientation	VTI X 201–2
Oral Communication of Ideas	GSD 103–3
RECOMMENDED ELECTIVES	
Accounting	VTI B 101a–6
Office Administration & Supervision	VTI B 227–5
Automatic Data Processing Machines	VTI E 101a–3
Data Processing Mathematics	VTI E 100–5

MEDICAL SECRETARIAL

These courses are for students who wish to prepare for positions as professional medical secretaries in doctors' office, dentists' office, hospitals, clinics, public health departments, research foundations, chemical companies, drug companies, institutions, publishers, and insurance companies. These courses include a combination of general education, technical training, and skill-building courses which provide a high degree of occupational competence.

A minimum of 100 hours must be completed for graduation.

FIRST QUARTER	
Typewriting	VTI S 101a–3
Shorthand	VTI S 104a–6
English Composition	GSD 101–3
Secretarial Accounting	VTI B 104–5
SECOND QUARTER	
Typewriting	VTI S 101b–3
Shorthand	VTI S 104b–6
Business Correspondence	VTI G 101–3
Oral Communication of Ideas	GSD 103–3
THIRD QUARTER	
Typewriting	VTI S 101c–3
Shorthand	VTI S 104c–6
Filing and Duplicating	VTI S 107–3
Fundamentals of Business	VTI B 126–3
English Composition	GSD 102–3
FOURTH QUARTER	
Typewriting	VTI S 205a–3
Shorthand	VTI S 290a–6
Culture, Society and Behavior	GSB 201c–3
Calculating Machines	VTI K 101a–3
FIFTH QUARTER	
Medical Shorthand	VTI S 225a–6
Business Law	VTI B 226a–4
Introduction to Physiology	VTI G 141–5
Job Orientation	VTI X 201–2

SIXTH QUARTER

Medical Shorthand	VTI S 225b–6
Typewriting	VTI S 205b–3
Secretarial Office Procedures	VTI S 223–5
Political Economy	GSD 211b–4

RECOMMENDED ELECTIVES

Accounting	VTI B 101a–6
Office Administration & Supervision	VTI B 227–5
Automatic Data Processing Machines	VTI E 101a–3
Data Processing Mathematics	VTI E 100–5

COOPERATIVE RETAILING

Cooperative Retailing is a merchandising program consisting of eight quarters. There are six quarters of class room instruction and two quarters of college-credit work experience. The students must work in geographic areas that employ sufficient numbers to warrant efficient follow-up.

The program offers an opportunity for training in the areas of apparel, hardline, food, or other specialty lines.

One of the unique features of this program is the learning that results from two quarters of on-the-job work experience.

The merchandising organizations that cooperate with the University provide job experience and other educational opportunities. The on-the-job training helps to assure the learner of up-to-date merchandising information and skills.

In order for an organization to qualify as a participant in Cooperative Retailing, it must agree to furnish the type of training that will meet established standards set by the school and approved by representatives of the merchants served.

Students that have satisfactorily completed the first three quarters are eligible for placement. Placement is a joint responsibility of the student and the school. Students will enroll, submit weekly reports, participate in seminars and complete assigned term papers before receiving college credit for Cooperative work experience.

Students may enter Cooperative Retailing in the fall, winter, or summer quarters. The program requires 113 quarter hours to complete and takes two calendar years.

FIRST QUARTER

Introduction to Retailing	VTI R 124–4
Product Analysis	VTI R 176–3
Product Information Laboratory	VTI R 177a–5
English Composition	GSD 101–3
Sales Promotion	VTI R 207b–2

SECOND QUARTER

Product Information Laboratory	VTI R 177b–5
Culture, Society, and Behavior	GSB 201c–3
Political Economy	GSB 211a–4
English Composition	GSD 102–3
Job Orientation	VTI X 201–2

THIRD QUARTER

Salesmanship	VTI R 127–3
Retail Mathematics	VTI R 179–5
Oral Communication of Ideas	GSD 103–3
Merchandising Principles	VTI R 205–4

FOURTH QUARTER

Cooperative Work Experience	VTI R 201–8

FIFTH QUARTER

Cooperative Work Experience	VTI R 201–8

SIXTH QUARTER

Record and Statistics	VTI R 206–5
Personnel Management	VTI R 227–3

Calculating Machines	VTI K 101a–3
Technical Writing	VTI G 102–3
Elective	–2

SEVENTH QUARTER

Sales Promotion	VTI R 207a–4
Fashion Merchandising	VTI R 208b–2
Business Law	VTI B 226a–4
Retail Credits and Collections	VTI R 280–3
Culture, Society, and Behavior	GSB 201b–3

EIGHTH QUARTER

Fashion Merchandising	VTI R 208a–4
Marketing Problems	VTI R 215–4
Retail Store Organization and Management	VTI R 224–4
Labor Management Relations Problems	VTI G 232–4

RECOMMENDED ELECTIVES

Fundamentals of Business	VTI B 126–3
Office Administration and Supervision	VTI B 227–5
Salesmanship	VTI R 127a–3
Salesmanship	VTI R 127b–3
Typewriting	VTI S 101a–3
All General Studies Courses	

CERTIFICATE PROGRAMS IN BUSINESS

Four academic quarters are normally required to complete the one-year certificate programs in business. They are intensive programs and only provide minimum training for an initial position in the business field.

BOOKKEEPING-CLERICAL

Major emphasis is placed on training which will enable students who desire an intensive training plan of relatively brief duration which will equip him with the necessary skills for gainful employment in bookkeeping and general clerical areas of business.

A minimum of 65 credit hours must be completed for graduation.

FIRST QUARTER

Data Processing Mathematics	VTI E 100–5
Calculating Machines	VTI K 101a–3
Typewriting	VTI S 101a–3
Fundamentals of Business	VTI B 126–3
English	GSD 101–3

SECOND QUARTER

Accounting	VTI B 101a–6
Typewriting	VTI S 101b–3
Clerical Procedures	VTI B 100–3
Filing and Duplicating	VTI S 107–3

THIRD QUARTER

Accounting	VTI B 101b–5
Typewriting	VTI S 101c–3
Calculating Machines	VTI K 101b–3
English	GSD 101b–3
Oral Communications of Ideas	GSD 103–3

FOURTH QUARTER

Accounting	VTI B 101c–4
Office Administration & Supervision	VTI B 227–5
Culture, Society and Behavior	GSB 201c–3
Political Economy	GSB 211b–4

RECOMMENDED ELECTIVES

Calculating Machines	VTI K 101c–3
Typewriting	VTI S 205a–3
Business Law	VTI B 226a–4
Punched Card Preparation	VTI B 109–3

STENOGRAPHIC

Four academic quarters are normally required for this program. It is an intensive program which provides only the minimum training for an initial stenographic position in business.

A minimum of 65 hours must be completed for graduation.

FIRST QUARTER

Typewriting	VTI S 101a–3
Shorthand	VTI S 104a–6
English Composition	GSD 101–3
Fundamentals of Business	VTI B 126–3

SECOND QUARTER

Typewriting	VTI S 101b–3
Shorthand	VTI S 104b–6
Calculating Machines	VTI K 101a–3
English Composition	GSD 102–3

THIRD QUARTER

Typewriting	VTI S 101c–3
Filing and Duplicating	VTI S 107–3
Culture, Society, and Behavior	GSB 201c–3
Political Economy	GSB 211b–4
Secretarial Accounting	VTI S 104–5

FOURTH QUARTER

Typewriting	VTI S 205a–3
Shorthand	VTI S 104c–6
Oral Communications of Ideas	GSD 103–3
Secretarial Office Procedures	VTI S 223–5

RECOMMENDED ELECTIVES

Data Processing Mathematics	VTI E 100a–5
Typewriting	VTI S 205b–3
Calculating Machines	VTI K 101b–3
Shorthand	VTI S 209a–6

PROGRAMS IN TECHNOLOGY

Technology programs at the Vocational-Technical Institute are, like the business programs, of two types: (1) two-year programs leading to the Associate in Technology degree, and (2) one-year programs each leading to a certificate in cosmetology, practical nursing, or welding.

Each program described on the following pages is arranged by quarter. The arrangement, however, may be modified from time to time to meet the continually increasing demands of industry and business for technicians in a variety of areas.

The courses are taught by instructors who have had industrial experience in their respective fields in addition to their professional education. The laboratories are equipped with modern instruments and machines comparable to those used in industry and reflecting the needs in technical employment.

ASSOCIATE IN TECHNOLOGY DEGREE PROGRAMS

The purpose of the Associate in Technology degree programs is to give the student a broad foundation in special subjects in the technical field, together with sufficient knowledge of theoretical principles to prepare him for successful participation in the industrial world.

The programs also include courses in general education to help the student understand problems encountered in living and working within his community. These programs are six quarters or more in length and require a minimum of 96 to 121 quarter hours.

Graduates are qualified for positions as estimators, technical assistants, draftsmen, engineering aids, commercial artists, factory representatives, and technicians in the fields of architecture, automotive, aviation, building construction, commercial art, dental laboratory, electronics, industrial woodworking, machine drafting and design, machine tool, mortuary science and funeral directing, data processing, and printing.

The technology programs also provide background courses for further study and training for students who intend to become vocational education teachers.

ARCHITECTURAL TECHNOLOGY

This program provides training in various aspects of the architectural profession. It offers courses of a technical and technically related nature, which provide the basic knowledge required for employment in the field of architecture, generally beginning as a draftsman and affording an opportunity for advancement in such areas as project coordinator, specifications writing, architectural design, structural and mechanical engineering, and architectural supervision.

Several field trips to near-by cities to study historical and contemporary architecture are made each year. Allowance should be made in the student's budget to cover the expense of these trips and for the purchase of small amounts of equipment and supplies.

A minimum of 104 hours must be completed for graduation.

FIRST QUARTER

Architectural Drafting	VTI D 110a–5
Freehand Architectural Graphics	VTI D 146a–3
History of Architecture	VTI D 147–3
Technical Mathematics	VTI G 107–3 [1]
English Composition	GSD 101–3

SECOND QUARTER

Architectural Drafting	VTI D 110b–3
Architectural Design	VTI D 121a–2
Freehand Architectural Graphics	VTI D 146b–3
Basic Materials	VTI D 150–3
College Algebra	GSD 114a–3
English Composition	GSD 102–3

THIRD QUARTER

Architectural Design	VTI D 121b–4
Materials and Methods	VTI D 151–4
Mechanics and Strength of Materials	VTI D 153–4
Introduction to Physical Science	GSA 101a–3
Trigonometry	GSD 114c–3

FOURTH QUARTER

Site Engineering	VTI D 152–2
Architectural Design	VTI D 221a–4
Materials and Methods	VTI D 250a–4
Structural Elements	VTI D 258–4
Cultural, Society, and Behavior	GSB 201c–3

FIFTH QUARTER

Architectural Design	VTI D 221b–4
Materials and Methods	VTI D 250b–4
Construction Cost Estimating	VTI D 283–3
Theory of Structures	VTI D 290a–3
Job Orientation	VTI X 201–2

SIXTH QUARTER

Architectural Design	VTI D 221c–4
Materials and Methods	VTI D 250c–4
Mechanical Equipment	VTI D 254–4
Theory of Structures	VTI D 290b–3
Political Economy	GSB 211b–4

RECOMMENDED ELECTIVES

Architectural Rendering	VTI D 246–3
Fundamentals of Business	VTI B 126–3
Business Law	VTI B 226–4
Business Correspondence	VTI G 101–3
Labor Management Relations Problems	VTI G 232–4
Typewriting	VTI S 101–3

AUTOMOTIVE TECHNOLOGY

A very low percentage of those employed in automotive service have had formal technical training in their chosen vocation. For the ambitious grad-

[1] Students who score below a satisfactory level on the mathematics part of the ACT examination must take VTI G 106–0 prior to taking GSD 114a.

uate, who has the ability and adequate technical training, the automotive service field offers unlimited challenge and opportunity for advancement.

This program offers specialized training in areas such as: steering geometry, wheel balancing, hydraulic and electrical circuitry, automatic transmissions, drive trains, rework and machining of automotive parts, and the use of modern electronic diagnostic equipment for determining carburetion and electrical malfunctions. After the student has been given instruction on laboratory type engines, chassis, etc., each student is assigned to "live" vehicle diagnosis and repair. This allows for the attainment for maximum competency on the part of each trainee.

A minimum of 98 hours is required for graduation.

FIRST QUARTER	
Automotive Laboratory Engines	VTI A 101a–5
Automotive Theory Engines	VTI A 125a–5
Technical Drawing	VTI D 175a–3
Technical Mathematics	VTI G 107–3 [1]
SECOND QUARTER	
Automotive Laboratory Brake and Steering	VTI A 101b–5
Automotive Theory Brake and Steering	VTI A 125b–5
Introduction to Physical Science	GSA 101a–3
English Composition	GSD 101–3
THIRD QUARTER	
Automotive Laboratory Ignition and Carburetion	VTI A 101c–5
Automotive Theory Ignition and Carburetion	VTI A 125c–5
Oral Communication of Ideas	GSD 103–3
Basic Applied Physics	VTI G 120–4
FOURTH QUARTER	
Automotive Laboratory Power Option	VTI A 201a–5
Automotive Theory Power Option	VTI A 220a–5
Technical Writing	VTI G 102–3
Elective	–3
FIFTH QUARTER	
Automotive Laboratory Power Transmission Systems	VTI A 220b–5
Automotive Theory Power Transmission Systems	VTI A 225b–5
Political Economy	GSB 211b–4
Elective	3
SIXTH QUARTER	
Automotive Laboratory Diagnostic Techniques	VTI A 201c–5
Automotive Theory Diagnostic Techniques	VTI A 220c–5
Culture, Society and Behavior	GSB 201c–3
Elective	–3
RECOMMENDED ELECTIVES	
Metallurgy	VTI M 275b–3 [2]
Oxy-acetylene and Arc Welding	VTI W 175–3 [2]
Basic Machine Shop Practice	VTI M 175–3 [2]
Manufacturing Processes	VTI M 176b–3 [2]
College Algebra	GSD 114a–3
Introduction to Physical Science	GSA 101b–3
Labor Management and Relations Problems	VTI G 232–4
Typewriting	VTI S 101a–3

AVIATION TECHNOLOGY

The airlines and general aviation constitutes an industry that requires large organizations staffed by highly skilled technicians. The industry has grown at

[1] Students who score below a satisfactory level on the mathematics part of the ACT examination must take VTI G 106 prior to taking VTI G 107.

[2] At least one elective must be taken from this group of recommended electives.

such an unprecedented rate in the last decade that it is now faced with a serious shortage of properly trained aviation technicians. Men are needed who possess a wide range of knowledge and ability which requires training in general education as well as special technical training.

The Aviation Technology program covers the essential elements that are involved in this highly specialized industry. Students are trained for the field of aviation maintenance and operations, aviation electronics and air carrier operations.

Although the Private Pilot flight course is approved by the Federal Aviation Agency (FAA) and is an integral part of the maintenance technician curriculum, students may elect to exclude the flight training.

Upon graduation, the student receives the Associate in Technology degree, and depending on his major field of concentration, is qualified to obtain the Federal Aviation Agency (FAA) Airman Airframe and Powerplant certificate as an A & P maintenance technician, or commercial pilot, and is eligible for the instrument flight rating or the flight engineer written examination.

The Aviation Technology program is located at the Southern Illinois Airport, three miles NNW of the Carbondale campus and three miles ENE of Murphysboro, Illinois.

Students entering the Aviation Technology program for the first time are required to purchase a basic tool kit which costs approximately $65.00.

Students choosing the Aviation Technology curriculum with flight training will pay, in addition to the regular tuition and fees, a flight charge of $90.00 per quarter for a total of six quarters. Actual flight training begins during the latter portion of the second year.

A minimum of 109 quarter hours must be completed for graduation.

MAINTENANCE TECHNICIAN OPTION

FIRST QUARTER	
Aircraft Reciprocating Powerplant	VTI L 101–6
Carburetion & Lubricating Systems	VTI L 102–6
Technical Mathematics	VTI G 107–3 [1]
English Composition	GSD 101–3
SECOND QUARTER	
Aircraft Electricity, Generator-Alternator	VTI L 103–6
Propellers	VTI L 104–5
Aircraft Instruments	VTI L 105–4
Technical Drafting	VTI D 175–3
THIRD QUARTER	
Aircraft Ignition-Starting Systems	VTI 106–5
Jet Propulsion Powerplant	VTI L 108–6
Powerplant Testing	VTI L 109–4
Technical Writing	VTI G 102–3
FOURTH QUARTER	
Fabric-Wood-Doping	VTI L 107–4
Aerodynamics	VTI L 203–5
Welding Theory	VTI W 125a–5
Oxy-Acetylene & Electric Arc Welding	VTI W 175–3
Oral Communication of Ideas	GSD 103–3
FIFTH QUARTER	
Aircraft Hydraulics	VTI L 204–5
Pressurization, Air Conditioning Systems	VTI L 205–3
Metal and Processing	VTI L 206–4
Radio Operation and Installation	VTI L 217–1

[1] Students who score below a satisfactory level on the mathematics part of the ACT will be required to take VTI G 106 and VTI G 107.

Culture, Society, and Behavior	GSB 201c–3

SIXTH QUARTER

Weight & Balance and Inspection	VTI L 209–6
Aircraft Fuel Systems	VTI L 208–2
Jet Transport Aircraft Systems	VTI L 220–3
Labor Management Relations Problems	VTI G 232–4
Political Economy	GSB 211b–4

RECOMMENDED ELECTIVES

Private Pilot Flying	VTI L 230–3
Business Law	VTI B 226–4
Record Keeping	VTI B 229–2
Salesmanship	VTI R 127–3

PROFESSIONAL PILOT OPTION

This program is fully approved by the Federal Aviation (FAA) under approval No. 4624 as an Airframe and Powerplant technician school, and under approval No. C-19-21 as a Flight School. It combines the aviation maintenance (Option I) with Commercial Pilot flight training, Instrument Fight and general education. Upon completion of the program, the student is also qualified to obtain the Federal Aviation Agency (FAA) Airman A & P Certificate as a maintenance technician, Commercial Pilot, Instrument Flight rating, and is eligible for the Flight Engineer written examination.

A minimum of 106 quarter hours must be completed for graduation.

FIRST QUARTER

Aircraft Reciprocating Powerplant	VTI L 101–6
Carburetion & Lubricating Systems	VTI L 102–6
Private Pilot Flying	VTI L 230–3
English Composition	GSD 101–3

SECOND QUARTER

Aircraft Electricity Generator-alternator	VTI L 103–6
Propellers	VTI L 104–5
Aircraft Instruments	VTI L 105–4
Technical Mathematics	VTI G 107–3

THIRD QUARTER

Aircraft Ignition-Starting Systems	VTI L 106–5
Jet Propulsion Powerplant	VTI L 108–6
Powerplant Testing	VTI L 109–4
Basic Flight	VTI L 231–3

FOURTH QUARTER

Technical Drafting	VTI L 175–3
Technical Writing	VTI L 102–3
Intermediate Flight	VTI L 232–3
Welding	VTI W 125a–5
Elective	–3

FIFTH QUARTER

Fabric-Wood-Doping	VTI L 107–4
Aerodynamics	VTI L 203–5
Advanced Flight	VTI L 233–3
Oral Communication of Ideas	GSD 103–3
Political Economy	GSB 211b–4

SIXTH QUARTER

Aircraft Hydraulics	VTI L 204–5
Pressurization, Air Conditioning Systems	VTI L 205–3
Metal and Processing	VTI L 206–4
Instrument Flight	VTI L 234–3
Culture, Society & Behavior	GSB 201c–3

SEVENTH QUARTER

Weight & Balance and Inspection	VTI L 209–6
Aircraft Fuel Systems	VTI L 208–2
Jet Transport Aircraft Systems	VTI L 220–3
Labor Management Relations Problems	VTI G 232–4
Elective	–3

RECOMMENDED ELECTIVES

Culture, Society, & Behavior	GSB 201a–3
Culture, Society, & Behavior	GSB 201b–3
Political Economy	GSB 211a–4
Business Law	VTI B 226–4
Political Economy	GSB 211b–4
Salesmanship	VTI R 127–3

AVIATION ELECTRONICS OPTION

This two-year program is to provide the student with the necessary knowledge and skills for employment in many areas of the Aviation Industry.

Emphasis is placed upon the fundamental theories, principles, mathematics, and their applications in the field of electronics. It is recommended that students have a strong background in high school mathematics and science.

The following expenditures will be required of the students other than their regular tuition and fees:

1. All students will be required to take the Second Class F.C.C. license examination, costing $7.
2. Each student will be required to have basic tools, which are worth about $15 to $20.
3. Workbooks will also be required to be purchased from time to time for laboratory courses, with approximate cost of $10.

The first four quarters of the curriculum are offered on the VTI campus and the last two quarters (fifth and sixth) are offered in the Aviation Technology building at the Southern Illinois Airport.

A minimum of 107 hours must be completed for graduation.

FIRST QUARTER			
Electronic Laboratory—AC, DC	VTI T	101a	–7
Electronic Theory—AC, DC	VTI T	125a	–5
College Algebra	GSD	114a	–3 [1]
Introduction to Physical Science	GSA	101a	–3
SECOND QUARTER			
Electronic Laboratory—Vacuum Tube and Transistors	VTI T	101b	–7
Electronic Theory—Vacuum Tube and Transistors	VTI T	125b	–5
Introduction to Physical Science	GSA	101b	–3
Trigonometry	GSD	114c	–3
THIRD QUARTER			
Electronic Laboratory—Transmitter and Receiver	VTI T	101c	–7
Electronic Theory—Transmitter and Receiver	VTI T	125c	–5
English Composition	GSD	101	–3
Applied Calculus	VTI G	118	–3
FOURTH QUARTER			
Transistor Laboratory	VTI T	201a	–5
Transistor Theory	VTI T	225a	–5
Federal Communications Commission License	VTI T	228	–3
Electives			–3
FIFTH QUARTER			
Aircraft Communications and Navigation Systems	VTI L	251a	–3
Avionics Laboratory I	VTI L	251b	–9
Aircraft Integrated Flight Systems	VTI L	252a	–3
Avionics Laboratory II	VTI L	252b	–3
SIXTH QUARTER			
Aircraft Auto Flight Controls & Instrumentation Systems	VTI L	253a	–3
Avionics Laboratory III	VTI L	253b	–3
Airborne Radar Systems	VTI L	254a	–3
Avionics Laboratory IV	VTI L	254b	–3
Culture, Society, and Behavior	GSB	201b	–3
Political Economy	GSB	211b	–4

[1] Students who score below a satisfactory level on the mathematics part of the ACT examination must take VTI G 106–0 prior to taking GSD 114a.

BUILDING CONSTRUCTION TECHNOLOGY

These courses provide training which will enable the individual to qualify for positions of greater opportunity and responsibility after relatively short periods of apprenticeship or trade experience in the fields of construction supervision, cost estimating, management, and building construction.

Field trips to nearby cities to study and observe various tyes of construction are made each school year. Allowance should be made for the purchase of small amounts of equipment and supplies.

A minimum of 107 hours must be completed for graduation.

FIRST QUARTER

Architectural Drafting	VTI D 110–5
Freehand Architectural Graphics	VTI D 146–3
History of Architecture	VTI D 147–3
Technical Mathematics	VTI G 107–3
English Composition	GSD 101–3

SECOND QUARTER

Architectural Design	VTI D 121–4
Basic Materials of Construction	VTI D 150–3
Wood Technology	VTI F 128–4
Culture, Society, Behavior	GSB 201c–3
College Algebra	GSD 114a–3

THIRD QUARTER

Materials and Methods of Construction	VTI D 151–4
Mechanics and Strength of Materials	VTI D 153–4
Production Woodworking-Machines	VTI F 101a–5
Introduction to Physical Science	GSA 101–3
Trigonometry	GSD 114c–3

FOURTH QUARTER

Construction	VTI D 210–3
Materials and Methods of Construction	VTI D 250–4
Structural Elements	VTI D 258–4
Mechanical Services for Residential Building-Sanitary	VTI D 265–2
Production Woodworking-Light Frame Construction	VTI F 201a–5

FIFTH QUARTER

Construction	VTI D 210–3
Mechanical Services for Residential Building-Electrical	VTI D 265–2
Construction Cost Estimating	VTI D 283–3
Production Woodworking—Cabinet and Millwork	VTI F 101b–5
Production Woodworking—Prefabrication	VTI F 201c–5

SIXTH QUARTER

Construction	VTI D 210–3
Business Law	VTI B 226–4
Wood Finishing	VTI F 129–3
Labor Management Relations Problems	VTI G 232–4
Political Economy	GSB 211b–4

RECOMMENDED ELECTIVES

Theory of Structures	VTI D 290–3
Lumber Seasoning	VTI F 130–3
Lumber Grading	VTI F 131–2
Business Correspondence	VTI G 101–3
Calculating Machines	VTI K 101–3
Typewriting	VTI S 101–3

DENTAL LABORATORY TECHNOLOGY

A dental technician is an individual trained and educated to perform those phases of the dental laboratory procedures required in the fabrication of dental prosthetic appliances. He may work in a licensed dentist's office, or he may find employment in an approved dental laboratory. Each student is required to purchase a kit of instruments, which will total approximately $100. This in in addition to regular university fees.

This program has been designed to meet the standards established by

the Council on Dental Education and the Council on Dental Trades and Laboratories of the American Dental Association. It has been fully approved by the accrediting agency of the Association. Applicants are required to take a Dental Technology Aptitude Test during Registration Week of the fall or winter quarter at the Vocational-Technical Institute's Dental Technology Laboratory.

A minimum of 103 quarter hours must be completed for graduation.

FIRST QUARTER

Dental Prosthetics Laboratory Tooth Form	VTI Y 101a–6
Dental Prosthetics Theory Tooth Form	VTI Y 125a–3
Technical Mathematics	VTI G 107–3 [1]
English Composition	GSD 101–3

SECOND QUARTER

Dental Prosthetics Laboratory Partial Dentures	VTI Y 101b–6
Dental Prosthetics Theory Partial Dentures	VTI Y 125b–3
Science of Dental Materials	VTI Y 113a–3
Oral Anatomy	VTI Y 128–2
Introduction to Physical Science	GSA 101a–3

THIRD QUARTER

Dental Prosthetics Laboratory Complete Dentures	VTI Y 101c–6
Dental Prosthetics Theory Complete Dentures	VTI Y 125c–3
Introduction to Physiology	VTI G 141–5
Introduction to Chemistry	VTI G 115–3

FOURTH QUARTER

Crown and Bridgework Lab Individual Cast Restorations	VTI Y 201a–6
Crown and Bridgework Theory Individual Cast Restorations	VTI Y 225a–3
Metallurgy	VTI M 275–3
Culture, Society, and Behavior	GSB 201c–3
Oral Communication of Ideas	GSD 103–3

FIFTH QUARTER

Crown and Bridgework Lab	VTI Y 201b–6
Crown and Bridgework Theory	VTI Y 225b–3
Technical Writing	VTI G 102–3
Political Economy	GSB 211b–4
Salesmanship	VTI R 127–3

SIXTH QUARTER

Crown and Bridgework Lab Ceramics and Precision Attachments	VTI Y 201c–6
Crown and Bridgework Theory Ceramics and Precision Attachments	VTI Y 225c–3
Professional Ethics	VTI X 202–2
Fundamentals of Business	VTI B 126–3
Elective	–3

RECOMMENDED ELECTIVES

Record Keeping	VTI B 229–2
Calculating Machines	VTI K 101a–3
Typewriting	VTI S 101–3
Introduction to Physical Science	GSA 101b–3
College Algebra	GSD 114a–3
Welding Theory Oxy-Acetylene	VTI W 125a–3

ELECTRONICS TECHNOLOGY

The purpose of Electronics Technology is to provide the student with the necessary knowledge and skills for employment in many areas of industrial electronics, computer electronics, entertainment electronics, and communications.

Emphasis is placed upon the fundamental theories, principles, mathematics, and their applications in the field of electronics. It is recommended

[1] Students who score below a satisfactory level on the mathematics part of the ACT examination must take VTI G 106–0 prior to taking VTI G 107–3.

that students have a strong background in high school mathematics and science.

The following expenditures will be required of the students other than their regular tuition and fees:

1. All students will be required to take the Second Class F.C.C. license examination, costing $7.
2. Each student shall be required to have basic tools, which are worth about $15 to $20.
3. Workbooks will also be required to be purchased from time to time for laboratory courses, with approximate cost $10.

A minimum of 103 hours must be completed for graduation.

FIRST QUARTER

Electronic Laboratory—AC, DC	VTI T 101a–7
Electronic Theory—AC, DC	VTI T 125a–5
College Algebra	GSD 114a–3 [1]
Introduction to Physical Science	GSA 101a–3

SECOND QUARTER

Electronic Laboratory—Vacuum Tube and Transistors	VTI T 101b–7
Electronic Theory—Vacuum Tube and Transistors	VTI T 125b–5
Introduction to Physical Science	GSA 101b–3
Trigonometry	GSD 114c–3

THIRD QUARTER

Electronic Laboratory—Transmitter and Receiver	VTI T 101c–7
Electronic Theory—Transmitter and Receiver	VTI T 125c–5
English Composition	GSD 101–3
Applied Calculus	VTI G 118–3

FOURTH QUARTER

Transistor Laboratory	VTI T 201a–5
Transistor Theory	VTI T 225a–5
Federal Communications Commission License	VTI T 228–3
Technical Writing	VTI G 102–3

FIFTH QUARTER

Electronic Laboratory—Pulse Circuits and Microwave	VTI T 201b–5
Electronic Theory—Pulse Circuits and Microwave	VTI T 225b–5
Industrial Circuits	VTI T 232–3
Culture, Society, and Behavior	GSB 201c–3

SIXTH QUARTER

Electronic Laboratory—Service Problems	VTI T 201c–5
Electronic Theory—Service Principles	VTI T 225c–5
Color Television	VTI T 229–3
Political Economy	GSB 211b–4

RECOMMENDED ELECTIVES

Technical Drafting	VTI D 175–3
Labor Management Relations Problems	VTI G 232–4
Salesmanship	VTI R 127–3
Typewriting	VTI S 101–3
Oral Communications of Ideas	GSD 103–3

ELECTRONIC DATA PROCESSING (INDUSTRIAL OPTION)

This program provides training in the technical skills underlying the operation, and programming of data acquisition and computing equipment as applied to industrial purposes. Punched card preparation, electro-mechanical machines operation, and electronic computers are processes and equipment used by the student who aspires to become a programmer.

[1] Students who score below a satisfactory level on the mathematics part of the ACT examination must take VTI G 106–0 prior to taking GSD 114a.

A minimum of 103 hours must be completed for graduation.

FIRST QUARTER

Data Processing Mathematics	VTI E	100a–5
Automatic Data Processing Machines	VTI E	101a–3
Manufacturing Processes	VTI M	101a–3
Introduction to Physical Science	GSA	101–3
College Algebra	GSD	114a–3 [1]

SECOND QUARTER

Technical Drafting	VTI D	175a–3
Automatic Data Processing Machines	VTI E	101b–5
Manufacturing Processes	VTI M	176b–3
English Composition	GSD	101–3
Trigonometry	GSD	114c–3

THIRD QUARTER

Fundamentals of Business	VTI B	126–3
Computer Programming	VTI E	103–5
Data Processing Applications	VTI E	104–3
Basic Applied Physics	VTI G	120–4
English Composition	GSD	102–3

FOURTH QUARTER

Kinematics	VTI D	225–3
Industrial Programming via Computers	VTI E	202a–5
Systems Design and Development	VTI E	205–5
Technical Writing	VTI G	102–3

FIFTH QUARTER

Business Statistics	VTI B	235–4
Strength of Materials	VTI D	226–3
Industrial Programming via Computers	VTI E	202b–5
Programming Systems	VTI E	206a–3
Applied Calculus	VTI G	118–3

SIXTH QUARTER

Programming Systems	VTI E	206b–7
Data Processing Field Project	VTI E	207–3
Culture, Society, and Behavior	GSB	201c–3
Political Economy	GSB	211b–4

RECOMMENDED ELECTIVES

Accounting	VTI B	101–6
Business Law	VTI B	226–4
Office Administration and Supervision	VTI B	227–5

FOREST PRODUCTS TECHNOLOGY

This course of study provides training for technical and supervisory positions in the forest products industries. New developments in wood utilization, prefabricated construction, manufacturing and in wood research provide increasing career opportunities. Graduates find employment as specialists in production, seasoning, laminating, and quality control in furniture, millwork and structural components plants. In wood laboratories they perform as research technicians conducting experiments, collecting data, and assisting in analysis and evaluation of test results.

Students will be required to participate in a certain number of field trips for which they will pay their own expenses.

A minimum of 102 hours must be completed for graduation.

FIRST QUARTER

Production Woodworking Lab—Machines	VTI F	101a–5
Production Woodworking Theory—Machines	VTI F	125a–3
Wood Technology	VTI F	128–4
Wood Finishing	VTI F	129–3
English Composition	GSD	101–3

SECOND QUARTER

Production Woodworking Lab—Cabinet and Millwork	VTI F	101b–5

[1] Students who score below a satisfactory level on the mathematics part of the ACT examinations must take VTI G 106–0 prior to taking VTI E 100a–5.

Production Woodworking Theory—Cabinet and Millwork	VTI F 125b–3
Woodworking Drafting	VTI D 178–3
Technical Writing	VTI G 102–3
Technical Mathematics	VTI G 107–3 [1]

THIRD QUARTER

Production Woodworking Lab—Furniture Construction	VTI F 101c–5
Production Woodworking Theory—Furniture Construction	VTI F 125c–3
Lumber Grading	VTI F 131–2
Woodworking Drafting	VTI D 179–3
Introduction to Physical Science	GSA 101a–3

FOURTH QUARTER

Production Woodworking Lab—Light Frame	VTI F 201a–5
Production Woodworking Theory—Light Frame	VTI F 225a–3
Wood Preservation	VTI F 232–2
Basic Materials of Construction	VTI D 150–3
Culture, Society, and Behavior	GSB 201c–3

FIFTH QUARTER

Production Woodworking Lab—Prefabrication	VTI F 201b–5
Production Woodworking Theory—Prefabrication	VTI F 225b–3
Lumber Seasoning	VTI F 130–3
College Algebra	GSD 114a–3
Political Economy	GSB 211a–4

SIXTH QUARTER

Production Woodworking Lab—Manufacturing Processes	VTI F 201c–5
Production Woodworking Theory—Manufacturing Processes	VTI F 225c–3
Plant Organization and Operation	VTI F 250–3
Job Orientation	VTI X 201–2
Political Economy	GSB 211b–4

RECOMMENDED ELECTIVES

Record Keeping	VTI B 229–2
Business Correspondence	VTI G 101–3
Labor Management Relations Problems	VTI G 232–3
Calculating Machines	VTI K 101–3
Typewriting	VTI S 101–3

MACHINE DRAFTING AND DESIGN TECHNOLOGY

This program prepares students for jobs in industry which require knowledge and abilities in drafting and design of a mechanical nature. Graduates work as draftsmen, jig and fixture designers, laboratory technicians, research and development engineering aides, and technical supervisors. With additional experience, they may advance to positions as machine and tool designers, industrial supervisors, tool buyers, production expediters, cost estimators, and field service representatives.

In the major course, emphasis is placed on graphical communication and problem solving techniques, product and tool design principles and practices, engineering standards, manufacturers' standards, and the selection of methods for efficient and economical production. Other courses in the curriculum are intended to improve the student's ability to communicate in words, to acquaint him with materials and processes of industry, to impart the mathematical skills and scientific knowledge essential for the designer, and to develop understandings of the human relations aspects of our American industrial life.

A minimum of 100 hours must be completed for graduation.

[1] Students who score below a satisfactory level on the mathematics part of the ACT examination must take VTI G 106–0 prior to taking VTI G 107–3.

FIRST QUARTER

Graphics	VTI D 101a–7
Manufacturing Processes I	VTI M 176a–3
Technical Mathematics	VTI G 107–3 [1]
English Composition	GSD 101–3

SECOND QUARTER

Graphics	VTI D 101b–7
Manufacturing Processes II	VTI M 176b–3
College Algebra I	GSD 114a–3
Introduction to Physical Science	GSA 101a–3

THIRD QUARTER

Graphics	VTI D 101c–7
Trigonometry	GSD 114c–3
Culture, Society, and Behavior	GSB 201c–3
Basic Applied Physics	VTI G 120–4

FOURTH QUARTER

Machine Drafting & Design	VTI D 201a–5
Statics and Strength of Materials	VTI D 226a–2
Kinematics	VTI D 225–3
Metallurgy II	VTI M 275b–3
Elective	–3

FIFTH QUARTER

Machine Draft & Design	VTI D 201b–5
Statics and Strength of Materials	VTI D 226b–3
Political Economy	GSB 211b–4
Elec., Hyd., & Pneumatic Controls	VTI D 127–3
Elective	–3

SIXTH QUARTER

Machine Draft & Design	VTI D 201c–7
Tool Design	VTI D 227–3
Metallurgy III	VTI M 275c–3
Oral Communication of Ideas	GSD 103–3
or	
Technical Report Writing	VTI G 102–3

RECOMMENDED ELECTIVES

Labor Management Relations Problems	VTI G 232–4
Machine Tool Theory—Engine Lathe and Bench	VTI M 125–3
Machine Tool Theory—Milling Machines	VTI M 225–3
Machine Tool Theory—Precision Measurement	VTI M 125–3
Political Economy	GSB 211a–4
Machine Tool Laboratory—Engine, Lathe and Bench	VTI M 101–5
Machine Tool Laboratory—Milling Machines	VTI M 201–5
Welding Laboratory—Oxy-Acetylene	VTI W 101–7
English Composition	GSD 102–3
Applied Calculus	VTI G 118–3

TOOL AND MANUFACTURING TECHNOLOGY

This program provides knowledge and abilities for industries requiring engineering technicians. Graduates accept jobs as part programers of numerical control machines, laboratory technicians, planners, methods and quality control, expediters, tool and die technicians, tool room technicians, and tool room supervisors.

Emphasis is placed on modern machine tools and accessories, numerical control machines, production set-ups and tooling, jigs and fixtures, dies, and methods for efficient and economical production and manufacture of industrial products and machines.

Also included are courses dealing with the properties of and heat treat-

[1] Students who score below a satisfactory level on the mathematics part of the ACT examination must take VTI G 106 prior to taking VTI G 107.

ment of metals, mathematics, technical drawing, technical writing, oral communications, and the human relations aspects of our American industrial life.

A minimum of 99 hours must be completed for graduation.

FIRST QUARTER

Machine Tool Laboratory—Drill Press, Benchwork, Engine Lathe	VTI M	101a–5
Machine Tool Theory—Introduction to Machine Tools	VTI M	125a–3
Technical Mathematics	VTI G	107–3 [1]
Introduction to Physical Science	GSA	101a–3
Technical Drawing	VTI D	175a–3

SECOND QUARTER

Machine Tool Laboratory—Advanced Engine Lathe, Shaper, Vertical Mill	VTI M	101b–5
Machine Tool Theory—Machinability of Metals	VTI M	125b–3
Technical Drawing	VTI D	175b–3
English Composition	GSD	101–3
College Algebra	GSD	114a–3

THIRD QUARTER

Machine Tool Laboratory—Milling Machine and Grinder	VTI M	101c–5
Machine Tool Theory—Mill Set-Ups & Grinding Wheel Safety & Selection	VTI M	125c–3
Drafting	VTI D	175c–4
Trigonometry	GSD	114c–3

FOURTH QUARTER

Advanced Machine Tool Lab—Tool and Die	VTI M	201a–3
Advanced Machine Tool Theory—Quality Control & Inspection Practices	VTI M	225a–3
Manufacturing Processes II	VTI M	176b–3
Metallurgy II	VTI M	275b–3
Statics	VTI D	226a–2
Basic Applied Physics	VTI G	120–4

FIFTH QUARTER

Advanced Machine Tool Lab—Production Machining	VTI M	201b–3
Advanced Machine Tool Theory—Process Planning	VTI M	225b–3
Strength of Materials	VTI D	226b–3
Culture, Society, and Behavior	GSB	201c–3
Elective		–3

SIXTH QUARTER

Advanced Machine Tool Lab—Adv. Production Machines & Numerical Control	VTI M	201c–3
Advanced Machine Tool Theory—Cost Estimating & Production Scheduling	VTI M	225c–3
Oral Communications of Ideas or	GSD	103–3
Technical Writing	VTI G	102–3
Political Economy	GSB	211a–4
Political Economy	GSB	211b–4

RECOMMENDED ELECTIVES

Graphics	VTI D	101–7
Oxy-Acetylene Lab	VTI W	101–5
College Algebra	GSD	114b–3
Applied Calculus	VTI G	118–3
Machine Design	VTI D	201–5
English Composition	GSD	102–3
Metallurgy	VTI M	275c–3

MORTUARY SCIENCE AND FUNERAL SERVICE

This program is fully accredited by the American Board of Funeral Service Education.

These courses offer thorough and practical training for the profession of funeral directing and mortuary science. Graduates of this program are prepared to take the State examination for licensing. Those who expect to prac-

[1] Students who score below a satisfactory level on the mathematics part of the ACT examination must take VTI G 106 prior to taking VTI G 107.

tice in a state other than Illinois should make early contact with the appropriate licensing board of that state.

A minimum of 123 hours must be completed for graduation.

FIRST QUARTER

The Funeral: History and Customs	VTI U	101a–3
Introduction to Chemistry	VTI G	115a–3
Culture, Society and Behavior	GSB	201a–3
Political Economy	GSB	211a–4
English Composition	GSB	101a–3

SECOND QUARTER

The Funeral: History and Customs	VTI U	101b–3
Embalming Chemistry	VTI U	110–4
Culture, Society and Behavior	GSB	201b–3
Political Economy	GSB	211b–3
English Composition	GSD	102–3

THIRD QUARTER

Accounting	VTI B	101a–6
Principles of Physiology	GSA	301–4
Culture, Society, and Behavior	GSB	201c–3
Public Health, Laws and Regulations	VTI U	208–2

FOURTH QUARTER

Business Law	VTI B	226a–4
Human Anatomy	PHSL	300–4
Psychology of Personality	PSYC	305–4
Oral Communication of Ideas	GSD	103–3

FIFTH QUARTER

Restorative Art	VTI U	202–3
Introduction to Embalming	VTI U	203–3
Pathology	VTI U	205a–3
Social Psychology	PSYC	307–4
Elective		–3

SIXTH QUARTER

Pathology	VTI U	205b–3
Embalming Theory and Practice	VTI U	225a–5
Communicable Disease	HEd	300–3
Principles of Microbiology	MICR	301–5

SEVENTH QUARTER

Psychology of Funeral Service	VTI U	210–3
Embalming Theory and Practice	VTI U	225b–5
Mortuary Management	VTI U	250–5
Elective		–3

EIGHTH QUARTER

Funeral Service Internship	VTI U	275–10
Funeral Service Seminar	VTI U	280–2

PRINTING TECHNOLOGY

This program provides training for the rapidly changing printing industry. Employment opportunities have never been greater than they are at the present time for technically trained personnel in the graphic arts industry.

Emphasis is placed on production in both the off-set and the letterpress printing fields. Graduates from this program will be prepared for entrance into the graphics arts industry, composed of printing, publishing, and allied businesses.

A minimum of 98 hours must be completed for graduation.

FIRST QUARTER

Presswork Laboratory— Camera and Offset	VTI J	101a–6
Presswork Theory— Camera and Offset	VTI J	125a–3
Layout and Color Theory	VTI N	135–2
Technical Mathematics	VTI G	107–3 [1]
English Composition	GSD	101–3

SECOND QUARTER

Presswork Laboratory— Automatic Platen	VTI J	101b–6

[1] Students who score below a satisfactory level on the mathematics part of the ACT examination must take VTI G 106–0 prior to taking VTI G 107–3.

Presswork Theory—Automatic Platen	VTI J	125b–3
Printing Layout and Design	VTI J	153–3
English Composition	GSD	102–3
Elective		–3

THIRD QUARTER

Presswork Laboratory—Offset and Camera	VTI J	101c–6
Presswork Theory—Offset and Camera	VTI J	125c–3
Technical Writing	VTI G	102–3
Culture, Society, and Behavior	GSB	201c–3

FOURTH QUARTER

Composition Laboratory—Linotype, Intertype	VTI J	201a–6
Composition Theory—Linotype, Intertype	VTI J	225a–3
Labor, Management Relations Problems	VTI G	232–4
Oral Communication of Ideas	GSD	103–3

FIFTH QUARTER

Composition Laboratory—Linotype, Ludlow	VTI J	210b–6
Composition Theory—Linotype, Ludlow	VTI J	225b–3
Political Economy	GSB	211b–3
Elective		–3

SIXTH QUARTER

Composition Laboratory—Letterpress and Offset Production	VTI J	201c–6
Composition Theory—Letterpress and Offset Production	VTI J	225c–3
Estimating and Costs of Printing	VTI J	251–3
Business Law	VTI B	226a–4

RECOMMENDED ELECTIVES

Business Correspondence	VTI G	101–3
Office Administration and Supervision	VTI B	227–5
Economics of Distribution	VTI G	177–2
Salesmanship	VTI R	127–3
Typewriting	VTI S	101–3
Political Economy	GSB	211a–3

CERTIFICATE PROGRAMS IN TECHNOLOGY

COSMETOLOGY

Cosmetology is one of the institute training programs under the supervision of the Department of Registration and Education of the State of Illinois. The standards for this program are established by state law and meet State of Illinois requirements as to the total time, teaching staff, equipment, facilities, library, and course content. Students must purchase uniforms and the makeup kit.

A minimum of 57 hours must be completed for graduation.

FIRST QUARTER

Cosmetology Laboratory	VTI C	101a–7
Cosmetology Theory	VTI C	125a–5
English Composition	GSD	101–3

SECOND QUARTER

Cosmetology Laboratory	VTI C	101b–7
Cosmetology Theory	VTI C	125b–5
Oral Communication of Ideas	GSD	103–3

THIRD QUARTER

Cosmetology Laboratory	VTI C	101c–7
Cosmetology Theory	VTI C	125c–5
Culture, Society and Behavior	GSB	201c–3

FOURTH QUARTER

Cosmetology Laboratory	VTI C	101d–7
Cosmetology Theory	VTI C	125d–5

RECOMMENDED ELECTIVES

Salesmanship	VTI R	127–3
Record Keeping	VTI B	229–2

PRACTICAL NURSING

The Practical Nurse is a person educated to do nursing for selected convalescent, subacute and chronically ill patients, not requiring the substantial skill, judgment and knowledge acquired in professional nursing. She is prepared to assist the professional nurse in a team relationship, especially in the care of the more acute ill. The Practical Nurse performs under the direction of a registered professional nurse or licensed physician or licensed dentist.

The curriculum of the practical nursing program is approved by the Committee of Nurse Examiners, State of Illinois, Department of Registration and Education. The one year program is divided into three segments. The first quarter of basic nursing consists of an introduction to nursing in the classroom with an orientation to the hospital setting provided in the last six weeks. During the second quarter for a seven week period, the student develops skills in giving complete morning care to one patient and also has an introduction to more advanced skills in nursing in the classroom. The clinical period of 30 weeks in length consists of nursing in five specific areas of nursing under the close supervision of their instructor in local hospitals, and classroom experience concurrent with their special area.

Throughout the year, the student wears the official school uniform. Two classes start each year beginning in the fall and spring quarters. Both men and women are accepted. Plans for admission should be made early for there are entrance requirements to be met before admission. These requirements include a personal interview with the coordinator, satisfactory completion of pretesting, and good health as determined by a physical examination. Graduates of this program are eligible to take the state examination in order to become a Licensed Practical Nurse.

A minimum of 52 credit hours must be completed for graduation.

FIRST QUARTER		Clinical Theory and Nursing	VTI P 103–6
Basic Nursing	VTI P 101–6	THIRD QUARTER	
Nutrition for Practical Nurses	VTI P 131–4	Clinical Theory and Nursing	VTI P 103–12
Health	VTI P 132–5	FOURTH QUARTER	
SECOND QUARTER		Clinical Theory and Nursing	VTI P 103–12
Practical Nursing, Role I	VTI P 102–7		

WELDING

This program provides training in the use of various types of welding equipment, the welding of mild steel in all positions, machine cutting, hand cutting, testing of welds, and welding of nonferrous metals. Each student is given individual attention in his shop training.

This program has been designed to prepare students for employment as tool room welders, construction welders, job shop welders, and welding inspectors.

The courses as outlined are required for the welding certificate. A minimum of 49 hours must be completed for graduation.

FIRST QUARTER

Welding Laboratory—Gas Welding and Cutting Processes	VTI W 101a–5
Welding Theory—Gas Welding and Cutting Processes	VTI W 125a–5
Technical Math	VTI G 107–3
Metallurgy—Welding	VTI M 275a–3

SECOND QUARTER

Welding Laboratory—Metallic Arc Welding	VTI W 101b–5
Welding Theory—Metallic Arc Welding	VTI W 125b–5
English Fundamentals	GSD 101–3
Political Economy	GSB 211b–3

THIRD QUARTER

Welding Laboratory—Special Application Welding	VTI W 101c–5
Welding Theory—Special Application Welding	VTI W 125c–5
Technical Drafting	VTI D 175a–3
Metallurgy—Ferrous	VTI M 275b–3

RECOMMENDED ELECTIVES

Record Keeping	VTI B 229–2
Business Correspondence	VTI G 101–3
Metallurgy	VTI M 275–3

Adult Education

(Carbondale Campus)

Adult Education has become not a "making up," but a "keeping up" and "going ahead" factor in American society. "All men by nature desire to know," wrote Aristotle, and to help meet this desire the Division of Technical and Adult Education offers a variety of noncredit courses. Any interested group may request assistance in the development of a course to meet its particular needs.

The Division of Technical and Adult Education attempts to meet the fundamental functions of adult education in its performance in our society. These functions are (1) to expand communication skills, (2) to develop in adults the ability and willingness to change in a changing world, (3) to improve human relations, (4) to help adults to participate in, and to be concerned with, the responsibilities of citizenship, (5) to build personal growth for the adult learner, and (6) to provide use of leisure time, to create new interests, and to seek ways of spending time productively.

TYPICAL COURSES

Adult Education offerings by the Division of Technical and Adult Education encompass a variety of subjects:

Courses in agriculture for farm owners and workers help them improve their operation and ownership. The following are courses which meet once each week for from two to six weeks:

Agronomy
Beef Production
Crop Diseases
Dairy Production
Egg Grading
Farm Management
Farm Records
Farm Production
Sheep Production
Vegetable Growing for Market

There is a growing recognition that creative arts are important in adult education. The following courses and others have been offered in this category.

Art Appreciation
Oil Painting
Portrait Painting
Sketching
Music Appreciation
Leathercraft
Jewelry
Ceramics

Courses in home and family life meet the ever-increasing need and demand of adults. As circumstances change, new courses are added. Courses such as the following are available:

Clothing Construction
Foreign Cooking
Home Work Simplification
Interior Decorating
Tailoring
Nutritional Weight Control
Party Foods

Demands in business are met through a variety of adult education courses. These range from beginning courses for adults who wish to prepare for initial positions to advanced courses for employed adults who desire promotions. The following are representative courses:

Bookkeeping-Accounting
Calculating Machines
Certified Professional Secretaries Refresher
Clerical Procedures
Cost Control
Filing
Payroll Accounting
Real Estate Law, Appraisal, and Sales
Retail Management
Small Retail Store Problems
Shorthand
Stocks, Bonds, Investments

Many adults evidence increased interest in foreign languages, possibly because of more international travel or emphasis to retain native languages. The division meets the interest of adults by offering courses such as these:

Conversational Spanish
Conversational French
Conversational German

Industry today has an ever-increasing demand for vocational and technical workers to build a stronger nation through increased production. The following courses illustrate how adult education meets the demands of industry:

Machine Tooling
Precision Measurement
Quality Control
Welding
Automotive Procedures
Electronics
Electricity
Machine Drafting
Blueprint Reading for Shop Mechanics
Commercial Blueprint Reading

Many courses for labor groups are conducted to help selected adults prepare as apprentices and journeymen. Each course is specifically planned

for the particular trade in cooperation with the local union and the University's Labor Institute. The following courses have been offered:

Blueprint Reading for Building Trades
Carpenter Apprentice Related Training
Mathematics for Carpenters
Plumber Estimating
Refrigeration for Plumbers
Cable Splicing for Electricians
Welding for Electricians
Welding for Plumbers

The importance of better use of leisure time in increasing in our modern society. Courses such as the following have been offered by adult education:

Great Books
Reading Improvement
Furniture Reupholstering
Photography
Home Mechanics
Planning for Retirement

The Division of Technical and Adult Education, in cooperation with associations which represent business, industrial, personal service, and public utility groups, offers many special short courses such as the following:

Illinois Bankers School
Hospital Managers and Accountants
Restaurant Manager
Rural Electric Cooperatives
Admiralty Law Seminar
Public Librarians Workshop
School of Advanced Cosmetology
Marine Financing
School for Masters and Mates
Transportation Sales
Management Seminars

Other noncredit courses to meet the needs evidenced by local groups, local adult education planning committees, and association committees will be planned and offered by the Division of Technical and Adult Education upon request.

EDUCATIONAL PLANNING COMMITTEES

In many instances, adult education courses are developed through a cooperative plan with representatives from business, industry, and the professions. Representatives of this division and of the group which desires a course plan, organize, and activate the subjects to be offered, select the outstanding instructors, and decide meeting time and place.

A recent development has been the organization and planning of adult education courses in industrial management. These courses have been the result of cooperative planning with representatives from industry and this division. Representative courses are Practical Psychology for Supervisors, Industrial Report Writing, Quality Control, Labor Management Relations, Dielectric Heating, and Metallurgy.

TEACHING STAFF

The teaching staff in Adult Education is drawn from business, industry, the professions, and the University's academic units. All teaching assignments, which are made as the needs arise, are on a part-time basis.

Technical and Adult Education

(Edwardsville Campus)

This office supervises all associate degree programs and noncredit courses offered by the University in the area. The associate degree programs provide college level curricula of shorter duration than the usual four-year programs. The purpose of the noncredit courses is to serve the needs of the community for educational programs that will improve the economic and social standards and provide new interests for business and industry in the community.

ASSOCIATE DEGREE PROGRAM

The Associate in Business degree is designed to give the student the skills he needs to perform a specific job or type of job. It offers specializations in Accounting, Management, General Office Secretary, Legal Secretary, and Medical Secretary. Courses for each of these specializations are available both during the day or evening. Each specialization may be completed in two years by the full-time student or in four years by the part-time evening student. This program is intended for high school graduates who wish to prepare for a first time full-time job and for adults with some working experience who desire to qualify themselves for advancement in a chosen field or for transfer to a different specialization.

Enrollment is limited to those whose purpose is to acquire the skills necessary for an initial job in the chosen field. If a student should complete the Associate in Business degree and later decide to work for a more advanced degree, his courses would have to be reevaluated at the time by the division granting the degree. This program should not be confused with the first two years of any of the four-year programs offered by other academic units of the University.

HIGH SCHOOL PREPARATION

It is helpful, though not required, that a student entering the secretarial specializations have taken some typing in high school or elsewhere. Students enrolled in one or more courses in skill subjects, such as shorthand and typewriting, will be assisted by instructors to ensure placement in course sequences at the appropriate skill level.

ADMISSION

A student must be officially admitted to the University before registering for courses in an Associate degree program. The student, to be permitted to attend classes at Southern Illinois University, must have completed registration, which includes admission, advisement, sectioning, and payment of fees.

Admission policies for undergraduate students are stated on page 3 of this catalog. Inquiries concerning admission should be directed to the Admissions Office at Edwardsville. Applications for admission are accepted at any time during the calendar year but should be initiated at least 30 days prior to the start of the quarter which the student plans to attend.

ADVISEMENT

At the initial counseling interview the candidate for the associate degree must declare his intention and select his field of concentration and so indicate on the form provided (Student Declaration of Concentration). After the student has completed the Student Declaration of Concentration, advisement will be the responsibility of the Division of Technical and Adult Education.

PLACEMENT SERVICES

Upon the completion of 80 quarter hours, the associate degree student may register with Placement Services. The student is encouraged to register early to take advantage of the opportunities for interviews with the representatives of various companies. There is no fee for this service.

GRADUATION

No later than the beginning of a student's last quarter, he must apply for graduation. At this time his courses and grades are reviewed by the Registrar's Office to determine whether the requirements of the University have been met and by the Technical and Adult Education Office to determine whether the requirements for the Associate in Business degree have been met.

ASSOCIATE IN BUSINESS DEGREE PROGRAM

ACCOUNTING

These courses offer thorough and practical training for a position as bookkeeper, payroll clerk, junior accountant, or assistant to an accountant or auditor. Positions with governmental agencies and in public accounting are also filled by graduates.

A minimum of 98 hours must be completed for graduation.

FIRST QUARTER		SECOND QUARTER	
Accounting	ACCT 251a–4	Accounting	ACCT 251b–4
Data Processing Mathematics	VTI E 100–5	Calculating Machines	BSED 341–4
Introduction to Business Administration	MGT 170–4	American Government	GOVT 210–4 [1]
English Composition	GSD 101a–3	Political Economy	GSB 211a–3
		English Composition	GSD 101b–3

[1] Or the required examination on the United States Constitution and the State of Illinois Constitution plus a four-hour elective.

THIRD QUARTER

Accounting	ACCT 251c–4
Principles of Economics	ECON 210–5
Business Law I	MGT 371–4
Oral Communication of Ideas	GSD 103–3

FOURTH QUARTER

Intermediate Accounting	ACCT 351a–4
Cost Accounting	ACCT 341–4
Tax Accounting	ACCT 331–4
Business Law II	MGT 372–4

FIFTH QUARTER

Intermediate Accounting	ACCT 351b–4
Advanced Cost Accounting	ACCT 442–4
Corporation Finance	MGT 320–4
Credits and Collections	MKTG 334–4

SIXTH QUARTER

Advanced Accounting	ACCT 453a–4
Auditing	ACCT 456–4
Business Writing	MGT 271–4
Business Organization and Management	MGT 340–4

EXECUTIVE SECRETARIAL

These courses are for students who wish to prepare for positions as professional secretaries in business, industrial, and governmental offices. They include a combination of general education and skill-building courses which provide a high degree of occupational competence. Graduates qualify for positions as private secretaries and executive secretaries as well as for department or field positions in federal or state civil service.

A minimum of 100 hours must be completed for graduation.

FIRST QUARTER

Typewriting	BSED 201c–3
Shorthand and Transcription	BSED 221a–4
English Composition	GSD 101a–3
Data Processing Mathematics	VTI E 100–5

SECOND QUARTER

Advanced Typewriting	BSED 304–3
Shorthand and Transcription	BSED 221b–4
English Composition	GSD 101b–3
American Government	GOVT 210–4 [1]
Culture, Society, and Behavior	GSB 201c–3

THIRD QUARTER

Shorthand and Transcription	BSED 221c–4
Calculating Machines	BSED 341–4
Introduction to Business Administration	MGT 170–4
Oral Communication of Ideas	GSD 103–3
Filing and Duplicating	VTI S 107–3

FOURTH QUARTER

Advanced Shorthand and Transcription	BSED 324a–4
Accounting	ACCT 251a–4
Business Law I	MGT 371–4
Business Writing	MGT 271–4

FIFTH QUARTER

Advanced Shorthand and Transcription	BSED 324b–4
Business Report Writing	MGT 361–4
Personnel Management	MGT 385–4
Legal Shorthand	VTI S 224–6

SIXTH QUARTER

Records Administration	BSED 427–4
Office Management	BSED 407–4
Secretarial Office Procedures	VTI S 223–5
Elective	–3

RECOMMENDED ELECTIVES

Cooperative Secretarial Experience	VTI S 214–5 [2]
Medical Shorthand	VTI S 225a–6
Business Law II	MGT 372–4
General Studies Subjects	

[1] Or the required examination on the United States Constitution and the State of Illinois Constitution plus a four-hour elective.

[2] The five hours of Cooperative Secretarial Experience (VTI S 214) will be required unless the student is employed, or has been employed, in an office approved by the advisor, doing work comparable to that required for credit in the program.

LEGAL SECRETARIAL

These courses provide a proper balance in the secretarial skills and in the special and general knowledge a trained legal secretary needs. Graduates may secure positions as legal secretaries with attorneys, judges, legal consultants or legal departments, or may continue their study to become conference or court reporters.

A minimum of 101 hours must be completed for graduation.

FIRST QUARTER

Typewriting	BSED 201c–3
Shorthand and Transcription or	BSED 221a–4
Stenograph Machines	VTI H 130a–4
English Composition	GSD 101a–3
Filing and Duplicating	VTI S 107–3
Elective	–3

SECOND QUARTER

Advanced Typewriting	BSED 304–3
Shorthand and Transcription or	BSED 221b–4
Stenograph Machines	VTI H 130b–4
English Composition	GSD 101b–3
Accounting	ACCT 251a–4
American Government	GOVT 210–4 [1]

THIRD QUARTER

Shorthand and Transcription or	BSED 221c–4
Stenograph Machines	VTI H 130c–4
Introduction to Business Administration	MGT 170–4
Calculating Machines	BSED 341–4
Oral Communication of Ideas	GSD 103–3

FOURTH QUARTER

Medical Shorthand	VTI S 225a–6
Advanced Shorthand and Transcription or	BSED 324a–4
Stenograph Machines	VTI H 230a–4
Business Law I	MGT 371–4
Business Writing	MGT 271–4

FIFTH QUARTER

Legal Shorthand	VTI S 224–6
Business Law II	MGT 372–4
Advanced Shorthand and Transcription or	BSED 324b–4
Stenograph Machines	VTI S 230b–4
Culture, Society, Behavior	GSB 201c–3

SIXTH QUARTER

Two-Voice Testimony	VTI H 210–4
Jury Charge	VTI H 112–4
Secretarial Office Procedures	VTI S 223–5
Records Administration	BSED 427–4

RECOMMENDED ELECTIVES

Cooperative Secretarial Experience	VTI S 214–5 [2]
Business Report Writing	MGT 361–4
Personnel Management	MGT 385–4
General Studies Subjects	

MANAGEMENT

This evening curriculum is designed for adults who have had some experience in work situations. It prepares its participants for positions such as unit supervisor, assistant superintendent, section head, and branch manager of small organizations. Applicants must be at least twenty-five years of age and have at least two years of full-time work experience at the time of entrance into the program.

A minimum of 98 hours must be completed for graduation. This specialization may be completed by the part-time evening student in thirteen quarters.

[1] Or the required examination on the United States Constitution and the State of Illinois Constitution plus a four-hour elective.

[2] The five hours of Cooperative Secretarial Experience (VTI S 214) will be required unless the student is employed, or has been employed, in an office approved by the advisor, doing work comparable to that required for credit in the program.

FIRST QUARTER
Data Processing Mathematics VTI E 100–5
Political Economy GSB 211a–3

SECOND QUARTER
Principles of Economics ECON 210–5
College Algebra GSD 114a–3

THIRD QUARTER
Introduction to Business Administration MGT 170–4
Introduction to Data Processing MGT 240–4

FOURTH QUARTER
Accounting ACCT 251a–4
English Composition GSD 101a–3

FIFTH QUARTER
Accounting ACCT 251b–4
English Composition GSD 101b–3

SIXTH QUARTER
Accounting ACCT 251c–4
Business Organization and Management MGT 340–4

SEVENTH QUARTER
Principles of Marketing MKTG 230–5
Oral Communication of Ideas GSD 103–3

EIGHTH QUARTER
Labor Problems ECON 310–4
Production Management MGT 380–4

NINTH QUARTER
Business Writing MGT 271–4
Time and Motion Study MGT 382–4

TENTH QUARTER
Business Law I MGT 371–4
Personnel Management MGT 385–4

ELEVENTH QUARTER
Business Law II MGT 372–4
Small Business MGT 472–4

TWELFTH QUARTER
Corporation Finance MGT 320–4
Business Report Writing MGT 361–4

THIRTEENTH QUARTER
American Government GOVT 210–4 [1]

MEDICAL SECRETARIAL

These courses are of special interest to young women with good mental and personal traits and a desire to be of service to the community.

Part-time work experience, in addition to technical and general-background training, is provided in the office of a doctor, dentist, or hospital. This experience leads to such positions, in the medical field, as receptionist-secretary, X-ray secretary and record clerk, hospital records clerk, and secretary in the office of a physician, dentist, or hospital.

A minimum of 100 hours must be completed for graduation.

FIRST QUARTER
Typewriting BSED 201c–3
Shorthand and Transcription BSED 221a–4
English Composition GSD 101a–3
Introduction to Business Administration MGT 170–4
Elective –3

SECOND QUARTER
Advanced Typewriting BSED 304–3
Shorthand and Transcription BSED 221b–4
English Composition GSD 101b–3
Filing and Duplicating VTI S 107–3
Business Law I MGT 371–4

THIRD QUARTER
Shorthand and Transcription BSED 221c–4
American Government GOVT 210–4 [1]
Calculating Machines BSED 341–4
Oral Communication of Ideas GSD 103–3

FOURTH QUARTER
Introduction to Physiology VTI G 141–5
Business Writing MGT 271–4
Advanced Shorthand and Transcription BSED 324a–4
Man's Biological Inheritance GSA 201a–3

[1] Or the required examination on the United States Constitution and the State of Illinois Constitution plus a four-hour elective.

FIFTH QUARTER

Medical Shorthand	VTI S 225a–6
Advanced Shorthand and Transcription	BSED 324b–4
Man's Biological Inheritance	GSA 201b–3
Accounting	ACCT 251a–4

SIXTH QUARTER

Medical Shorthand	VTI S 225b–6
Secretarial Office Procedures	VTI S 223–5
Records Administration	BSED 427–4
Culture, Society, Behavior	GSB 201c–3

RECOMMENDED ELECTIVES

Cooperative Medical Secretarial Experience	VTI S 218–5 [2]
Business Law II	MGT 372–4
Legal Shorthand	VTI S 224–6
Personnel Management	MGT 385–4
Business Report Writing	MGT 361–4
General Studies Subjects	

Adult Education

(Edwardsville Campus)

The fundamental purposes of adult education are to help strengthen communication skills; help adults increase their ability and desire to change in a changing world; to improve human relations; to participate as responsible citizens; to seek personal growth; and to develop creativity in leisure time and seek ways of spending time productively.

PROGRAMS

INDUSTRIAL MANAGEMENT

Designed to give present and future foremen and supervisors some of the skills and information they need for improved job performance, this program of noncredit evening courses leads to the two-year certificate in industrial management. Successful completion of eight of the following courses is required. They are offered once each week for ten weeks.

Industrial Safety
Practical Psychology for Supervisors I and II
Effective Speaking for Supervisors I and II
The Supervisor and His Job
Labor-Management Relations
Current Labor Law
Industrial Report Writing
Economics of Industry
Cost Control for Foremen
English Review
Material Handling
Quality Control for Foremen
Basic Industrial Metallurgy I and II
Industrial Engineering for Foremen
Motion Analysis and Time Study
Reading Improvement
Effective Management
Logic
Illinois Labor Law
Basic Supervision in the Meat Industry
Creative Thinking

[2] The five hours of Cooperative Medical Secretarial Experience (VTI S 218) will be required unless the student is employed, or has been employed, in an office approved by the advisor, doing work comparable to that required for credit in the program.

IN-PLANT

On request from industry, courses from the industrial management program may be offered in-plant to accommodate foremen or supervisors who cannot attend the evening program because of shift work or other reasons. Special programs may be developed to meet the unique problems of a particular industry or present courses or programs may be adapted for presentation in-plant. Consultation and advice on the total training needs of plants is given on request.

In addition to adaptations of courses from the industrial management program, the following courses have been presented:

Creative Literature
Metallurgy of Steelmaking
Coaching and Counseling
Coaching for Staff Supervisors
Safety Programs
Safety Meeting Procedures
Management Problems
Management Planning
Management Practices
Economic Background for Citizenship
Speech Techniques
Foremen Development

TRAFFIC MANAGEMENT

The traffic management program is a course of study whose purpose is to prepare candidates for the examinations leading to certification by the American Society for Traffic and Transportation and furnish a complete working knowledge of Interstate Commerce Law. This is a certificate program.

Noncredit courses included in the program are:

Rates and Tariffs
Traffic Management
Interstate Commerce Law I, II & III

Credit courses included in the program are:

Management 170–4, Introduction to Business Administration
Government 210–4, American Government
Marketing 230–5, Principles of Marketing
Economics 210–5, Principles of Economics
General Studies, GSB 354–3, Industrial Economic Geography
General Studies, GSB 211a–3, Political Economy
Management 340–4, Business Organization and Management
Marketing 341–4, Transportation

DEVELOPMENT PROGRAM FOR MIDDLE MANAGEMENT

This is a program for department heads, superintendents, general foremen, and the heads of small businesses which are production-oriented. These men meet for dinner once per week having a one-and-one-half-hour discussion with a recognized authority on a given subject before dinner and a different one after dinner. The subjects are grouped into four broad categories and are tied together by a coordinator into an integrated program. Categories are fundamentals of management, manpower management, business conditions and the manager, and administrative policy and procedure. Enrollment is limited.

THE ADVANCED DEVELOPMENT PROGRAM FOR MIDDLE MANAGEMENT

This program is designed only for those persons who have completed Southern Illinois University's Development Program for Middle Management. It is a fifteen session program that provides further development in management skills through the case study method.

The cases involve firing line problems actually faced by managers, line and staff, at the middle management levels of the organization. Middle-management problems are stressed; however, some cases involve viewpoints from top management.

All cases for the program are carefully chosen to provide a wide range of management problems and situations. Students engage in the analytical process of appraising the functional areas of the business, examining the internal and external factors, and inventorying the skills and resources of the firm, thus they gain an insight into the many basic problems faced by middle management.

The program is based upon the premise that the most characteristic task of the manager is that of making decisions. The University believes that the basic purpose of any program of managerial development should be not only to comprehend established principles and concepts of professional management but also to develop among participants the frame of reference, the mental set, the perspective, and the method of thinking needed to cope effectively with the value premises present in executive decisions.

By the students applying knowledge gained in the middle management program to actual business problems, promoting the exchange of ideas and experiences among each other and improving and refining the decision-making ability of each participant, the development of managerial skills can be achieved.

SPECIAL COURSES, PROGRAMS AND CONFERENCES

To meet special needs for adult education, additional courses are sometimes developed which cannot be classified as industrial management, in-plant, or technical.

One category of these miscellaneous programs is radio-television. The following subjects have been covered in this category.

Goals for Americans	WIBU, Belleville
Reading Improvement	WSIU-TV, Carbondale, and KETC-TV, St. Louis

In addition, the Reading Improvement course has been taped for future presentation.

Workshops are arranged on occasion. The following are representative of the workshops presented in the past:

Junior Art Workshop	Waterworks Operators Workshop
Summer Theater Workshop	Home Helpers Workshop

Special purpose programs help organizations meet their specific needs.

Usually these programs are specially developed for the unique requirements of individual organizations. Typical are:

One Day Conference for Small Business
One Day Conference on Coaching and Counseling
Conference Leadership—League of Women Voters
One Day Conference on Industrial Safety
Student Courses—English Review and Reading Improvement
Training Employees on the Job—City of Alton
Parent-Child Relationships
Creative Selling
Union Leadership—United Steel Workers
Seminar for Office Supervisors
Student Leadership Training Program

Course Descriptions 2

(Carbondale Campus)

VTI A

101–15 (5,5,5,) Automotive Laboratory. (a) Automotive engines. Disassembly and assembly procedures on laboratory units. (b) Principles of brakes and steering learned in 125b are applied on laboratory units and, later, on live vehicles. (c) Ignition and carburetion. The repair and testing of electrical and fuel units. Must be taken in a,b,c or b,a,c, or a,c,b sequence, concurrently with a corresponding section of 125.

125–15 (5,5,5) Automotive Theory. (a) Internal combustion engine theory. (b) Chassis and brake systems, covering brake theory and factors of steering geometry. (c) Ignition and carburetion. Must be taken in a,b,c or b,a,c or a,c,b sequence, concurrently with a corresponding section of 101.

201–15 (5,5,5) Automotive Laboratory. (a) Accessories, repair and adjustments of climate control, power windows, seats, antennas, automatic lighting, signaling and speed control devices. (b) Power Transmissions Systems, a study of adjustment and service problems and procedures concerning standard, over-drive and automatic transmissions, drive lines and differentials. (c) Diagnostic Techniques, application of specialized analytical servicing techniques utilizing the chassis dynomometer, oscillioscope, and other electronic diagnostic equipment. Prerequisite: VTI A 101c, and 125c. May be taken in a,b,c; b,a,c; or c,b,a order. Must be taken concurrently with appropriate sequence of VTI A 220.

220–11 (3,5,3) Automotive Theory. (a) Accessories, theory of operation of air-conditioning, power accessories, automatic light and speed devices and their complementary controls. (b) Power transmission systems, theory of operation of standard and automatic transmissions, drive lines and differential assemblies. (c) Diagnostic Techniques, theory of application and interpretation of readings taken from diagnostic equipment such as the chassis dynomometer and the oscillioscope Must be taken concurrently with appropriate section of VTI A 201.

VTI B

100–3 Clerical Procedures. Nonstenographic skills in record-keeping are practiced by preparing stock records, perpetual inventories, invoices, bills of lading, checks, receipts, and statements; by auditing invoices; and by proving petty cash.

101–15 (6,5,4) Accounting. (a) Basic structure of accounting—ledger, journal, posting, trial balance, accounting cycle, sales and cash receipts, purchase and cash payments, notes, deferrals, and accruals, accounts receivable, inventory and plant assets. (b) Accounting systems, concepts, and controls. Payroll and sales taxes, partnership, corporation (nature and formation), capital stock, earning and dividend, departments and branch, manufacturing analysis, and interpretation of financial statements. (c) Control accounting—manufacturing and process cost, job order, budgetary control standard costs. Income taxes. Cost relationship for management, special analysis and internal reports and other reports. Must be taken in a,b,c sequence.

104–5 Secretarial Accounting. Basic principles of accounting from the viewpoint

of the secretary. The accounts of private individuals, professional men, institutions, and small business firms of various types are studied.

109–3 Punched Card Preparation. The functions and operations of punched card equipment. Card punching and verifying.

126–3 Fundamentals of Business. This survey of business services provides a general knowledge of the modern business world and a basis for determining occupational possibilities and requirements.

130–4 Job Cost Accounting. Relates cost accounting to management for control; general principles involved in construction of a cost system; distribution of cost materials, labor and burden; cost record; operating reports; joint and by-products cost and budgetary control. Prerequisite: 101c or concurrently.

201–8 (4,4) Accounting. An advanced study of: (**a**) Accounting records, merchandising and manufacturing accounts, end-of-year procedures, corrections of profits of prior periods, accounting statement, current assets and long-term investments. (**b**) Tangible and intangible fixed assets, liabilities, reserves, statement of application of funds, analysis of working capital, analytical and comparative per cents and ratios. Must be taken in a,b sequence. Prerequisite: 101c.

204–4 Process Cost Accounting. An advanced study of process cost accounting, costing by-products and joint products, budgeting, estimated cost system, and standard cost, cost control and analysis. Prerequisite: 130.

226–8 (4,4) Business Law. (a) Introduction to the history and philosophy of law, contract law, and agency law. (b) Negotiable instruments law, sales law, suretyship law. Must be taken in a,b sequence.

227–5 Office Administration and Supervision. Principles of management as applied to office work. Emphasis on the role of the office in business management; office organization; physical facilities of the office; office services, procedures, standards, and controls; and records management. Prerequisite: 126.

229–2 Record Keeping. The complete cycle of records necessary in running a business in buying, selling, inventories, payroll, and stock control.

230–5 Auditing. Auditing principles, standards, and procedures and the short-form report of independent auditors are emphasized. Audit programs and relationship to internal control. Aim to develop perspective and techniques of auditors. Consideration given to authoritative pronouncements of the American Institute of Certified Public Accountants and the Securities Exchange Commission. Prerequisite: 204.

233–5 Federal Taxes. Study of current income tax laws and regulations as they relate primarily to individuals (and, incidentally, to partnerships and corporations). Preparation of tax returns and laboratory problems emphasizing the individual taxpayer. Prerequisite: 101c.

235–4 Business Statistics. Collection, tabulation, and graphic presentation of data, averages and index numbers, economic trends, cycles, correlation, and application. Prerequisite: 101a, VTIE 100.

275–4 Credits and Collections. Organization and operation of the credit department including sources and analysis of credit information, collection methods, and correspondence. Credit management emphasized. Prerequisite: 101c.

VTI C

101–28 (7,7,7,7) Cosmetology Laboratory (a,b,c). Supervised practice in development of skills in giving shampoo, pincurls, fingerwave, moulding, hair shaping, facial, scalp-treatment, hair coloring, and manicure. Student personnel planning. (**d**) Supervised clinic application of theory and technique of latest styling, corrective make-up, high-fashion hair coloring, tipping, frosting. Practical problems of a receptionist, salesmanship, inventories, salon management, professional ethics. Laboratory and lecture. Must be taken in a,b,c,d sequence, concurrently with a corresponding section of 125.

125–20 (5,5,5,5) Cosmetology Theory. (a) Study of sanitation and sterilization as applied to the cosmetologist and the clinic; that part of the Illinois law pertaining to

cosmetology; structure and chemistry of the hair and skin; theory of hair coloring and permanent waving. (b) Disorders and diseases of the scalp, hair, and skin. Study of various body systems. The uses of electricity and lights, and their effects on the body. (c) Basic chemical composition of materials used in cosmetology and their reactions on the skin and hair. (d) A study of the style construction involved in detailed planning and production of original and creative hair design, the principles of proportion for application of corrective make-up, assisting the mortician, and wig servicing. Must be taken in a,b,c,d sequence, concurrently with a corresponding section of 101.

VTI D

101–21 (7,7,7) Graphics. (a) Multiview and pictorial drawing and sketching involving sections, single auxiliaries, dimensions, fasteners, and assemblies. (b) Descriptive geometry and welding specifications with applications to working drawings. Inking. (c) Principles and practices in making, changing and reproducing complete sets of drawings for both unit and mass production. Lecture and laboratory. Must be taken in a,b,c sequence.

110–8 (5,3) Architectural Drafting. (a) Freehand lettering, use of drafting instruments, geometric construction, orthographic projections, intersection of surfaces, and isometric drawing. (b) Shades and shadows, perspective construction, and the application of techniques to presentation drawings. Must be taken in a,b sequence. Lecture and laboratory.

121–6 (2,4) Architectural Design. A study of the principles of architectural planning, design, composition, and presentation as applied to structures of a simple nature. (a) Composition design principles. (b) Principles of planning and design as applied to structures of a simple nature. Lecture and laboratory. Prerequisites: 110a, 146a, or consent of adviser.

127–3 Electrical, Hydraulic, and Pneumatic Controls. A study of A.S.A. and A.I.E.E. standard electrical symbols; J.I.C. electrical, hydraulic, and pneumatic standards and nomenclature; the basic principles of machines. Practical application achieved by the preparation of electrical and hydraulic drawings including layouts and schematic and single line drawings. Laboratory and lecture. Prerequisite: 101 and VTI G 107.

146–6 (3,3) Freehand Architectural Graphics. Freehand drawing from life; sketching and presentation techniques. (a) Pencil techniques. (b) Theory of color and techniques in various color media. Lecture and laboratory. Must be taken in a,b sequence.

147–3 History of Architecture. Analysis of the development of architecture from the ancient to the present time as it is related to the environmental and cultural setting of man.

150–3 Basic Materials of Construction. Introduction to materials of construction with emphasis upon those materials not specifically regarded as structural, such as floor covering, wall covering, paints and finishes, lighting, etc.

151–4 Materials and Methods of Construction. Comprehensive study of light frame construction including foundations, manufacture and performance characteristics of materials, framing systems, finish materials, development of construction details and working drawings. Lecture and laboratory. Prerequisite: 110 or consent of adviser.

152–2 Site Engineering. Site selection considerations, land surveys, survey computations, contours, uses of contours, leveling, computations of cut and fill, drainage and grading, laying out of buildings and roads, and check list for site plans. Lecture and laboratory. Prerequisite: 110 and GSD 114c, or consent of adviser.

153–4 Mechanics and Strength of Materials. Elementary technical study of force systems; centroids and moments of inertia of areas, deformation and stress, flexure and deformation of beams, combined stresses in short blocks, columns. Prerequisite: GSD 114c concurrently, or consent of adviser.

175–10 (3,3,4) Technical Drawing. (a) Principles of orthographic projections, conventional representations and symbols, dimensioning, and sketching. (b) The use of instruments for working drawings including sectional and auxiliary views, threads and fasteners, details and assemblies, welding, and precision dimensioning. (c) The drawings of jigs, fixtures, and special tools. Must be taken in a,b,c sequence.

178–3 Basic Woodworking Drafting. Conveying ideas by means of freehand sketches, orthographic projections including auxiliary, isometric, and oblique projections, dimensioning, as applied to detail and assembly working drawings in the woodworking industries.

179–3 Furniture Drafting and Design. A study of furniture design and the development of working drawings and blueprints as applied to furniture construction.

201–17 (5,5,7) Machine Drafting and Design. (a) Assigned problems involving the analysis of motions required and the selection of suitable mechanisms. (b) Determination of forces, and the selection of materials and proportions to withstand the forces applied. (c) Designing of tools, dies, jigs, and fixtures. To fulfill requirements of course, outside work and preparation are necessary. Prerequisites: (a) 101, 225 and GSD 114 concurrently or consent of adviser. (b) 127 and 226 concurrently or consent of adviser. (c) 227 concurrently or consent of adviser.

210–9 (3,3,3) Construction. A technical study of masonry, concrete, metal, wood, and synthetics used in home construction. Development of skills limited to the very basic processes and tools. (a) Rough framing in wood construction. (b) Cabinet making, bench wood-working, and finished carpentry. (c) Continuation of **b** with the addition of finishing and preservation application. Lecture and laboratory. Prerequisite: 250 or consent of adviser.

221–12 (4,4,4) Architectural Design. Study of architectual planning, design, composition, and presentation. (a) Small commercial and residential structures. (b) Complex low rise structures and building groups. (c) Continuation of **b** with selected problems in architectural design of high rise buildings and building groups. Lecture and laboratory. Must be taken in a,b,c sequence. Prerequisite: 121b or consent of adviser.

225–3 Kinematics. A study of the motions required in various machines and the mechanisms which may be used to produce the desired motions, with special attention to automatic controls. Prerequisite: 101 and GSD 114, and VTI D 201a concurrently or consent of adviser.

226–5 (2,3) Statics and Strength of Materials. (a) A study of the forces acting on the various parts of machines. (b) The determination of suitable materials and proportions for those parts of machines. Must be taken in a,b sequence. Prerequisites: (a) D 201 concurrently, GSD 114c, or consent of adviser. (b) D 201b concurrently, or consent of adviser.

227–3 Tool Design. A study of the principles of production machine tooling involving the design of cutting tools, tool holders, dies, jigs, and fixtures for use with machine tools such as punch presses, drill presses, turret lathes, automatic screw machines, and grinding machines. Prerequisites: 201c concurrently, or consent of adviser.

246–3 Architectural Rendering. Pencil drawing and water color from still life and landscape. Lecture and laboratory. Prerequisite: 146 or consent of adviser.

250–12 (4,4,4) Materials and Methods of Construction. Comprehensive study of materials and methods of construction including foundations, manufacture and performance characteristics of materials, framing systems, finish materials, development of construction details and working drawings. (a) Semi-fire-proof construction. (b) Fire-proof construction. (c) Long span steel joists and steel detailing. Lecture and laboratory. Must be taken in a,b,c sequence. Prerequisite: 151 or consent of adviser.

254–4 Mechanical Equipment of Buildings. Code requirements and specifications affecting mechanical equipment; design and installation of plumbing; heating, ventilating, and air-conditioning equipment; electrical wiring; illumination and vertical transportation. Prerequisite: fourth-quarter status in concentration or consent of adviser.

258–4 Structural Elements. Analysis of building loads, theories of shear, flexure,

and deflection as they pertain to the design of steel and timber structural members. Prerequisite: 153 or consent of adviser.

265–4 (2,2) Mechanical Services for Residential Building. (a) Sanitary service. (b) Electrical service. Prerequisite: fourth-quarter status in concentration or consent of adviser.

283–3 Construction Cost Estimating. A study in methods of preliminary estimates, labor costs, quantity surveying, materials lists, construction schedules, preparation of working estimates. Prerequisite: 250 or consent of adviser.

285–3 Office Practice. A study of standard office procedures, contract documents, legal aspects of architectural profession, public relations, professional ethics, and American Institute of Architects standards of professional practice. Prerequisite: 250 or consent of adviser.

290–6 (3,3) Theory of Structures. Theory of structural design and use of the handbooks. (a) Reinforced concrete design. (b) Graphic analysis of force systems, structural members, and trusses of wood and steel. Must be taken in a,b sequence. Prerequisite: 258 or consent of adviser.

VTI E

100–9 (5,4) Data Processing Mathematics. (a) The use of mathematics in modern business. (b) Number bases, systems of notation, Boolean algebra, logic, and the application of numerical solutions to physical problems. Emphasis upon the development of logical thought processes and careful work habits. Prerequisite: Satisfactory ACT. Mathematics score or VTI G 106.

101–8 (3,5) Automatic Data Processing Machines. (a) The development of data processing systems covering the history of, need for, and function of automatic data processing equipment including basic control panel wiring. (b) Control panel wiring on unit record machines using various laboratory problems. Must be taken in a,b sequence.

103–5 Computer Programming. Technical experience in using a stored program computer. Emphasis on the machine, its Components and logical function. Programming drills and exercises in machine language and a Symbolic Programming System. Prerequisite: 101.

104–3 Data Processing Applications. A study of typical business data processing applications. Authentic case studies show how machines are used as a system in processing data. Topics include billing, accounts receivable, accounts payable, inventory control, and payroll. Prerequisites: 100a, 101.

107–2 Data Processing Information. How to use resource materials. Orientation in the use of the library, Readers' Guide, and various periodicals. Prerequisite: 101.

202–10 (5,5) Scientific Computer Programming. (a) Logical functions of a scientific computer. (b) Complex problems using the FORTRAN language system for the IBM 1620 and 1401. Must be in a,b sequence. Prerequisite: 103.

203–10 (5,5) Business Computer Programming. Practical business problems. (a) The Symbolic Programming System (SPS) for the IBM 1401 and complex problems involving magnetic tape and disk files using the Autocoder system. (b) Problems using the Input-Output Control System. Must be taken in a,b sequence. Prerequisite: 103.

205–5 Systems Design and Development. The three phases in the evolution of a system; Analysis of present data flow, system specifications and equipment selection, and implementation and documentation. Case studies from single applications to the total information system of a large, complex business. Prerequisite: 104.

206–10 (3,7) Programming Systems. Provides a working knowledge of concepts of current programming systems so that one may use any specific system with a minimum of instruction. (a) Programming systems analyzed to determine their purpose and function. The major divisions include assembly programs, compilers, generators, monitors, and utility programs. (b) Individual phases of certain selected systems are treated in detail. Must be taken in a,b sequence. Prerequisites: 202, 203.

207–3 Data Processing Field Project. Each student is assigned in the University's data processing and computing center, or other approved facility, during his last quarter. Coordination of his activity is by the institute's data processing program coordinator; evaluation of his performance is by the manager of the cooperating center in conjunction with the academic adviser. Prerequisite: 206a.

VTI F

101–15 (5,5,5) Production Woodworking Laboratory. Practical experience in production woodworking including machine operation, cabinet making, millwork and furniture construction. (a) Machines, (b) Cabinet and millwork, (c) Furniture. Must be taken in a,b,c, sequence or consent of adviser.
125–9 (3,3,3) Production Woodworking Theory. Fundamentals of production woodworking, machine characteristics, millwork procedures, furniture construction, safety, estimating, scheduling. Lecture and field trips. (a) Machines, (b) Millwork, (c) Furniture. Must be taken in a,b,c sequence or consent of adviser.
128–4 Wood Technology. Study of the structure, identification, and physical properties of wood.
129–3 Wood Finishing. Principles of wood finishing systems and materials.
130–3 Lumber Seasoning. Wood-moisture relations, air drying, and kiln drying theory and practice. A full size kiln at the Wood Products Pilot Plant is available for practical seasoning work.
131–2 Lumber Grading. Study and practice of the National Hardwood, Southern Pines, and West Coast rules. Tally methods and grading for special products.
201–15 (5,5,5) Production Woodworking Laboratory. Practical experience in light frame construction, prefabrication, laminating, foremanship, production processes. (a) Light frame, (b) Prefabrication, (c) Production processes. Prerequisite: VTI F 101a; Must be taken in a,b,c sequence or consent of adviser.
225–9 (3,3,3) Production Woodworking Theory. Advance machine operating problems, light frame construction, prefabrication adhesives, estimating, scheduling, job analysis, safety, leadership problems. Lecture and field trips. (a) Light frame, (b) Prefabrication. (c) Processes. Prerequisite: VTI F 125a; Must be taken in a,b,c, sequence or consent of adviser.
232–2 Wood Preservation. Wood preservatives: their use, limitations, and methods of application.
250–3 Plant Organization and Operation. Study of the organization and layout of woodworking plants; materials handling methods; safety programs; organization and management of personnel; motion and time studies, quality control, purchasing, inventory, industrial costs. Prerequisite: 101 and 201a,b or consent of adviser.

VTI G

101–3 Business Correspondence. A brief review of fundamentals and a complete study of letter forms and letter mechanics. Various types of business letters and report writing with adequate practice in writing application, sales, adjustment, inquiry, and credit letters. Prerequisite: GSD 101a.
102–3 Technical Writing. Development of an understanding of basic principles and proficiency in the skills involved in writing the technical report.
106–0 Elementary Mathematics. A refresher or remedial course, which includes a review of the mathematical foundations necessary to take college-level mathematics courses.
107–3 Technical Mathematics. The study of algebra with specific orientation to the vocational needs of the students. Separate sections for the various curricula as designated in the Schedule of Classes. Prerequisite: satisfactory ACT mathematics score or 106.
115–6 (3,3) Introduction to Chemistry. (a) A study of the structure of matter including a survey of the common elements and compounds and the changes during chemical reactions. Also a study of inorganic acids, basis, salts, solutions, the periodic

tables, equation balancing, and the metric system. (**b**) A study of the chemistry of organic compounds, carbohydrates, proteins, and lipids relating them specifically to body functions. Also the chemistry of digestion, metabolism, respiration, blood, enzymes, hormones, and vitamins. Must be taken in a,b sequence. (**b**) Prerequisite: Dental Hygiene student or consent of adviser.

118–3 Applied Calculus. A study of calculus specifically oriented towards the needs of the technician. This course includes a study of the functions, graphical methods of calculus, the derivative and its applications, and the integral and its applications. Prerequisities: GSD 114a, GSD 114c.

120–4 Basic Applied Physics. A study of those phases of physics dealing with heat, magnetism and electricity. Lecture and laboratory. Prerequisite: GSA 101a, VTI G 107.

136–5 Introductory Sociology. Interrelationships of personality, social organization, and culture; major social processes; structure and organization of social groups.

141–5 Introduction to Physiology. A survey of the functions of the human body for students desiring basic but comprehensive knowledge of human physiology.

232–4 Labor Management Relations Problems. Personnel policies, selection and employment, employee benefits, labor organizations and governmental activities, employee-employer relations, grievance procedure, wage and salary standards, and use of practical industrial psychology.

VTI H

112–4 Jury Charge. Dictation of the Court charges to a jury, opinions, comments of court, counsel to jury, and counsel to court is given so that students will develop speed, accuracy, and vocabulary in the taking of the dictation. Transcripts are made of some of the instructions to the jury, and these transcripts are checked for accuracy.

120–18 (6,6,6) Machine Shorthand. (a) A study of the principles of machine shorthand theory with emphasis and intensive drill on brief forms, phrases, and word families. Correct reading and writing techniques are emphasized. Dictation speeds are gradually increased to a minimum 60 words per minute for 5 minutes. Students with one or more years' machine shorthand instruction receive no credit. (**b**) Provides for learning an automatic vocabulary of brief forms, special forms, and word families. Writing practices on familiar materials and introduction of new material in dictation. Sustained writing situations are gradually introduced. Dictation speeds are gradually increased to a minimum of 80 words per minute for 5 minutes. Introduction to the principles of stenograph machines transcription, placement of letters, spelling, vocabulary building, application of grammar, transcription of business letters and reports according to modern business office standards. (c) Dictation speeds to a minimum of 120 words per minute for 5 minutes are required. Intensive drill on brief forms and word families and office-style dictation situations are presented. Must be taken in a,b,c sequence.

210–4 Two-Voice Testimony. Dictation of alternating questions and answers to give the student practice in taking dictation under conditions, which occur in court procedure. Fluency in reading back testimony and accuracy of written transcripts are stressed daily.

VTI J

101–18 (6,6,6) Presswork Laboratory. (a) Elements of offset presswork and camera work. Copy preparation, stripping of flats, plate making and darkroom and camera precedures. (**b**) Advanced composition and automatic presswork. Type forms are set and prepared for two-color register printing. Operation and care of automatic platen and cylinder presses. (c) Advanced elements of offset work. Stripping of multiple page forms, advanced imposition problems and multiple color work. Must be taken in a,b,c sequence, concurrently with a corresponding section of 125.

125–9 (3,3,3) Presswork Theory. (a) Elements of offset presswork and camera

work. Comparisons of offset and letterpress with advantages and disadvantages of each. (b) Advanced composition and automatic presswork. Procedures for single and multiple forms. Uses of hand and machine composition. (c) Advanced offset problems. Different methods of reproducing copy in offset production. Must be taken in a,b,c sequence with a corresponding section of 101.

153–3 Printing Layout and Design. A study of type faces and their appropriate uses. Comparison of good and poor design. Preparation of layouts for jobs being currently printed in the shop.

201–18 (6,6,6) Composition Laboratory. (a) Principles of Linotype and Intertype operation, with emphasis on touch system. Practice in many type of machine composition. (b) Advanced Linotype and elements of Ludlow operation, with the application of tabular and broached rule composition. Operation of Ludlow typecaster. (c) Advanced production printing, letterpress and offset. Application of the techniques learned in relation to real jobs in the shop. Use of paper drill, stitcher, and cutter are used. Must be taken in a,b,c sequence, concurrently with a corresponding section of 225. Prerequisites: 101a, 125a.

225–9 (3,3,3) Composition Theory. (a) A study of the correct keyboard system for slug-casting machines, word division and straight-matter composition. (b) Advanced Linotype and Intertype maintenance, adjustments, and advanced keyboard problems; operational procedures of the Ludlow type caster. (c) Procedures for the planning and production of printing; a study of the kinds of ink, paper, and other supplies needed for both letterpress and offset printing. Must be taken in a,b,c sequence, concurrently with a corresponding section of 201. Prerequisities: 101a, 125a.

235–5 Printing Theory and Practice. A basic course in offset printing, theory and practice, designed for Commercial Art students. This course covers the fundamentals of lithographic copy, layout and plate making, related information and operation of small lithographic presses; the solving of copy, plate and press troubles. Emphasis is placed on camera work, dark room procedure, presswork, and the use of the Ludlow, with a comprehensive study of the four color processes. Prerequisites: N210a,b and N230a,b.

251–3 Estimating and Costs in Printing. How to estimate the costs of ink, paper, and presswork time necessary to produce a printed job. Prerequisite: Concurrent enrollment in 201c and 225c.

VTI K

101–9 (3,3,3) Calculating Machines. (a) Development of operational skill on the key-driven calculator, ten-key adding machine, full-key adding machine, rotary calculator, and accounting machines. Production standards are used to measure skill proficiency. (b) Further development of skill. (c) Office practice sets and skill-developing production timings are used to accomplish occupational competency on the calculating machines to be used in the student's chosen major fields. Must be taken in a,b,c sequence.

VTI L

101–6 Aircraft Reciprocating Powerplant. Theory of aircraft powerplants, construction, operation and overhaul. Computation of horsepower types of cooling, timing and materials used in construction. Shop practices in disassembly, cleaning, inspection and measurement to include study of applicable FAA regulations.

102–6 Carburetion and Lubrications Systems. Theory of carburetion, induction and lubrication systems. Principles of operation of various carburetors. Type, composition and characteristics of fuel and jet fuel. Overhaul and inspection, maintenance and adjustments of carburetors, pumps, valves, fuel injection systems and accessories. Repair and inspection of oil regulating systems.

103–6 Aircraft Electricity, Generator-Alternator. A study of basic electricity, batteries, electrical components, lighting systems. Solution of DC and AC problems. Studies

of alternating current, frequency, cycle, inductance, reactance and impedance. Operation and repair of alternators, rectifiers, inverters, theory and application of transformers.

105–4 Aircraft Instruments. Theory of operation, installation, marking and interpretation of aircraft instruments. Precautions and method of correct installation. Minor field adjustments and calibration.

106–5 Aircraft Ignition-Starting System. A study of electro-magnetism and principles of induction covering operation of magnetos, high and low tension systems, booster, solenoids, relays and cranking motors. Selection and construction of spark plug. Overhaul of ignition and starting components. Proper care and use of testing equipment.

107–4 Fabric-Wood-Doping. Specification of material, such as fabric, wood, dope, thinner, paint, sewing threads is discussed. Safety precautions in doping area. Performing wood structure repairs. Recover aircraft assemblies. Care and use of spray equipment.

108–6 Jet Propulsion Powerplant. History and introduction to pulse jets, ram jets, rockets, turbo jet and turbo prop engine. Theory of operation of turbine engines. Jet engine aerodynamics, thermoefficiency, component functional operation and performance. Jet engine requirements and care. Computation of thrust and analysis of factors affecting thrust. Inspection, repair, and reassembly of a jet engine.

109–4 Powerplant Testing. Installation of engines, methods, procedures and precautions to be observed Inspection and trouble shooting of reciprocating and jet engine. Interpretation of instrument readings. Trimming jet engines, fuel management and cruise control.

203–5 Aerodynamics. Theory of flight and factors affecting aircraft in flight. Design and stress consideration. Problems of lift, drag, velocity, Vmin, thrust, coefficient, wing loading, etc. Comparable analysis of design feature in subsonic, transonic and supersonic aircraft. General helicopter aerodynamics. Practical instruction in assembly and rigging of aircraft wing flaps and control system. Analysis of faulty flight characteristics.

204–5 Aircraft Hydraulics. Fluid theory and applied physics. Theory of operation, maintenance and adjustment of hydraulic system and component units. Overhaul of hydraulic components. Testing, servicing and adjustment of system. Performing retraction test, trouble shooting and periodic inspection.

205–3 Pressurization, Air Conditioning Systems. A lecture-laboratory course to acquaint the students with altitude aircraft used by the airlines. Lecture and demonstration on pneumatic system, anti-icing, cabin pressurization and air conditioning systems.

206–4 Metal and Processing. A study of aircraft aluminum alloys and their physical properties and heat treatment. FAA method of repairs. General study on design, strength, stress and other related processes of aluminum and it's alloys. Perform sheet metal repair in accordance with FAA methods.

208–2 Aircraft Fuel System. A combination lecture-lab course dealing with the aircraft system. Study of fuel management and flow configuration. Trace fuel systems, and replacement of component units.

209–6 Weight & Balance and Inspection. A lecture class in FAA regulations covering maintenance, inspection and repair of aircraft. Study of aircraft loading and its effect on balance. Solving load and balance problems. Conduct proper method of ground handling, jacking and weighing aircraft. Perform inspections: 100 hours, periodic, and progressive.

217–1 Radio Operation and Installation. A lecture-lab class concerned with type of communication and navigation radio equipment. Installation procedure and field trouble shooting.

220–3 Jet Transport Aircraft Systems. A lecture-lab class designed to bring out comparison study of systems on various current jet airliners. Field trips to major airlines are part of this course.

230–3 (2,1) Private Pilot Course. (a) Ground instruction in navigation, radio navigation, meteorology and flight planning. (b) Dual and solo flight instruction in single engine aircraft for a FAA Private Pilot License.

231–3 Basic Flight. This course includes forty total flight hours, fifteen dual and twenty-seven solo. Dual includes advanced flight maneuvers, instrument training, and transition from 2 to 4 place aircraft. Solo flight hours include ten hours of cross-country in the Cessna 150, and two hours of flight maneuvers in the Cessna 172. Prerequisite: 230.

104–5 Propellers. Theory and operation of propellers and governors. Including inspection, overhaul and serving of propellers, both hydraulic and electrical. Operation of propeller deicing systems and turbo-prop propellers.

232–3 Intermediate Flight. Intermediate flight course which includes forty flight hours, thirteen dual and twenty-seven solo. In this phase the dual hours include two hours dual cross-country and two hours night cross-country. This, in addition to the local night dual and solo, completes the night requirement for the commercial license. The solo hours include fifteen hours of advanced cross-country. This course also includes forty hours of classroom work in weather analysis, advanced navigation, computer practice, and aircraft performance. Prerequisite: VTI L 231.

233–3 Advanced Flight. This course requires forty flight hours, fourteen dual, twenty-six solo. This final phase is designed to complete the student's proficiency for a commercial certificate. Completion phase includes transition to a more advanced, complex aircraft, including constant speed prop, and other advanced flight controls. The student will complete various advanced flight maneuvers. He will also have the opportunity to make observer and copilot flights on multiengine equipment up through DC 3 type aircraft. Prerequisite: VTI L 232.

234–3 Instrument Flight. Both full and partial panel flight is emphasized using Cessna 150 and 172 aircraft. This includes thirty-five hours dual in basic instrument and radio navigation. The radio portion emphasizes VOR and ADF navigation approaches. Prerequisite: VTI L 233.

251–12 (3,9) Aircraft Communications and Navigation Systems and Avionics Laboratory I. (a) Principles of aircraft communication systems, VHF transmitter, transceivers and controls. (b) Operation of VHF AMNIRANCE, VOR systems, marker beacons, localizer circuitry, glide-slope and antennas, ADF circuitry and antennas, maintenance, inspection, repairing and trouble shooting transceivers, VHF transmitters, VOR equipment, ILS receiving equipment and ADF sets, flight check procedure and calibration. Must be taken concurrently. Prerequisite: VTI T 225a.

252–6 (3,3) Aircraft Integrated Flight System and Avionics Laboratory II. (a) A study of flux gate compass and transmitter, amplifier and repeaters; polarpath compass, RMI repeaters, gyrosyn direction indicator, system schematic, flight director computer, and various integrated systems such as Sperry, Bendix, Collins, and Kollsman. Trouble shooting test and calibration equipment. (b) Federal Aviation Agency accepted methods of installation and layouts of airborne radio equipment, communications and navigation. Proper execution of FAA form 337 and applicable FAR. Weight and balance of aircraft as a result of avionics equipment installations. Prerequisite: VTI T 225a.

253–6 (3,3) Aircraft Flight Controls and Instrumentation Systems, and Avionics Laboratory III. (a) Basic principles of flight instrumentation, and automatic flight controls. Investigation and testing of Lear, Federal, Factair, Mitchell, Globe, Javelin, Sperry, and Bendix and Collins Autopilot Systems. Trouble shooting systems. (b) Systems installations, FAA forms, specifications, service bulletins, FAA-STC and weight and balance control. Must be taken concurrently. Prerequisite: VTI T 225a.

254–6 (3,3) Airborne Radar System and Avionics Laboratory IV. (a) Pulse circuit and microwave theory. Receiver band width and sensitivity, image response, decoder, reply frequency, pulse characteristics and echo suppression. (b) Principles of distance-measuring equipment DME, radar beacon transponders and airborne weather radar. System installation and servicing. Must be taken concurrently. Prerequisite: VTI L 251 a and b.

VTI M

101–15 (5,5,5) Machine Tool Laboratory. Supervised instruction involving (a) Drill Press, Bench-work, Engine Lathe. (b) Advanced Engine Lathe, Shaper, and Milling

Machines. (c) Milling Machine and Grinding. Must be taken in a,b,c or a,c,b sequence concurrently with a corresponding section of 125.

125–9 (3,3,3) Machine Tool Theory. (a) Introduction to basic machine tools. (b) Machine ability. (c) Milling machine set-ups and tooling selection; grinding wheel safety and selection. Must be taken in a,b,c or a,c,b sequence concurrently with a corresponding section of 101.

175–3 Basic Machine Shop Practice. Machine shop for the allied trades stressing the use of hand tools, drilling, and basic lathe work.

176–6 (3,3) Manufacturing Process. (a) Chip machining. (b) Chipless machining. May be taken in a,b or b,a sequence.

201–9 (3,3,3) Advanced Machine Tool Laboratory. Supervised instruction on projects involving: (a) Tool and Die Work. (b) Production Machines. (c) Production tooling and numerical control. May be taken in any sequence, concurrently with a corresponding section of 225. Prerequisite: 101.

225–9 (3,3,3) Advanced Machine Tool Theory. (a) Quality Control and Inspection Practices. (b) Process Planning—which includes operation analysis, feed and speed calculations, process and machinery selection. (c) Cost Estimating and Production Scheduling. May be taken in any sequence concurrently with a corresponding section of 201. Prerequisite: 125.

275–9 (3,3,3) Metallurgy. (a) Welding Metallurgy, the study of the behavior of metals in welding processes with regard to heat transfer, heat affected zones and grain structures. (b) Ferrous Metallurgy, the theory of alloys, study of basic phase diagrams, simple heat treating processes and microstructures. (c) Tool Steel Metallurgy, study of tool steels with emphasis on selection and heat treatment and relationships to design criteria. Must be taken in a,b or a,b,c or b,c sequence.

VTI N

101–3 Art Analysis. Primarily a general art history background. Analytical discourse of the aims, techniques, methods, materials, and media of classical and contemporary artists and their influence on today's commercial art.

125–10 Techniques—Theory and Practice. A basic, well-disciplined, practical background in using the most suitable materials. Stresses versatility in using all media acceptable in commercial art today. Also, the preparation of art work for reproduction.

130–10 Advertising Design and Production. Production of practical, attractive, original, effective, and aesthetically pleasing art in all advertising media, with emphasis on lettering, typography, and practicality of reproduction. Prerequisite: N 125–10.

135–2 Layout and Color Theory. A course in modern advertising layout designed for printing majors, with special emphasis placed on the theory and use of color as applied to the printing field today. Prerequisite: Major in Printing Technology.

140–10 Introductory Advertising and Story Illustration. Execution of problems typical of those which confront the advertising illustrator, in various media, with emphasis on excellence, individuality of concept and technical treatment, and creative development. Prerequisite: N 130–10.

210–23 (8,8,7) Advertising and Story Illustration Theory and Practice. (a) Execution of various problems typical of those which confront the story illustrator, with emphasis on subject analysis, research, drawing, composition, and preparation of the finished piece. From concept to completion, the student employs creative organization of pictorial material at a professional level. (b) Complex and comprehensive assignments, with emphasis on layout design and advanced rendering techniques. (c) Design and development of three-dimensional point-of-purchase displays and practical application of color separation overlays. Must be taken in a,b,c sequence, concurrently with a corresponding section of N 230. Prerequisite: N 140–10.

230–20 (7,7,6) Technical Illustration Theory and Practice. Based on the exacting requirements of the armed forces and industry. (a) Preparation and rendering of aircraft, automotive, and machine parts in various media from blueprints for operation and maintenance manuals. (b) Emphasis on rendering and reproduction suit-

ability. (c) Emphasis on advanced air-brush rendering, and technical manual publication. Must be taken in a,b,c sequence, concurrently with a corresponding section of 210. Prerequisite: N 140–10.

VTI P

101–6 Basic Nursing. Introduction to nursing which includes the development of nursing concepts, standards of evaluation, legal responsibilities, and trends in nursing. The development of basic nursing skills in caring for the environment and meeting the hygienic needs of the patient. Principles of rehabilitation nursing and first aid are introduced. The first six weeks is conducted exclusively in the classroom while the last six weeks includes limited experience in the patient setting under careful supervision.

102–7 Practical Nursing, Role I. A seven weeks period is spent developing skills in giving complete morning care to one patient, within the scope of Role 1, in which the patients' condition is considered to be relatively stable and free of complexities. An introduction to the nursing care of patients with common medical-surgical diseases is presented with the development of limited skills in more advanced and technical nursing procedures in the classroom. Prerequisite: 101.

103–30 (6,12,12) Clinical Theory and Nursing. (a,b,c) Must be taken in sequence. During the clinical period of thirty weeks, courses are concurrent with students' specialized nursing area, of which there are five, lasting six weeks each. Prerequisites: P101, P102, P131, P132. These supervised areas and courses include (1) nursing care of the aged and of persons with chronic and convalescent disease, including principles of mental health to assist in care of patients with specific behavioral problems; (2) nursing care of the sick and handicapped child in regard to specific conditions found in children; (3) care of mothers and newborn infants to become aware of fetal development, normal pregnancy, prenatal and postnatal care, and disorders of the newborn; (4) nursing care of selected patients requiring surgery, including two weeks experience in Central Supply and Recovery Room (in this Recovery Room experience, the student performs by **assisting** the professional registered nurse, as a deeper scientific judgment is required in this more complex situation); (5) nursing care of selected patients with medical diseases with accent on the part that diet and medications play in recovery. Cluster classes are held every week, in the individual hospitals, relating to specific treatments and nursing care of one selected patient. This consists of a discussion group and exchange of ideas assisted by the instructor. During the last two weeks of the clinical area, vocational opportunities are presented as an orientation to the possibilities of employment and information is given concerning nursing organizations.

131–4 Nutrition for Practical Nurses. To give an understanding of the role of nutrition for a well-balanced diet and how to modify them for therapeutic purposes. The student is guided in the appropriate utilization of food in the body throughout the life cycle. To develop an appreciation of how methods of food preparation affect the appearance, palatability, and nutritive value of foods.

132–5 Health. Emphasis on understanding the normal body functions as a basis for understanding deviations from normal in time of disease. Includes the scope of scientific knowledge which enables man to maintain vigorous health and guard against disease. Principles of personal health and basic human needs are presented. The role of the family in the community covers the normal development of baby, toddler, school child, adolescent, adult, and elderly person.

VTI R

124–4 Introduction to Retailing. Duties and responsibilities in the store, distribution functions, modern store organization, history and background of modern retailing, and the basic responsibilities of the student in the Cooperative Retailing program. No prerequisite.

127–6 (3,3) Salesmanship. Principles and techniques of selling. (a) Basic principles

of salesmanship. Personality requirements, techniques of making sales in the retail stores, retail sales problems and ways to solve them. (b) Analysis of the techniques of prospecting used in specialized selling; determining customer needs, presenting merchandise, meeting objections, and professionally assisting customers. Sequence may be taken in any order. No prerequisite.

176–3 Product Analysis. A background course in basic theories and principles of analyzing merchandise. No prerequisite.

177–10 (5,5) Product Information Laboratory. Application of the principles of analyzing merchandise and the study of how this information is used. (a) Study of textile merchandise. (b) Study of nontextile merchandise. Prerequisite: R176 or concurrently. May be taken in any order.

179–5 Retail Mathematics. Analysis and calculations encountered daily in the merchandising field: mark-up, mark-down, stock records, profits, expenses, discounts, and invoices. No prerequisite.

201–16 (8,8) Cooperative Work Experience. Full-time training in a University approved merchandising establishment. Includes preparation of weekly reports, participation in periodic discussions with other trainees led by the coordinator and completion of a written project. Training includes: Opportunity to learn the functional organization of the company, to become acquainted with the store system and policies, and to perform the duties of a position which offers the potential for learning and experience; opportunity to survey and participate in a department's merchandising (planning) efforts. Prerequisite: the first three quarters.

205–4 Merchandising Principles. Duties of the buyer and department manager. Organization for buying. Includes buying functions, management and activities, single and multiunit stores, resident buying and services, techniques and problems of merchandise selection. No prerequisite.

206–5 Records and Statistics. A survey and interpretation of record-keeping systems used in a retail establishment. Analyzing merchandise and expense-control data. No prerequisite.

207–6 (4,2) Sales Promotion. Fundamentals of sales promotion; its relationship to the advertising, display, and merchandising divisions of a store. (a) The fundamentals of sales promotion and its relationship to all forms of publicity. Principles and techniques of retail advertising. (b) Principles and techniques of the physical presentation of merchandise. Sequence may be taken in any order. No prerequisite.

208–6 (4,2) Fashion Merchandising. Fashion, its influence and application to all phases of merchandising. (a) Fashion as it applies to buying and selling and its influence on customer demand; basic principles of color, line, and design; interpretation of factors influence fashion. (b) Prediction fashion from an analysis of fashion literature. Sequence may be taken in any order. No prerequisite.

215–4 Marketing Problems. Problems in the retail merchandising and management areas. Includes current readings, analysis and discussions of problems and cases provided by the store and/or the instructor.

224–4 Retail Store Organization and Management. Organization and operation of a retail business. Forms of ownership, financing a new business, location, building and layout, insurance, and store policies. No prerequisite.

227–3 Personnel Management. Retail personnel management, employee relations, policies, methods of recruitment, selection, placement, and training. Emphasis on relationship to the merchandising division of the store. No prerequisite.

280–3 Retail Credits and Collections. Principles and practices of a retail credit department: credit sales practices, human relations, Credit Bureau, credit letters, and collection procedures. No prerequisite.

VTI S

101–9 (3,3,3) Typewriting. (a) Introduction to touch typewriting techniques and attainment of a minimum net typewriting rate of 30 words per minute. Simple business correspondence, tables, and manuscripts. No credit for students who have had one year or more of typewriting instruction. (b) Building typewriting manipulative skill by increasing speed to 40 words per minute and developing control.

All basic letter styles are practiced. Skill proficiency is developed through times production assignments, varying 20 to 30 minutes in length and through development of numbers and special symbols. Must be taken in a,b sequence. (c) Development of typewriting skills and knowledges with a minimum net typewriting rate of 50 words per minute. Special business communication forms and styles are introduced and practiced by attainment of a higher level of skill in timed production work. Must be taken in a,b,c sequence.

104–18 (6,6,6) Shorthand. (a) An introductory course for beginning shorthand students, utilizing demonstration; drills on word lists; practice in reading materials; intensive drills on brief forms, phrases, and word families; and practice in taking sustained dictation at a minimum of 60 words per minute for five minutes. No credit for students who have had one year or more of shorthand instruction. Students with a deficiency in shorthand theory may audit this course. (b) Vocabulary, brief forms, word families, English fundamentals, punctuation, spelling aids, English vocabulary building. Emphasis on dictation, speed building, mailable transcripts, office-style-transcripts, and sustained dictation at a minimum rate of 80 words per minute. A transcription rate of 20–25 words per minute for a 30-minute period is attained. Much emphasis is placed on spelling, punctuation, and English usage on all transcripts. Must be taken in a,b sequence. (c) A further development of dictation and transcription skills. The minimum sustained dictation rate is 100 words per minute and a transcription rate of 25–30. Must be taken in a,b,c sequence.

107–3 Filing and Duplicating. Basic principles of modern filing systems; alphabetic, subject, numeric, and geographic. Students work with practice filing equipment, learning the rules of indexing, cross referencing, coding, charge-outs, color devices, and setting up a modern system. Basic principles and practice on multiple copy machines. Prerequisite: 101a or consent of adviser.

125–3 Personality Development. Special instructional sessions offered on personal hygiene, personality, poise and charm, clothing, and professional ethica.

205–6 (3,3) Typewriting. (a) Application of typewriting skills and theory to problem situations with a minimum net typewriting rate of 60 words per minute required. Special statistical reports, duplication procedures, legal typewriting problems, tabulation of unarranged materials, employment typewriting tests, and accounting reports. (b) The development of a minimum net typewriting rate of 70 words per minute. Office-style production assignments measure skill performance. Must be taken in a,b sequence. Prerequisite: 101c.

209–12 (6,6) Shorthand. (a) Emphasis on dictation and transcription leading to mailable copy according to modern business standards. A minimum sustained dictation rate of 110 words per minute is attained, and a transcription rate from 30 to 35 words per minute is attained for a 30-minute period. Spelling, punctuation, and English usage are emphasized on the sustained dictation transcripts, office-style transcripts, cold-notes transcripts, and mailable copy transcripts. Attention is given to shortcuts, most-used business phrases, common business words and terms, spelling, English fundamentals, and theory. (b) Development of dictation and transcription skills leading to attractive and mailable transcribed copies. A minimum sustained dictation rate of 120 words per minute is attained, and a transcription rate from 30–45 words per minute is attained for a 30-minute period. Development of transcription skills from high speed dictation notes using business, commercial and industrial vocabulary. Attention given to word usage, sentence structure, punctuation, and spelling. Must be taken in a,b sequence.

214–5 Cooperative Secretarial Experience. The student spends either half days or two weeks at a time in an office to gain experience in the field of his concentration. The half-day plan is used within a radius of 20 miles of the institute; in others, part-time placement is planned in the student's home town, or environs, wherever possible. Prerequisite: fifth-quarter standing in secretarial concentration.

223–5 Secretarial Office Procedures. This course is designed for a one-term course to prepare the college-level student for any secretarial position. It analyzes the secretarial profession and stresses the personal qualities needed for success in it, including human relations and good grooming. Specialized secretarial duties such as transmitting mail, handling incoming mail, processing telegraphic messages; receiving callers, and using the telephone; planning travel and recording meetings;

using copying and duplicating methods are covered. The course stresses the latest and most efficient secretarial procedures.

224–6 Legal Shorthand. Dictation, involving special legal terms, vocabulary building, shortcuts in writing legal terms in Gregg shorthand, or in machine shorthand. Transcription from dictation notes special to the work of a legal secretary. Work in preparation of briefs and legal documents with State of Illinois Standard Form.

225–12 (6,6) Medical Shorthand. (a) Advanced dictation involving medical terminology, phrasing, and vocabulary. Special terms and definitions are used in preview of materials, such as medical case histories, X-ray reports, operation reports, and consultation reports that are dictated for transcription. Emphasis is placed on definitions, spelling, and shorthand writing of medical prefixes and suffixes. (b) Increasing speed and proficiency in the writing of medical case histories. Special emphasis is placed on phrases and special terms. Medical secretarial techniques are stressed. Emphasis on increasing speed and proficiency of medical transcripts.

VTI T

101–21 (7,7,7) Electronic Laboratory. (a) AC, DC. (b) Vacuum Tube and transistor. (c) Transmitter and receiver. Must be taken in a,b,c sequence, concurrently with a corresponding section of 125.

125–15 (5,5,5) Electronic Theory. (a) AC, DC. (b) Vacuum tube and transistor. (c) Transmitter and receiver. Must be taken in a,b,c sequence, concurrently with a corresponding section of 101.

201–15 (5,5,5) Electronic Laboratory. (a) Transistor circuits and systems laboratory. (b) Pulse and microwave laboratory. (c) Service problem solving. Must be taken in a,b,c sequence, concurrently with a corresponding section of 225. Prerequisites: 101, 125.

202–5 Principles of Television. Laboratory practices involving signal tracing, signal injection, sweep alignment in television receivers with the emphasis on diagnostic approach. Must be taken concurrently with 226. Prerequisite: 201a, 225a.

205–5 Microwave, servo, Ultrasonic, and Radar. Analysis of synchro systems, servo control systems, industrial ultrasonic and sonar circuits, micro-wave transmitters and receivers, multiplexing circuits, and radar systems. Must be taken concurrently with 231. Prerequisites: 202, 226.

225–15 (5,5,5) Electronic Theory. (a) Transistor circuits and systems theory. (b) Pulse circuits and microwaves. (c) Electronic service principles. Must be taken in a,b,c sequence, concurrently with a corresponding section of 201. Prerequisites: 101, 125.

226–5 Television Circuits and Systems. The study of the composite video, R.F., I.F., A.F., A.F.C., clipping circuits, synchronizing, and power supplies with emphasis on diagnostic approach. Must be taken concurrently with 202. Prerequisites: 201a, 225a.

228–3 Federal Communications Commission License. A theory course for second class FCC license. Examination must be taken at an FCC examining point. Prerequisites: 101, 125.

229–3 Color Television. Principles of color television theory. Must be taken concurrently with 201c and 225c. Prerequisites: 201b, 225b.

231–5 Industrial and Microwave Systems. Principles of synchros and synchro control systems; servo control systems; industrial measurement and control systems, microwave oscillators, transmitters, receivers, multiplexing, and radar systems. Must be taken concurrently with 205. Prerequisites: 202, 226.

232–3 Industrial Circuits. An over-view of industrial, control, and measuring circuits. Prerequisites: 101, 125.

VTI U

101–6 (3,3) The Funeral—History and Customs. (a) History and customs of the funeral from ancient times through modern practices. (b) History of American funeral directing up to the present date, including current events.

110–4 Embalming Chemistry. Chemistry of the body, sanitation, toxicology, chemical change in cadauers, disinfection, and embalming fluids. Prerequisite: Introductory course in chemistry.
202–3 Restorative Art. Anatomical modeling, theories, methods and techniques color theory and its relationship to our environment; psychological effects of color; cosmetology; design proportions. Laboratory and lecture.
203–3 Introduction to Embalming. Orientation and technique. A study of the body, sanitation, disinfection, and embalming fluids. Prerequisites: Chemistry 110, 240, Physiology 300, GSA 301.
205–6 (3,3) Pathology. A study of the morbid changes that take place in human tissue as a result of disease processes. Must be taken in a,b sequence. Prerequisites: Physiology 300, GSA 301.
208–2 Public Health, Laws and Regulations. Basic principles and practices of public health administration. Organization and functions of agencies, at federal, state, and local levels, which are engaged in the preservation and protection of public health. The funeral director's responsibilities and relationships to local boards of health and the State Department of Public Health.
210–3 Psychology of Funeral Service. Psychological principles relative to the funeral director in consultation with his clients. A study of the psychology of grief. Prerequisites: Psychology 305, 307.
225–15 (5,5,5) Embalming Theory and Practice. Theory, practices, and techniques of sanitation and preservation as related to the care of deceased human bodies. Lecture and laboratory. Must be taken in a,b,c sequence. Prerequisite: 203.
250–5 Mortuary Management. A study of the problems involved in the practice of funeral management. Current practices and procedures in the direction of funerals. Funeral home operation and records. Laws, ethics, and professional regulations. Must be taken in a,b sequence. Prerequisite: 101.
275–10 Funeral Service Internship. The student will spend one quarter in a University approved Illinois funeral establishment learning in actual practice situations, functional organization, procedures, and policies of the establishment. He will perform duties and services as assigned by preceptor and coordinator to include surveillance of and participation in the execution of total services rendered to a minimum of ten clients. Service reports and a project report are required. Prerequisite: all other requirements of the Mortuary Science curriculum must be met.
280–2 Funeral Service Seminar. Formal discussions, conducted by the coordinator of the program, to evaluate the experiences and progress of the participants in the Internship Program. Prerequisites: concurrent registrations in VTI U 275.

VTI W

101–15 (5,5,5) Welding Laboratory. (a) Gas welding and cutting processes, use of the oxy-acetylene blowpipe, cutting blowpipe, inert gas welding (TIG) and hard soldering. (b) Metallic arc welding on heavy gauge steel using AC and DC welding machines, introducing all positions in metallic arc welding. (c) Metallic arc welding in all positions with special application to electrodes, ferrous, and nonferrous metals. Must be taken in a,b,c or b,c,a sequence concurrently with a corresponding section of 125.
125–15 (5,5,5) Welding Theory. (a) Gas welding and cutting theory involving the use of oxy-acetylene equipment, tungsten inert gas equipment, and hard surfacing and soldering techniques. (b) Theory of metallic arc welding, including types of electrodes, welding machines, techniques, and proper joints with mild steels, (c) Theory in metallic arc welding in ferrous and nonferrous alloys.
175–3 Oxy-Acetylene and Electric Arc Welding. Provides the machinist and other tradesman with enough welding experience to make simple repairs.

VTI X

201–2 Job Orientation. Special instructional sessions offered on personality, clothing, job application, and professional ethics. Preparation of a portfolio consisting of a

personal data sheet, an analysis of prospective employing firms, sample letters of application, and an acceptance or refusal. Practice in being interviewed by representatives of business and industry.

202–2 Professional Ethics. Required of the technician within his own craft organization and the ethics necessary in dealing and cooperating with the dental profession. Legal requirements of the technician and the dental laboratory.

VTI Y

101–18 (6,6,6) Dental Prosthetics Laboratory. (a) Reproduction of tooth forms by drawings, and carvings in plaster and wax. (b) Removable denture construction including: wire bending, soldering, surveying and casting. (c) Complete denture construction including: bite blocks, recording mandibular movements, setting up full dentures in bilateral balance, carving and festooning, processing of acrylic resins and metal bases, tooth selection. Must be taken in a,b,c sequence concurrently with corresponding section Y 125.

113–6 (3,3) Science of Dental Materials. (a) Principles of physical science with emphasis on structures and behaviour of materials used in Dentistry. (b) Lectures and demonstrations on the techniques of preparing restorative materials for the dentist. Includes training for temporary or emergency duty as a chair assistant and in the preparation of amalgan, silicate cement, zinc phosphate cement, self curing acrylic resins, and temporary restorative materials. May be taken in any sequence. Prerequisite: (b) VTI G 115a, Dental Hygiene student.

125–9 (3,3,3) Dental Prosthetics Theory. (a) A detailed study of individual tooth form and surface anatomy with emphasis on the relationship of form to function and on nomenclature, introduction to the theory of occlusion. (b) Partial denture design including wire and cast construction, the use of the surveyor and casting techniques. (c) Study of articulation, set up and balance of dentures, artificial tooth form and selection, acrylic resins, and metal bases. Must be taken in a,b,c sequence with a corresponding section of Y 101.

128–2 Oral Anatomy. Detailed study of the parts and functions of the temporomandibular articulation: surface oral tissues and the underlying supporting tissues; and supporting structures for bridge abutments.

130–2 Orientation to Dental Hygiene. Survey of dental hygiene from anatomy through dental caries, oral diseases, public health, dental health education, and the history of dental hygiene.

132–8 (4,4) Head and Neck Anatomy. (a) Structures of the oral cavity with particular emphasis on gross anatomic features, such as skull, muscles, vessels, nerves, and specialized groups of structures, with a view to their pertinence to dental hygiene. (b) Close study of all teeth and reproduction in wax, natural size. Demonstrations and lectures on the normal and abnormal gingiva and perio-dental attachment. Must be taken in a,b sequence.

135–11 (4,4,3) Oral Basic Science. The microscopic structure of oral tissues, the normal and abnormal microbial flora of the oral cavity, and the appearance and symptonatology of the oral tissues and organs during disease processes. (a) The microscopic structure of the cells and tissues of the oral region. Illustrated lectures. (b) Basic microbiology with emphasis on the micro-organisms found in the oral cavity in health and disease. Lecture and laboratory. (c) Basic symptons of inflammation in body tissues, and the appearance of disease entities and developmental disturbances in the oral tissues and structures. Lecture and laboratory. Must be taken in a,b,c sequence.

137–8 (4,4) Preclinical Dental Hygiene. Introduction to clinical practice. (a) A study of the instruments used in prophylaxis, scaling techniques, and familiarization with clinical routine. (b) Manikin practice in scaling, porte-polishing and tooth-brushing techniques, followed by practice scaling and polishing on a student-partnership basis. Must be taken in a,b sequence concurrently with 132. Prerequisites: GSA 301.

139–3 Dental Nutrition. A study of the nutritional needs, dietary patterns, selection and preparation of healthful foods and their relation to general and oral health.

140–2 Dental Pharmacology. Introduction to classes and types of drugs, action on body tissues and organs, specific dental remedies and formulae, and first aid procedure for poisons. Must be taken concurrently with 139. Prerequisite: VTI G 115.

201–18 (6,6,6) Crown and Bridgework Laboratory. (a) The practice of gold inlays, crowns, veneers pontics and small bridges, carving, investment casting, soldering and polishing. (b) Practice of advanced types of crown and bridgework and mouth rehabilitation as it involves laboratory procedures. (c) Dental ceramics, precision attachments, dental porcelains, platinum matrices, shadings, staining and glazing, precision attachments used in removable bridgework. Must be taken in a,b,c sequence concurrently with corresponding section of Y 225.

209–5 Dental Hygiene Clinic (S). Dental hygiene clinical practice, with particular emphasis on children, including the mentally and physically handicapped. Selected adult patients will also be used in this course to diversify the practice of dental hygiene. Prerequisites: Sophomore status in the Dental Hygiene concentration.

210–15 (5,5,5) Clinical Dental Hygiene. Clinical practice on patients with additional lecture and seminar periods. (a) Introduction to clinical dental hygiene practice. (b) Clinical practice for adults and children. (c) Clinical practice and preparation for State and National Board Examinations. Must be taken in a,b,c sequence. Prerequisites: 132, 137, 139, 140, GSA 301, and sophomore standing in dental hygiene.

213–6 (3,3) Dental Assisting. Principles of chair-side assisting, the science of dental materials, and basic dental laboratory procedures. (a) Assisting the dentist at the chair and manipulation of restorative materials. (b) Assisting the dentist in the laboratory with study and use of laboratory materials. Must be taken in a,b sequence. Prerequisites: VTI G 115, sophomore standing in dental hygiene.

216–4 (2,2) Dental Administration and Practice. (a) Dental Ethics, office administration and general Dental practice. (b) The role of the Hygienist in special practices, the history of dentistry, specialties of dentistry, state regulations and preparation for licensing examinations. Guest lecturers are utilized in specialty areas. Must be taken in a,b sequence.

217–2 Dental Health Education. Each student presents talks and demonstrations, leads discussions and seminars, and gives visual presentations of the basic principles of dental health. Visits to selected schools, area health clinics, and suitable dental meetings. Prerequisites: 216, GSD 101a, 101b, 103, GSB 201c, sophomore standing in dental hygiene.

218–6 (2,2,2) Clinical Dental Roentgenology. Instruction in the production, use and protection of X-radiation. (a) Theory and production of X-rays; radiation dosage and protection. (b) Technics of angulation, exposure, processing and mounting of bite-wing X-ray films. (c) Technic of full-mouth surveys, longcone exposure technic and extra-oral exposures. Must be taken in a,b,c sequence. Prerequisites: 132, 137, VTI G 115, GSA 301, sophomore standing in Dental Hygiene.

220–3 Dental Public Health. A lecture course consisting of a short introduction to public health organization, leading directly into a detailed study of public health dentistry, dental public health administration, practice and research. Emphasis is placed upon the relationship of dentistry and dental hygiene practice to the community.

225–9 (3,3,3) Crown and Bridgework Theory. (a) Introduction to crown and bridgework, carving, investing, casting, soldering, and polishing. (b) A study of advanced crown and bridgework and mouth rehabilitation. (c) A study of ceramics, precision attachments, and porcelain jacket crowns. Must be taken in a,b,c sequence with corresponding section of Y 201.

(Edwardsville Campus)

ACCOUNTING

251–12 (4,4,4) Elementary Accounting. Principles and practices in handling transactions in original recordings and books of account; trial balances, adjustments, and

construction and presentation of financial statements for proprietorships, partnerships, and corporations. Third course in this sequence emphasizes management's uses of the product of the accounting function, through budgeting procedures, cost accounting, and other criteria for sound decision-making. Must be taken in a,b,c sequence.

331–4 Tax Accounting. Study of accounting principles and procedures for meeting requirements of current laws and regulations which relate to federal income tax. Laboratory problems and preparation of tax returns with special emphasis on the individual taxpayer. Prerequisite: 251–12.

341–4 Cost Accounting. Cost determination and control of manufacturing activities. Interpretation and managerial implications of material, labor, and overhead for job order, process and standard types of cost systems. Cost reports to executives. Prerequisite: 251–12.

351–8 (4,4) Intermediate Accounting. Further study of current accounting principles and procedures relating to various elements of financial reporting. Special emphasis on asset valuation, income determination, and alternative statement construction. Also, analysis and interpretation of statements; preparation and use of special statements. Must be taken in a,b, sequence. Prerequisite: 251–12.

442–4 Advanced Cost Accounting. Cost accounting for complex process production flows, joint products and by-products, spoilage, defective units and scrap. Managerial control and profit planning through capital budgeting, inventory planning, subjective probabilities, statistical methods, and operations research. Nonmanufacturing costs, differential and comparative cost analysis. Prerequisite: 341.

453–8 (4,4) Advanced Accounting. Advanced study of accounting principles and procedures relating to specialized topics, including partnership equity, installment and consignment sales, insurance, branch accounts, compound interest in relation to accounting practice, and preparation and use of consolidated statements. Prerequisite: 351–8.

456–4 Auditing. Objectives, standards, and procedures involved in examining and reporting on financial statements of business organizations. Prerequisites: 331, 341, 351–8.

ECONOMICS

210–5 Principles of Economics. The basic principles and tools of economic analysis including national income determination, business fluctuations, price-output determination in product markets, distribution of national income, factor pricing, and other economic problems. Prerequisite: GSB 211a.

310–4 Labor Problems. Prerequisites: 210.

GOVERNMENT

210–4 American Government. A general survey of national, state, and local governments. Includes the national and state constitutional principles as required by Illinois Law.

MANAGEMENT

170–4 Introduction to Business Administration. A survey of business, intended to give to the student a general knowledge of the modern business world, a better basis for choosing his speciality, and certain information not covered in the various specialized courses offered.

240–4 Introduction to Data Processing. Development of the concept of an organization; problems of coordination and control; feed back loop; management by exception. Study covers machine functions, procedure planning, flow charting and integrated data processing; also, the stored program concept, input-output methods and problems involved with electronic data processing equipment.

271–4 Business Writing. Principles and practice in writing typical kinds of business correspondence and reports. Prerequisites: GSD 101b.

320–4 Corporation Finance. Financial structure in industry, sources of capital, regu-

lation of securities, of stock exchanges, and the Security and Exchange Commission; dividend and other financial policies. Interpreting corporation reports and evaluating securities through the analysis of financial statements. Prerequisites: Accounting 251c, Economics 210.

340–4 Business Organization and Management. Business organization, management theory, and practice.

361–4 Business Report Writing. Discussion, illustration, and practical application of report-writing techniques, including study of uses, forms, and structures of different types of reports.

371–4 Business Law I. Introduction to the history and philosophy of law, contract law and agency law.

372–4 Business Law II. Real property law, personal property law, partnership law and corporation law.

380–4 Production Management. Plant location, design, and construction; internal organization for operations, production control, stores control, routing of materials, job analysis, and time study; wage systems, subdivision of executive responsibilities and duties; methods of coordination and planning. Prerequisite: Economics 210.

382–4 Time and Motion Study. Principles and methods for simplifying work and establishing sound time-standards for performance.

385–4 Personnel Management. Relations of the human element to production; the art of securing understanding and cooperation; employee organizations and outside activities; work of the personnel department; wage standards and working conditions. Prerequisite: Economics 210.

472–4 Small Business. Small business analysis, primarily through case studies of business financing, location, organization, merchandising practices, records, government regulation, and taxes. Open only to students with a concentration in business.

MARKETING

230–5 Principles of Marketing. A general survey of the entire field of marketing. Consideration is given to the underlying economic principles; historical development of distributive systems, channels, agents, institutions, functions, policies, and principles. Prerequisite: Economics 210.

334–4 Credits and Collections. Organization and operation of the credit department, including the sources and analysis of credit information, collection methods, and correspondence. Retail credit management emphasized. Prerequisite: Marketing 230.

SECRETARIAL AND BUSINESS EDUCATION

201–9 (3,3,3) Typewriting. Mastery of the keyboard, speed and accuracy in the touch operation of the typewriter, and skill and knowledge needed for vocational and personal uses. Must be taken in a,b,c sequence. (a) May not be taken for credit by students who have had previous high school or other formal instruction in typewriting. (b) Prerequisite: 201a or one semester of other formal instruction in typewriting and the ability to type at least 30 words per minute. (c) Prerequisite: 201b or two semesters of other formal instruction in typewriting and ability to type at least 40 words per minute and to prepare simple business correspondence, tables, manuscripts and forms.

221–12 (4,4,4) Shorthand and Transcription. The Gregg shorthand system and the development of skill and knowledge required in taking dictation and transcribing it on the typewriter. Must be taken in a,b,c sequence. (a) May not be taken for credit by students who have had previous high school or other formal instruction in shorthand. (b) Prerequisite: 221a or one semester of other formal instruction in shorthand-transcription. (c) Prerequisite: 221b or two semesters of other formal instruction in shorthand-transcription and the ability to take sustained, new-matter dictation at 60 words per minute.

304–3 Advanced Typewriting. Development of advanced skills in typing business correspondence, manuscripts, forms, and tables; preparation of copy from rough draft materials. Prerequisite: 201–9 or three semesters of other formal instruction in type-

writing and the ability to type at least 50 words per minute and to prepare business correspondence, tables and manuscripts.

324–8 (4,4) Advanced Shorthand and Transcription. The development of high-level dictation and transcription skills and knowledges. Must be taken in a,b sequence. Prerequisites: (a) 221–9 or three semesters of other formal instruction in shorthand-transcription and the ability to transcribe on the typewriter sustained, new-matter dictation taken at 80 words per minute. (b) 324a or four semesters of other formal instruction in shorthand-transcription and the ability to transcribe on the typewriter sustained, new-matter dictation taken at 100 words per minute.

341–4 Calculating Machines. Operation of basic types of office calculating machines, emphasizing the characteristic uses of each kind of machine in the office. Laboratory practice required.

407–4 Office Management. The principles of management as applied to office problems. Emphasis on the role of the office in business management; office organization; physical facilities and layout of the office; office services, procedures, standards, and controls.

427–4 Records Administration. The development of records management from its inception, and the recognition of the need for paper work management. Stress on the use of information management techniques in support of organization management, control and evaluation. The course includes each phase of the life of records from creation to disposal or permanent retention. The capabilities of data processing, microphotography, and new developments in information handling equipment stressed throughout.

VTI E

100–5 Data Processing Mathematics. The use of mathematics in modern business. Emphasis upon the development of logical thought processes and careful work habits.

VTI G

141–5 Introduction to Physiology. A survey of the functions of the human body for students desiring basic but comprehensive knowledge of human physiology.

VTI H

112–4 Jury Charge. Dictation of the Court charges to a jury, opinions, comments of court, counsel to jury, and counsel to court is given so that students will develop speed, accuracy, and vocabulary in the taking of the dictation. Transcripts are made of some of the instructions to the jury, and these transcripts are checked for accuracy. Prerequisite: VTI H 130c or Business Education 221c.

130–12 (4,4,4) Stenograph Machines. (a) A study of the principles of stenograph theory with emphasis and intensive drill on brief forms, phrases, and word families. Correct reading and writing techniques are emphasized. Dictation speeds are gradually increased to a minimum 60 words per minute for 5 minutes. Students with one or more years' stenograph machines instruction receive no credit. (b) Provides for learning an automatic vocabulary of brief forms, special forms, and word families. Writing practices on familiar materials and introduction of new material in dictation. Sustained writing situations are gradually introduced. Dictation speeds are gradually increased to a minimum of 80 words per minute for 5 minutes. (c) Dictation speeds to a minimum of 100 words per minute for 5 minutes are required. Intensive drill on brief forms and word families and office-style dictation situations are presented. Typewritten transcripts are introduced. Must be taken in a,b,c sequence.

210–4 Two-Voice Testimony. Dual dictation, alternating questions and answers, to give the student practice in taking dictation under these conditions, which occur in court procedure. Prerequisite: VTI H 130c or Business Education 221c.

230–8 (4,4) Stenograph Machines. (a) Dictation speeds to a minimum of 110 words

per minute for five minutes are required. Transcription procedures are continued including spelling, vocabulary building, application of grammar, transcription of business letters and reports according to modern business office standards. Prerequisite: H120c. (**b**) Dictation speeds to a minimum of 120 words per minute for five minutes are required. Transcription of notes taken from the dictation of unfamiliar material, transcription of "cold" notes and notes taken from "natural" dictation. Emphasis on speed development and correct usage of transcription procedures. Must be taken in a,b sequence.

VTI S

107–3 Filing and Duplicating. Basic principles of modern filing systems; alphabetic, subject, numeric, and geographic. Students work with practice filing equipment, learning the rules of indexing, cross referencing, coding, charge-outs, color devices, and setting up a modern system. Basic principles and practice on multiple copy machines. Prerequisite: Business Education 201b or consent of adviser.

214–5 Cooperative Secretarial Experience. The student spends either half days or two weeks at a time in an office to gain experience in the field of his concentration. The half-day plan is used within a radius of 20 miles of the institute; in others, part-time placement is planned in the student's home town, or environs, wherever possible. Prerequisite: fifth-quarter standing in secretarial concentration.

218–5 Cooperative Medical Secretarial Experience. The student spends either half days or two weeks at a time in an office of a physician, dentist, or hospital to gain experience in the field of his concentration. The half-day plan is used in offices within a radius of 20 miles of the institute; in others, part-time placement is planned in the student's home town, or environs, wherever possible. Prerequisite: fifth-quarter standing in secretarial concentration.

223–5 Secretarial Office Procedures. This course is designed for a one-term course to prepare the college-level student for any secretarial position. It analyzes the secretarial profession and stresses the personal qualities needed for success in it, including human relations and good grooming. Specialized secretarial duties such as transmitting mail, handling incoming mail, processing telegraphic messages; receiving callers, and using the telephone; planning travel and recording meetings; using copying and duplicating methods are covered. The course stresses the latest and most efficient secretarial procedures.

224–6 Legal Shorthand. Dictation, involving special legal terms, vocabulary building, shortcuts in writing legal terms in Gregg shorthand, or in machine shorthand. Transcription from dictation notes special to the work of a legal secretary. Work in preparation of briefs and legal documents with State of Illinois Standard Form.

225–12 (6,6) Medical Shorthand. (a) Advanced dictation involving medical terminology, phrasing, and vocabulary. Special terms and definitions are used in preview of materials, such as medical case histories, x-ray reports, operation reports, and consultation reports that are dictated for transcription. Emphasis is placed on definitions, spelling, and shorthand writing of medical prefixes and suffixes. (**b**) Increasing speed and proficiency in the writing of medical case histories. Special emphasis is placed on phrases and special terms. Medical secretarial techniques are stressed. Emphasis on increasing speed and proficiency of medical transcripts.

Faculty 3

Ernest J. Simon, *Dean of University Technical and Adult Education*
Marvin P. Hill, *Assistant Dean of Technical and Adult Education (Carbondale)*
E. R. Casstevens, *Assistant Dean of Technical and Adult Education (Edwardsville)*
William Nagel, *Assistant Dean of Technical and Adult Education in charge of inter-agency contracts (Carbondale)*
M. Keith Humble, *Director of Vocational-Technical Institute (Carbondale)*
Glenn Wills, *Director of Adult Education (Carbondale)*

CARBONDALE CAMPUS

ACCOUNTING

Associate Professor John William Cundiff, J.D., C.P.A.
Assistant Professors Chester Johnson, M.A. (**Chairman of Faculty**); J. Kenneth Markwell, M.Ed., C.P.A.
Instructor John Kuruc, M.S. in Ed.; J. Eugene Vaughn, M.S.

ARCHITECTURAL TECHNOLOGY

Assistant Professors Paul Lougeay, B.S. (**Chairman of Faculty**); Franklin Bassett, B.S.; Joseph Lete, B.S.; Harold Little, B.S.
Instructor Clifton Rutledge, B.A.

AUTOMOTIVE TECHNOLOGY

Assistant Professor L. D. Willey, B.Ed. (**Chairman of Faculty**); Lewis Runkle, M.Ed.
Instructors Paul Jones, James McDonald, B.S.; O. B. Ray, B.S.
Assistant Instructor Everett Shelton
Lecturer James White, B.S.

AVIATION TECHNOLOGY

Associate Professor Edmund DaRosa, B.A. (**Chairman of Faculty**)
Instructors Garey Redmond, B.S.

BUILDING CONSTRUCTION TECHNOLOGY

Assistant Professors Paul Lougeay, B.S. (**Chairman of Faculty**); Franklin Bassett, B.S.; Joseph Lete, B.S.; Harold Little, B.S.
Instructor Clifton Rutledge, B.A.

COMMERCIAL ART

Associate Professor Daniel Boza, F.A.A.R. (**Chairman of Faculty**)
Instructors Richard Hoffman, B.F.A.; Kermit Ruyle; Doris Swayne, B.S.Ed.

COOPERATIVE RETAILING

Associate Professor Walter Elder, M.S. (**Chairman of Faculty**)
Assistant Professor Ruth H. Burnett, M.S.

COSMETOLOGY

Lecturers Gladys McVey, (**Chairman of Faculty**); Luretta Cassidy, Shirley Hill

DENTAL HYGIENE

Assistant Professor Eleanor Bushee, D.D.S. (**Chairman of Faculty**); Frank Atwood Vandever, Jr., D.D.S.
Assistant Instructor Deborah Ann Rinehart, B.S.

DENTAL LABORATORY TECHNOLOGY

Assistant Professor William Moore Leebens, D.D.S. (**Chairman of Faculty**)
Instructors Peter Bykowski, C.D.T.; George Pennock, C.D.T.
Lecturers William Joy, C.D.T.; Charles Christy, C.D.T.

ELECTRONICS TECHNOLOGY

Assistant Professors Raymond Schultz (**Chairman of Faculty**); Charles Green, M.S.Ed.; Paul Caldwell, M.S.Ed.

ELECTRONIC DATA PROCESSING (Business or Industrial Option)

Assistant Professor James Robb, M.A. (**Chairman of Faculty**)
Assistant Instructor Robert Dick, B.S.
Instructor Marie Humphreys, M.A.

FOREST PRODUCTS TECHNOLOGY

Assistant Professor William Rice, Ph.D. (**Chairman of Faculty**)
Instructor Harold Osborn, M.S.Ed.

GENERAL STUDIES

Assistant Professor Jason Collins, M.S.Ed. (**Chairman of Faculty**)
Instructors Susan Amirie, M.S.; Frank Bietto, M.S.; Dorothy Bleyer, M.S.Ed.; Floyd Choate, M.A.; Larry R. Cobb, M.A.; Howard Crenshaw, M.S.; Charles Crowe, M.A.; Louise F. Graham, M.A.; James Harbison, M.S.; Richard B. Johnson, B.A.; Ronnetta Kahn, M.A.; Phyllis E. Riess, M.A.; Dorothy J. Rudoni, M.A.; William Venable, M.S.; Arthur Workun, M.S.; Mary Wright, B.S.
Assistant Instructors Glenna S. Hayes, M.A.; Robert Miller, B.A.
Lecturers Diana Fairfield, B.A.; Emilyn Morris, M.S.Ed.

MACHINE DRAFTING & DESIGN TECHNOLOGY

Assistant Professors Frank Muhich, M.S.Ed. (**Chairman of Faculty**); Clarence Beauchamp, M.S.; Duncan Lampman, M.S.Ed.

MORTUARY SCIENCE

Assistant Professors Walter Thorsell, B.A. (**Chairman of Faculty**); Donald Hertz, M.S.Ed.

PRACTICAL NURSING

Assistant Professor Winifred Mitchell, R.N.; B.S. (**Chairman of Faculty**)
Instructors Minnie Alcorn, R.N.; Beatrice Chiodini, R.N.

PRINTING

Instructor H. S. Cornell, M.S. (**Chairman of Faculty**)

SECRETARIAL

Assistant Professor Chester Johnson, M.A. (**Chairman of Faculty**)
Instructors Margaret Garrison, M.S.Ed.; Paul McInturff, M.S.; Theresa Miriani, M.S.; Carol Reed, M.S.; James Tooley, M.S.Ed.
Assistant Instructor Winifred Norman, B.S.

TOOL AND MANUFACTURING TECHNOLOGY

Associate Professor Harry Soderstrom, M.S.

Assistant Professors Frank Muhich, M.S.Ed. (**Chairman of Faculty**); Charles Crookshank, M.A.

Instructors Donald Foss, B.S.; Lelon Traylor, M.S.

WELDING

Assistant Professors Murnice Dallman, M.S.Ed. (**Chairman of Faculty**); John Griswold, M.Ed.

ADULT EDUCATION

Professors Isaac Brackett, Ph.D.; William Herr, Ph.D.; Frank Klingberg, Ph.D.; J. P. Vavra, Ph.D.; William Westberg, Ph.D.; Walter Wills, Ph.D.

Associate Professors Ralph Benton, Ph.D.; Thelma Berry, Ph.D.; H. H. Olson, Ph.D.; J. J. Patterson, M.S.; Herbert Portz, Ph.D.

Assistant Professors Harold F. Engelking, M.S. (**Supervisor**); Ray Rainbow, Ph.D.

Instructors Sue Ridley, M.S.; Norman Slack, M.S.; Lucy Stewart, M.S.

Assistant Instructor Charles J. Fee, B.S. (**Supervisor**)

Lecturers Marianne Abrahamson; Lurita Adams, B.S.; Christina K. Aiassi, M.S.; Robert L. Andresen, A.M.; Helen Barr, M.A.; Paul Bateman; Margaret Bellamy, M.A.; Barbara Benard, B.S.; Araminta Bigelow; Shirley Bigham, B.S.; Robert Boudet; Stanley Boulee, M.S.; Kent Brandon, J.D.; Dellis Buzbee, M.S.; Berleen Carlton, B.A.; Gladys Caveny; Ray Cohee, A.B.; Hicks Cornett, M.S.; Charles Craig, B.S.; Ruth Crain, M.S.; Nelson Curtis; Marianne Dardis; Paul Devor, B.A.; Dale Dillard, M.S.; Donna Draper; Chris Elkins, B.S.; Carol Grant, M.A.; Claude Grotts, B.P.A.; Pauline Haden; Eula Hamilton, B.S.; Jerry Hartley, B.A.; Edward E. Hawkins; Earl Hendricks, J.D.; Delana Hines, B.S.; Emma Holmes, B.S.; Stanton Hughes, B.S.; Jerald Humble; Kenneth Hurt, B.S.; Richard A. Isenberg, B.S.; Alice B. Jackson, B.A.; Florence Jaenke, M.A.; Jeanne Jennings, B.S.; Harold G. Johns, B.S.; Edith Johnson, M.S.; Kent Kirberg, B.S.; Clifton Kirk, M.Ed.; Alice D. Kniker, B.S.; Harold Krummel, M.A.; Charles Lerner, L.L.B.; Julian Levesque, M.A.; James P. Loy; Murrell J. Loy, M.S., C.P.A.; Maurice T. Macy, L.L.B.; Patricia McCuiston, B.S.; Charlotte McRoy, B.S.; Willis Miller, M.A.; William Mills; Josephine Miriani; Roscoe Misselhorn; Eardle Morgan, M.S.; Anna Morris, B.A.; Martha Mulch, B.A.; Opal Nave, B.S.; Sheila Newcom, B.S.; Merna O'Brien, B.S.; Van Parsons, B.S.; Charles Peterson; Vey Pyatt, B.S.; Finis Rayburn; Thomas Redickas; Marilyn Retzer, B.S.; Violet Rhodes, B.S.; Ralph Richart, B.S.; Don Ross, M.F.A.; Marvin Schroeder, M.S.; Ray Shannon, B.S.; Don Slinkard; Evelyn Smith, B.Ed.; Margaret Smith, B.Ed.; Paul A. Snider, B.S.; John Steele, M.S.; Genevieve Sutliff; Aline Travelstead, M.S.; Dee Ann Umar, B.S.; James Upchurch; Gary Vaughn, B.S.; John L. Vaughn, B.S.; Darcy Vaught, B.S.; Marie A. Vincenti, B.S.; Paul Walker, M.S.; George Williams; Gary Worth, A.A.

EDWARDSVILLE CAMPUS

BUSINESS

Instructor Robert James Semple, M.S. (**Chairman of Faculty**)

ADULT EDUCATION

Professors Harold Glen Cutright, M.B.A.; R. Buckminster Fuller; C. Addison Hickman, Ph.D.; Cameron W. Meredith, Ph.D.; Ralph A. Micken, Ph.D.; Fremont A. Shull, Jr., Ph.D.; H. Dene Southwood, Ed.D.

Associate Professors Robert B. Hawkins, Ph.D.; Richard V. Lee, M.D.; Ann S. Schwier, Ph.D.; Clarence E. Vincent, D.B.A.

Assistant Professors Claude I. Shell, Ph.D.

Instructors Richard N. McKinney, M.S.; Paul J. Skjerseth, M.B.A.

Lecturers Donald J. Backer, M.B.A.; Roy C. Bell; Robert L. Berra, M.B.A.; Clarence A. Bester, B.S.; J. Allan Blount, B.S.; Edward K. Brenner, B.S.; William D. Brun-

ner, B.A.; George A. Chandler, M.B.A.; Charles Chapman, Ph.D.; Irwin Cochrun, B.S.; Michael J. Ebeling, LL.B.; Richard H. Elzy, B.S.; Sylvester J. Geolat; Edwin Gerling, B.S.; James L. Goodwin, B.S.; William N. Grandy, Ph.D.; G. Donald Hanrahan, Ph.D.; Harold N. Hertenstein, M.S.; William H. Higginbotham, B.S.; Marvin H. Hord, B.S.; Clarence Hoskins, B.S.; Rolland H. Kluge, BSME, BSIE; Louis T. Lanz, BSChE; Arthur E. Little, M.S.; Robert R. Mandrell, B.A.; Frank C. Mansfield, A.B., LL.B.; Frank L. Martini, B.S.; Charles M. Mason, B.S.; M. Scott Myers, Ph.D.; Joyce M. Niemeier, M.S.; Joseph Podnar, B.S.; Wayne L. Rock; Franklin G. Rogers, M.S.; William L. Rogers, B.A., LL.B.; Manford E. Ruby, M.S.; Lloyd L. Rudesill, B.S.; Aldo E. Schnack, M.S.; Sterling H. Schoen, Ph.D.; C. A. Tolin; Earl F. Voelz, A.B.; Verne C. White, B.A.; H. Edmund Young, M.A.

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