

1964

## 1964-1966 Southern Illinois University Bulletin (Division of Technical and Adult Education)

Southern Illinois University Carbondale

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# **Southern Illinois University**

*Bulletin*



*Division of Technical and  
Adult Education*

1964 - 66

# 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

## *Announcements for 1964-1966*



SOUTHERN ILLINOIS UNIVERSITY BULLETIN  
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General Information  
General Studies and AF ROTC  
Summer Session (Carbondale)  
Summer Session (Edwardsville)  
Schedule of Classes (Carbondale)  
Schedule of Classes (Edwardsville)  
Divisional Announcements (Edwardsville)  
Graduate School  
College of Education  
College of Liberal Arts and Sciences  
School of Agriculture  
School of Business  
School of Communications  
School of Fine Arts  
School of Home Economics  
School of Technology  
Division of Technical and Adult Education

All intending students should have the General Information bulletin (issued once a year), plus the special bulletins of the various educational units in which they are most interested.

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## *This Bulletin*

covers in detail questions concerning the Division of Technical and Adult Education. It does not cover all questions concerning Southern Illinois University. For complete information about the University the prospective student should refer to the General Information bulletin.

*This issue supersedes Volume 2, Number 7.*

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# Division of Technical and Adult Education

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
  - a. Students enrolling in vocational and technical credit courses leading toward the two-year Associate in Business or Associate in Technology degree.
  - b. Other students enrolling in one-year vocational or technical courses toward a certificate.
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 co-operative planning with local and association educational committees.

# Vocational-Technical Institute

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 institute's campus, called Southern Acres, is 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, food services, recreation, and housing. Hourly bus service between Southern Acres and Carbondale is free for all students of the University.

## FACULTY

*Professors* Harry B. Bauernfeind, M. Keith Humble, Ernest J. Simon. *Associate Professors* Ralph Benton, William Cundiff, Walter Elder, Marvin Hill, William Nagel, Karl Webber. *Assistant Professors* Clarence Beauchamp, Daniel Boza, Ruth Burnett, Eleanor Bushee, Richard Chiles, Jason Collins, Charles Crookshank, Murnice Dallman, Charles Green, John Griswold, Chester Johnston, Marjorie Jones (on leave), Joseph Lete, Paul Lougeay, John McDermott, Winifred Mitchell, Frank Muhich, Adrian Pollack, James A. Robb, Raymond Schultz, Harry Soderstrom, Gene Trotter, Lucien Willey, Glenn Wills. *Instructors* Frank Bietto, Jack Bizzel, Dorothy Bleyer, Peter Bykowski, Paul Caldwell, Joseph Crenshaw, Charles Crowe, Jean Danielson (on leave), Margaret Garrison, James Harbison, Richard Hoffman, Duncan Lampman, John McCarty, James McDonald, Theresa Miriani, Harold Moore, Harold Osborn, Marilyn Paulk, George W. Pennock, O. B. Ray, William Rice, Jane Rocconi, Kermit Ruyle, Lucy P. Stewart, James Tooley, Lelan G. Traylor, Frank Vaughn, James E. White, Arthur Workun. *Assistant Instructors* Katherine Christensen, Mary Wright.

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*Visiting Professors* Alfred E. DiPietro, Christ Kardas, Paul Paulsen, Lewis Runkle. *Lecturers* Minnie Alcorn, Lureta Cassidy, Beatrice Chiodini, Clarence Christensen, Raymond Christensen, Charles Christy, Arthur G. Greer, Lois Hedges, Paul Jones, William Joy, Wilma Lampman, Gladys McVey, Emily Morris, Garey Redmond. *Adult Education Supervisor* Victor Honey.

## DEGREES AND CERTIFICATES

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

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

The Vocational-Technical Institute is not a trades school. Its graduates are more than repairmen, servicemen, or tradesmen. A technician in any field must know more than just the *How*. He must also know the *Why*. He must know how to read and comprehend technical material. A technician is a problem solving individual. 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 understand the physical world around him. He must be able to understand and get along with people.

In order to qualify for the Associate in Technology degree or the Associate in Business 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.

The art of communication is provided by English composition, correspondence, English analysis, 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.

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 co-operation 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 and throughout this bulletin. 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 affiliation. 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 AND REGISTRATION

Admission to the Vocational-Technical Institute should be initiated through the University's Admissions Office at Carbondale. Application for admission should be initiated at least thirty days in advance of the desired entrance date. High school seniors should start the admission process during the first semester of their senior year, but their formal admission will not be considered until after receipt of the high school record showing completion of the seventh semester of high school work.

At the time a student is admitted, he receives information concerning registration dates and procedures.

COMPLETE DETAILS concerning admission, tuition, fees, housing, degree requirements, and student employment are given in the General Information bulletin. For a free copy write to Central Publications, Southern Illinois University, Carbondale, Illinois 62903.

## ADVISEMENT

Institute students participate in the same entrance test program as students entering four-year programs. Each student is assigned to an adviser who assists him in planning his program in a way to provide him an opportunity to acquire the highest vocational or technical competence.

## TUITION AND FEES

At the present time legal residents of Illinois registered for more than eight hours pay a total of \$61.50 per quarter. This includes \$42.00 tuition, a \$5.00 book rental fee, a \$5.00 student union building fund fee, and a \$9.50 student activity fee. Out-of-state students pay an additional \$50.00 tuition, or a total of \$111.50. Students registered for eight hours or fewer pay one-half tuition, one-half book rental fee, full student union building fund fee; they have the option of paying the student activity fee.

## SPECIAL SERVICES

Students at the Vocational-Technical Institute enjoy the benefits and privileges generally available to students of the University. Meals may be purchased at the cafeteria at Southern Acres 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 Southern Acres. Textbooks are issued at Southern Acres 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 Southern Acres. A branch of the University Libraries operates at Southern Acres, and the facilities of Morris Library at Carbondale are available. Hourly bus service between Southern Acres and Carbondale is free for students and faculty.

## PROGRAMS IN BUSINESS

Business programs at the Vocational-Technical Institute are of two types: (1) two-year programs in various phases of business leading to an Associate in Business degree and (2) one-year programs each leading to a certificate in calculating machines, bookkeeping-clerical, or stenographic.

Each program described on the following pages is arranged by quarter. The arrangement, however, may be modified to meet individual needs.

The business programs train young men and women for their initial jobs in accounting; electronic data processing; executive, legal, or medical secretarial work; clerical bookkeeping; office machine operation; and retail-

ing. In addition to skill training, related courses are required which give the student business-background information as a basis for occupational advancement.

### ASSOCIATE IN BUSINESS DEGREE PROGRAMS

Each candidate for the Associate in Business degree must complete a minimum of 96 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. Some of the programs require as many as 109 hours.

Placement tests will be given to students who have had typewriting and shorthand in high school. Evidence of proficiency, as shown by the placement tests, permits students to take electives in lieu of some 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 103 hours must be completed for graduation.

#### FIRST QUARTER

Accounting	VTI B 101-7
Fundamentals of Business	VTI B 126-3
Data Processing	
Mathematics	† VTI E 100-5
English Composition	* GSD 101-3

#### SECOND QUARTER

Accounting	VTI B 101-5
Calculating Machines	VTI K 101-3
Typewriting	VTI S 101-3
English Composition	GSD 101-3
Elective	3

#### THIRD QUARTER

Accounting	VTI B 101-4
Job Cost Accounting	VTI B 130-4
Culture, Society, Behavior	GSB 201b-3
Political Economy	GSB 211-3
Oral Communication of Ideas	GSD 103-3

#### FOURTH QUARTER

Accounting	VTI B 201-4
Process Cost Accounting	VTI B 204-4
Business Law	VTI B 226-4

#### Office Administration and Supervision

VTI B 227-5

#### FIFTH QUARTER

Business Law	VTI B 226-4
Federal Taxes	VTI B 233-5
Business Statistics	VTI B 235-4
Credits and Collections	VTI B 275-4

#### SIXTH QUARTER

Accounting	VTI B 201-4
Auditing	VTI B 230-5
Personality Development	VTI S 125-2
or	
Job Orientation	VTI X 201-2
Political Economy	GSB 211-3
Elective	3

#### RECOMMENDED ELECTIVES

Business Correspondence	VTI G 101-3
Labor Management Relations Problems	VTI G 232-4
Calculating Machines	VTI K 101-3
Personnel Management	VTI R 227-3
Typewriting	VTI S 101-3
Filing and Duplicating	VTI S 107-2

*Electronic Data Processing (Business Option)*

Punched card preparation, electro-mechanical 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	† VTIE 100-5
Automatic Data Processing	
Machines	VTIE 101-3
Accounting	VTI B 101-7
English Composition	* GSD 101-3

## SECOND QUARTER

Data Processing	
Mathematics	VTIE 100-4
Automatic Data Processing	
Machines	VTIE 101-5
Accounting	VTI B 101-5
English Composition	GSD 101-3

## THIRD QUARTER

Computer Programming	VTIE 103-5
Data Processing	
Applications	VTIE 104-3
Data Processing	
Information	VTIE 107-2
Accounting	VTI B 101-4
Calculating Machines	VTI K 101-3

## FOURTH QUARTER

Business Computer	
Programming	VTIE 203-5

Systems Design and  
Development

VTIE 205-5

## Job Cost Accounting

VTI B 130-4

## Technical Writing

VTI G 102-3

## FIFTH QUARTER

## Business Computer

## Programming

VTIE 203-5

## Programming Systems

VTIE 206-3

## Office Administration and

## Supervision

VTI B 227-5

## Business Statistics

VTI B 235-4

## SIXTH QUARTER

## Programming Systems

VTIE 206-7

## Data Processing Field

## Project

VTIE 207-3

## Culture, Society,

## Behavior

GSB 201b-3

## Political Economy

GSB 211b-3

## RECOMMENDED ELECTIVES

## Business Law

VTI B 226-8

## Labor Management Relations

## Problems

VTI G 232-4

## Political Economy

GSB 211a-3

## Oral Communication

## of Ideas

GSD 103-3

*Executive Secretarial*

These courses are for students who wish to prepare for positions as professional secretaries in business, industrial, and governmental offices.

† Students who score below a satisfactory level on the mathematics part of the A.C.T. examinations must take VTIG 106-0 prior to taking VTIE 100-5.

\* Students who score below a satisfactory level on the English part of the A.C.T. examinations must take GSD 100-0 prior to taking GSD 101-3.

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 99 hours must be completed for graduation.

## FIRST QUARTER

Typewriting	VTI S 101-3
Shorthand	VTI S 104-7
Filing and Duplicating	VTI S 107-2
English Composition	* GSD 101-3

## SECOND QUARTER

Typewriting	VTI S 101-3
Shorthand	VTI S 104-5
Transcription	VTI S 105-2
Fundamentals of Business	VTI B 126-3
English Composition	GSD 101-3

## THIRD QUARTER

Typewriting	VTI S 101-3
Shorthand	VTI S 104-5
Transcription	VTI S 105-2
Business Correspondence	VTI G 101-3
Calculating Machines	VTI K 101-3

## FOURTH QUARTER

Typewriting	VTI S 205-3
Shorthand	VTI S 209-5
Transcription	VTI S 221-2
Business Law	VTI B 226-4
Culture, Society, Behavior	GSB 201b-3

## FIFTH QUARTER

Personality Development	VTI S 125-2
Legal Dictation Shortcuts	VTI S 224-5
Legal Transcription	VTI S 230-2
Secretarial Accounting	VTI B 104-5
Political Economy	GSB 211b-3

## SIXTH QUARTER

Typewriting	VTI S 205-3
Shorthand	VTI S 209-5
Transcription	VTI S 221-2
Secretarial Office Procedures	VTI S 223-5
Oral Communication of Ideas	GSD 103-3

## RECOMMENDED ELECTIVES

Co-operative Secretarial Experience	VTI S 214-5
Medical Dictation	VTI S 225-5
Medical Transcription	VTI S 226-2
Accounting	VTI B 101-7
Office Administration and Supervision	VTI B 227-5
Data Processing	
Mathematics	VTI E 100-5
Calculating Machines	VTI K 101-3

### *Legal Secretarial*

The 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 in order to become conference or court reporters.

A minimum of 98 hours must be completed for graduation.

## FIRST QUARTER

Typewriting	VTI S 101-3	Shorthand	VTI S 104-5
Shorthand	VTI S 104-7	or	
or		Stenograph Machines	VTI H 120-5
Stenograph Machines	VTI H 120-7	Transcription	VTI S 105-2
Filing and Duplicating	VTI S 107-2	or	
English Composition	* GSD 101-3	Stenograph Machines	

## SECOND QUARTER

Typewriting	VTI S 101-3	Transcription	VTI H 123-2
		Fundamentals of Business	VTI B 126-3
		English Composition	GSD 101-3

## THIRD QUARTER

Typewriting	VTIS 101-3
Shorthand	VTIS 104-5
or	
Stenograph Machines	VTIH 120-5
Transcription	VTIS 105-2
or	
Stenograph Machines	VTIH 123-2
Transcription	VTIG 101-3
Business Correspondence	
Oral Communication	
of Ideas	GSD 103-3

Jury Charge	VTIH 112-3
Two-Voice Testimony	VTIH 210-4
Political Economy	GSB 211b-3

## RECOMMENDED ELECTIVES

Co-operative Secretarial Experience	VTIS 214-5
Accounting	VTIB 101-7
Business Law	VTIB 226-4
Office Administration and Supervision	VTIB 227-5

## FOURTH QUARTER

Typewriting	VTIS 205-3
Medical Dictation	VTIS 225-5
Medical Transcription	VTIS 226-2
Calculating Machines	VTIK 101-3
Culture, Society, Behavior	GSB 201b-3

## FIFTH QUARTER

Personality Development	VTIS 125-2
Legal Dictation Shortcuts	VTIS 224-5
Legal Transcription	VTIS 230-2
Secretarial Accounting	VTIB 104-5
Business Law	VTIB 226-4

## SIXTH QUARTER

Transcription	VTIS 221-2
Secretarial Office Procedures	VTIS 223-5



*Instruction on voice-writing equipment*

### *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	VTIS 101-3
Shorthand	VTIS 104-7
Filing and Duplicating	VTIS 107-2
English Composition	* GSD 101-3

## SECOND QUARTER

Typewriting	VTIS 101-3
Shorthand	VTIS 104-5
Transcription	VTIS 105-2
Fundamentals of Business	VTIB 126-3
English Composition	GSD 101-3

\* Students who score below a satisfactory level on the English part of the A.C.T. examinations must take GSD 100-0 prior to taking GSD 101-3.

## THIRD QUARTER

Typewriting	VTIS 101-3	Introduction to Physiology	VTIG 141-5
Shorthand	VTIS 104-5	Oral Communication of Ideas	GSD 103-3
Transcription	VTIS 105-2		
Secretarial Accounting	VTIB 104-5		
Business Correspondence	VTIG 101-3		

## FOURTH QUARTER

Typewriting	VTIS 205-3	Typewriting	VTIS 205-3
Medical Dictation	VTIS 225-5	Shorthand	VTIS 209-5
Medical Transcription	VTIS 226-2	Transcription	VTIS 221-2
Calculating Machines	VTIK 101-3	Secretarial Office Procedures	VTIS 223-5
Culture, Society, Behavior	GSB 201b-3	Political Economy	GSB 211b-3

## FIFTH QUARTER

Medical Dictation	VTIS 225-5	Co-operative Medical Secretarial Experience	VTIS 218-4
Medical Transcription	VTIS 226-2	Accounting	VTIB 101-7
Personality Development	VTIS 125-2	Business Law	VTIB 226-8
		Introductory Sociology	VTIG 136-5

## RECOMMENDED ELECTIVES

*Co-operative Retailing*

Co-operative retailing is a merchandising program with particular emphasis on retail buying and selling. This two-year offering consists of on-campus instruction and of college-credit work experience in selected merchandising establishments. An opportunity is offered for limited specialization in the areas of apparel, hardline, sundries, groceries, etc.

Learning which results from experience, gained through twenty weeks of on-the-job training during the second school year, is one of the unique features of this program. Those selected merchandising establishments which co-operate with the University to provide this co-operative training program meet certain accepted educational criteria. Through this co-operative arrangement, each student has an opportunity to learn acceptable merchandising information and skills while working in the field.

The University, through its merchandising faculty, makes every effort to provide second year students with satisfactory on-the-job training; however, the student must understand that he has mutual responsibility in finding employment and maintaining satisfactory employee-employer relationships.

In addition to formal course requirements, each student is expected to provide a record of 320 clock hours of satisfactory merchandising experience gained independently of the University before he will be recommended for graduation. This experience can be gained during vacation periods. A minimum of 109 hours must be completed for graduation.

## FIRST QUARTER

Introduction to Retailing	VTIR 124-4	Product Information Laboratory	VTIR 177-5
Product Analysis	VTIR 176-3	English Composition	* GSD 101-3

## SECOND QUARTER

Product Information	
Laboratory	VTIR 177-5
Culture, Society, Behavior	GSB 201b-3
Political Economy	GSB 211-3
English Composition	GSD 101-3
Elective	3

## THIRD QUARTER

Salesmanship	VTIR 127-3
Product Information	
Laboratory	VTIR 177-5
Retail Mathematics	VTIR 179-5
Oral Communication of Ideas	GSD 103-3

## SUMMER QUARTER

*(Off-Campus twelve weeks)*

Co-operative Work	
Experience	VTIR 201-12

## FOURTH QUARTER

*(On Campus eight weeks)*

Records and Statistics	VTIR 206-5
Personnel Management	VTIR 227-3
Labor Management Relations	
Problems	VTIG 232-4
<i>(Off Campus four weeks)</i>	
Co-operative Work	
Experience	VTIR 201-4

## FIFTH QUARTER

*(On Campus eight weeks)*

Merchandising Principles	VTIR 205-4
Retail Store Organization	
and Management	VTIR 224-4
Business Law	VTIB 226-4
<i>(Off Campus four weeks)</i>	
Co-operative Work	
Experience	VTIR 201-4

## SIXTH QUARTER

*(Off-Campus four weeks)*

Co-operative Work	
Experience	VTIR 201-4
<i>(On Campus eight weeks)</i>	
Sales Promotion	VTIR 207-4
Fashion Merchandising	VTIR 208-4
Retail Credits and	
Collections	VTIR 280-3
Personality Development	VTIS 125-2
or	
Job Orientation	VTIX 201-2

## RECOMMENDED ELECTIVES

Fundamentals of Business	VTIB 126-3
Office Administration	
and Supervision	VTIB 227-5
Calculating Machines	VTIK 101-3
Typewriting	VTIS 101-3

## CERTIFICATE PROGRAMS IN BUSINESS

*Bookkeeping-Clerical*

Major emphasis is on training which permits students to seek general clerical jobs in business offices as clerk-typists, payroll clerks, inventory clerks, and stock record clerks.

A minimum of 48 hours must be completed for graduation.

## FIRST QUARTER

Data Processing	
Mathematics	† VTIE 100-5
Calculating Machines	VTIK 101-3
Typewriting	VTIS 101-3
Filing and Duplicating	VTIS 107-2
English Composition	* GSD 101-3

## SECOND QUARTER

Accounting	VTIB 101-7
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Fundamentals of Business	VTIB 126-3
Typewriting	VTIS 101-3
Culture, Society,	
Behavior	GSB 201b-3

## THIRD QUARTER

Calculating Machines	VTIK 101-3
Clerical Procedures	VTIL 111-5
Typewriting	VTIS 101-3

† Students who score below a satisfactory level on the mathematics part of the A.C.T. examinations must take VTIG 106-0 prior to taking VTIE 100-5.

\* Students who score below a satisfactory level on the English part of the A.C.T. examinations must take GSD 100-0 prior to taking GSD 101-3.

Personality Development	VTIS 125-2	Business Correspondence	VTIG 101-3
or		Calculating Machines	VTIK 101-3
Job Orientation	VTIX 201-2	Culture, Society,	
Political Economy	GSB 211b-3	Behavior	GSB 201c-3
RECOMMENDED ELECTIVES		English Composition	GSD 101-3
Accounting	VTIB 101-5	Oral Communication	
		of Ideas	GSD 103-3

### *Calculating Machines*

Major emphasis is on training which will enable students to become occupationally proficient in the operation of the major types of machines such as the adding machines, rotary calculators, key driven calculators, accounting machines, key punches, and verifiers.

An minimum of 50 hours must be completed for graduation.

FIRST QUARTER		THIRD QUARTER	
Calculating Machines	VTIK 101-3	Calculating Machines	VTIK 101-3
Typewriting	VTIS 101-3	Punched Card	
Filing and Duplicating	VTIS 107-2	Preparation	VTIB 109-3
Data Processing		Fundamentals of Business	VTIB 126-3
Mathematics	† VTIE 100-5	Personality Development	VTIS 125-2
English Composition	* GSD 101-3	or	
SECOND QUARTER		Job Orientation	VTIX 201-2
Calculating Machines	VTIK 101-3	Political Economy	GSB 211b-3
Clerical Procedures	VTIL 111-5	Oral Communication of Ideas	GSD 103-3
Typewriting	VTIS 101-3	RECOMMENDED ELECTIVES	
Culture, Society,		Accounting	VTIB 101-7
Behavior	GSB 201b-3	Business Correspondence	VTIG 101-3
English Composition	GSD 101-3	Typewriting	VTIS 101-3
		Culture, Society, Behavior	GSB 201c-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 69 hours must be completed for graduation.

FIRST QUARTER		THIRD QUARTER	
Typewriting	VTIS 101-3	Calculating Machines	VTIK 101-3
Shorthand	VTIS 104-7	English Composition	GSD 101-3
Filing and Duplicating	VTIS 107-2	Typewriting	VTIS 101-3
Fundamentals of Business	VTIB 126-3	Shorthand	VTIS 104-5
English Composition	* GSD 101-3	Transcription	VTIS 105-2
SECOND QUARTER		Personality Development	VTIS 125-2
Typewriting	VTIS 101-3	Business Correspondence	VTIG 101-3
Shorthand	VTIS 104-5	Culture, Society,	
Transcription	VTIS 105-2	Behavior	GSB 201b-3

## FOURTH QUARTER

Typewriting  
 Secretarial Office  
 Procedures  
 Political Economy  
 Oral Communication  
 of Ideas  
 Elective

VTI S 205-3  
 VTI S 223-5  
 GSB 211b-3  
 GSD 103-3  
 3

## RECOMMENDED ELECTIVES

Typewriting  
 Transcription  
 Shorthand  
 Secretarial Accounting  
 Data Processing  
 Mathematics  
 Calculating Machines

VTI S 205-3  
 VTI S 221-2  
 VTI S 209-5  
 VTI B 104-5  
 † VTIE 100-5  
 VTI K 101-3

## 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 to meet individual needs.

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 128 quarter hours.

Graduates are qualified for positions as estimators, technical assistants, draftsmen, engineering aids, commercial artists, servicemen, factory representatives, and technicians in the fields of radio, electronics, television, building construction, dental laboratory work, industrial woodworking, machine tool, printing, dental hygiene, mortuary science and funeral directing, and data processing.

† Students who score below a satisfactory level on the mathematics part of the A.C.T. examinations must take VTIG 106-0 prior to taking VTIE 100-5.

\* Students who score below a satisfactory level on the English part of the A.C.T. examinations must take GSD 100-0 prior to taking GSD 101-3.

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 in the architectural profession. It leads to employment in the architectural field, generally beginning as a draftsman, affording an opportunity for advancement in such areas as project co-ordination, specification writing, architectural design, structural and mechanical engineering, and construction supervision.

Several field trips to nearby cities to study historical and contemporary architecture are made each school year. Allowance should be made for the purchase of small amounts of equipment and supplies.

A minimum of 99 hours must be completed for graduation.

#### FIRST QUARTER

Architectural Drafting	VTID 110-5	Structural Elements	VTID 258-4
Freehand Architectural Graphics	VTID 146-3	Introduction to Physical Science	GSA 101-3
History of Architecture	VTID 147-3		
Technical Mathematics	‡ VTIG 107-3		
English Composition	* GSD 101-3		

#### SECOND QUARTER

Architectural Design	VTID 121-4	Architectural Design	VTID 221-4
Freehand Architectural Graphics	VTID 146-3	Materials and Methods of Construction	VTID 250-3
Basic Materials of Construction	VTID 150-3	Construction Cost Estimating	VTID 283-3
Culture, Society, Behavior	GSA 201b-3	Theory of Structures	VTID 290-3
College Algebra	‡ GSD 114a-3	Political Economy	GSB 211b-3

#### THIRD QUARTER

Architectural Design	VTID 121-4	Architectural Design	VTID 221-4
Materials and Methods of Construction	VTID 151-3	Materials and Methods of Construction	VTID 250-4
Mechanics and Strength of Materials	VTID 153-4	Mechanical Equipment of Buildings	VTID 254-4
Introduction to Physical Science	GSA 101-3	Theory of Structures	VTID 290-3
Trigonometry	GSD 114c-3	Job Orientation	VTIX 201-2

#### FOURTH QUARTER

Site Engineering	VTID 152-2		
Architectural Design	VTID 221-4		
Materials and Methods of Construction	VTID 250-3		

#### FIFTH QUARTER

Architectural Design	VTID 221-4
Materials and Methods of Construction	VTID 250-3
Construction Cost Estimating	VTID 283-3
Theory of Structures	VTID 290-3
Political Economy	GSB 211b-3

#### SIXTH QUARTER

Architectural Design	VTID 221-4
Materials and Methods of Construction	VTID 250-4
Mechanical Equipment of Buildings	VTID 254-4
Theory of Structures	VTID 290-3
Job Orientation	VTIX 201-2

#### RECOMMENDED ELECTIVES

Fundamentals of Business	VTI B 126-3
Business Law	VTI B 226-4
Architectural Rendering	VTID 246-3
Office Practice	VTID 285-3
Business Correspondence	VTIG 101-3
Labor Management Relations	
Problems	VTIG 232-4
Typewriting	VTIS 101-3

### *Automotive Technology*

This technical training acquaints the student with the basic principles of operation, rather than diversified application of those principles, and reduces the time required to surpass journeyman standards of diagnosis and repair.

A minimum of 96 hours must be completed for graduation.

#### FIRST QUARTER

Automotive Laboratory— Engines	VTI A 101-5
Automotive Theory— Engines	VTI A 125-5
Technical Drafting	VTI D 175-3
Technical Mathematics	‡ VTI G 107-3

#### SECOND QUARTER

Automotive Laboratory— Brakes and Steering	VTI A 101-5
Automotive Theory— Brakes and Steering	VTI A 125-5
Introduction to Physical Science	GSA 101-3
English Composition	* GSD 101-3

#### THIRD QUARTER

Automotive Laboratory— Ignition and Carburetion	VTI A 101-5
Automotive Theory— Ignition and Carburetion	VTI A 125-5
Basic Machine Shop Practice	VTI M 175-3
English Composition	GSD 101-3

#### FOURTH QUARTER

Automotive Laboratory— Drive Trains	VTI A 201-5
Automotive Theory—Transmissions and Drive Trains	VTI A 220-3

Oxy-Acetylene and Electric Arc Welding	VTI W 175-3
Oral Communication of Ideas Elective	GSD 103-3 2-5

#### FIFTH QUARTER

Automotive Laboratory— Transmissions	VTI A 201-5
Automotive Theory— Automatic Transmissions	VTI A 220-5
Metallurgy	VTI M 275-3
Culture, Society, Behavior	GSB 201b-3

#### SIXTH QUARTER

Automotive Laboratory— Engine Rebuilding	VTI A 201-5
Automotive Theory— Engine Rebuilding	VTI A 220-3
Job Orientation	VTI X 201-2
Political Economy	GSB 211b-3
Elective	3

#### RECOMMENDED ELECTIVES

Fundamentals of Business	VTI B 126-3
Record Keeping	VTI B 229-2
Typewriting	VTI S 101-3
Welding Laboratory— Oxy-Acetylene	VTI W 101-7
Welding Theory— Oxy-Acetylene	VTI W 125-3

### *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.

‡ Students who score below a satisfactory level on the mathematics part of the A.C.T. examinations must take VTI G 106-0 prior to taking VTI G 107-3 and GSD 114-3.

\* Students who score below a satisfactory level on the English part of the A.C.T. examinations must take GSD 100-0 prior to taking GSD 101-3.

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

A minimum of 101 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 201b-3
College Algebra	‡ GSD 114a-3

#### THIRD QUARTER

Materials and Methods of Construction	VTI D 151-3
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#### Mechanics and Strength

of Materials	VTI D 153-4
Production Woodworking—Machines	VTI F 101-4
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 250-3
Structural Elements	VTI D 258-4
Mechanical Services for Residential Building—Sanitary	VTI D 265-2
Production Woodworking—Light Frame Construction	VTI F 201-5

#### 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 101-4
Production Woodworking—Prefabrication	VTI F 201-5

#### SIXTH QUARTER

Construction	VTI D 210-3
Business Law	VTI B 226-4
Wood Finishing	VTI F 129-2
Labor Management Relations Problems	VTI G 232-4
Political Economy	GSB 211b-3

#### RECOMMENDED ELECTIVES

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

### *Commercial Art*

This program will enable the serious, career-minded student to meet the exacting demands of today's advertising field and industry. Only pro-



professional know-how is taught in a professional atmosphere by practicing professional artists. Student laboratories, problem assignments, and work standards closely parallel those in the field in which the student, upon graduating, will be engaged.

Successful completion of this curriculum culminates with the preparation of a portfolio of professionally acceptable samples which will enable the student to compete, not only in his chosen field, but in most phases of commercial art pertinent to a successful and interesting career.

A minimum of 102 hours must be completed for graduation.

#### FIRST QUARTER

Art Analysis	VTIN 101-3
Techniques—Theory and Practice	VTIN 125-10
English Composition	* GSD 101-3

#### SECOND QUARTER

Advertising Design and Production	VTIN 130-10
Business Correspondence	VTIG 101-3
Culture, Society, Behavior	GSB 201b-3

#### THIRD QUARTER

Introductory Advertising and Story Illustration	VTIN 140-10
Technical Writing	VTIG 102-3
Political Economy	GSB 211b-3

#### FOURTH QUARTER

Advertising and Story Illustration Theory and Practice	VTIN 210-8
Technical Illustration Theory and Practice	VTIN 230-8

#### Job Orientation

VTI X 201-2

#### FIFTH QUARTER

Advertising and Story Illustration Theory and Practice	VTIN 210-9
Technical Illustration Theory and Practice	VTIN 230-9

#### SIXTH QUARTER

Advertising and Story Illustration Theory and Practice	VTIN 210-9
Technical Illustration Theory and Practice	VTIN 230-9

#### RECOMMENDED ELECTIVES

Printing Laboratory—Hand Platen	VTI J 101-6
Printing Layout and Design	VTI J 153-3
Estimating and Costs in Printing	VTI J 251-3
Oral Communication of Ideas	GSD 103-3

‡ Students who score below a satisfactory level on the mathematics part of the A.C.T. examinations must take VTIG 106-0 prior to taking VTIG 107-3 and GSD 114-3.

\* Students who score below a satisfactory level on the English part of the A.C.T. examinations must take GSD 100-0 prior to taking GSD 101-3.

### *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 (sealing 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.

This program is provisionally approved by the Council on 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 American Dental Hygienists' Association. This is a prerequisite for admission to the program.

One hundred hours of credit and the approval of the faculty are required 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		Dental Nutrition	VTI Y 139-3
Orientation to Dental		Dental Pharmacology	VTI Y 140-2
Hygiene	VTI Y 130-2	Oral Communication	
Head and Neck Anatomy	VTI Y 132-4	of Ideas	GSD 103-3
Oral Basic Science	VTI Y 135-4		
Introduction to		FOURTH QUARTER	
Physiology	VTI G 141-5	Clinical Dental Hygiene	VTI Y 210-5
English Composition	* GSD 101-3	Dental Assisting	VTI Y 213-3
		Dental Ethics and	
SECOND QUARTER		Administration	VTI Y 216-2
Head and Neck Anatomy	VTI Y 132-4	Clinical Dental	
Oral Basic Science	VTI Y 135-4	Roentgenology	VTI Y 218-2
Preclinical Dental		Culture, Society, Behavior	GSD 201b-3
Hygiene	VTI Y 137-4		
Inorganic and Organic		FIFTH QUARTER	
Chemistry	VTI G 115-3	Clinical Dental Hygiene	VTI Y 210-5
English Composition	GSD 101-3	Dental Assisting	VTI Y 213-3
		Dental Health Education	VTI Y 217-2
THIRD QUARTER		Clinical Dental	
Oral Basic Science	VTI Y 135-3	Roentgenology	VTI Y 218-2
Preclinical Dental		Introduction to Public	
Hygiene	VTI Y 137-4	Health	HED 355-4

SIXTH QUARTER

Clinical Dental Hygiene	VTI Y 210-5
Culture, Society, Behavior	GSB 201c-3
First Aid	HED 334S-4
Elective	6

RECOMMENDED ELECTIVES

Record Keeping	VTI B 229-2
Typewriting	VTI S 101-3
Political Economy	GSB 211b-3
Introduction to Teaching	EDAD 100-3
Communicable Diseases	HED 300-3

Dental Laboratory Technology

A dental technician is an individual trained and educated to perform one or more phases of the dental laboratory procedures required in the fabrication of dental prosthetic appliances. He may work in a dentist's office or he may find employment in an approved dental laboratory. Each student is required to purchase a kit of instruments, for which he should set aside about \$60 in addition to regular fees paid to the University.

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, and has been fully approved by that 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 102 hours must be completed for graduation.

FIRST QUARTER

Dental Prosthetics	VTI Y 101-9
Technical Mathematics	‡ VTI G 107-3
English Composition	* GSD 101-3

SECOND QUARTER

Dental Prosthetics	VTI Y 101-9
Science of Dental Materials	VTI Y 113-3
Oral Anatomy	VTI Y 128-2
Introduction to Physical Science	GSA 101-3

THIRD QUARTER

Dental Prosthetics	VTI Y 101-9
Introduction to Physiology	VTI G 141-5
Metallurgy	VTIM 275-3

FOURTH QUARTER

Crown and Bridgework	VTI Y 201-9
Inorganic and Organic Chemistry	VTI G 115-3



‡ Students who score below a satisfactory level on the mathematics part of the A.C.T. examinations must take VTI G 106-0 prior to taking VTI G 107-3.  
\* Students who score below a satisfactory level on the English part of the A.C.T. examinations must take GSD 100-0 prior to taking GSD 101-3.

Culture, Society, Behavior  
Elective

GSB 201b-3  
3

Professional Ethics  
Electives

VTI X 202-2  
6

#### FIFTH QUARTER

Crown and Bridgework  
Business Correspondence  
Political Economy  
Elective

VTI Y 201-9  
VTI G 101-3  
GSB 211b-3  
3

#### RECOMMENDED ELECTIVES

Fundamentals of Business  
Record Keeping  
Calculating Machines  
Typewriting  
Introduction to Physical  
Science  
College Algebra

VTI B 126-3  
VTI B 229-2  
VTI K 101-3  
VTI S 101-3

#### SIXTH QUARTER

Crown and Bridgework

VTI Y 201-9

GSA 101-3  
GSD 114-3

### *Electronics Technology*

The purpose of this program is to provide the student with the necessary knowledge and skills for employment in many areas of industrial 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 that students have a strong background in high school mathematics and science.

A minimum of 102 hours must be completed for graduation.

#### FIRST QUARTER

Electronic Laboratory—  
AC, DC  
Electronic Theory—  
AC, DC  
Technical Mathematics

VTI T 101-7  
VTI T 125-5  
‡ VTI G 107-3

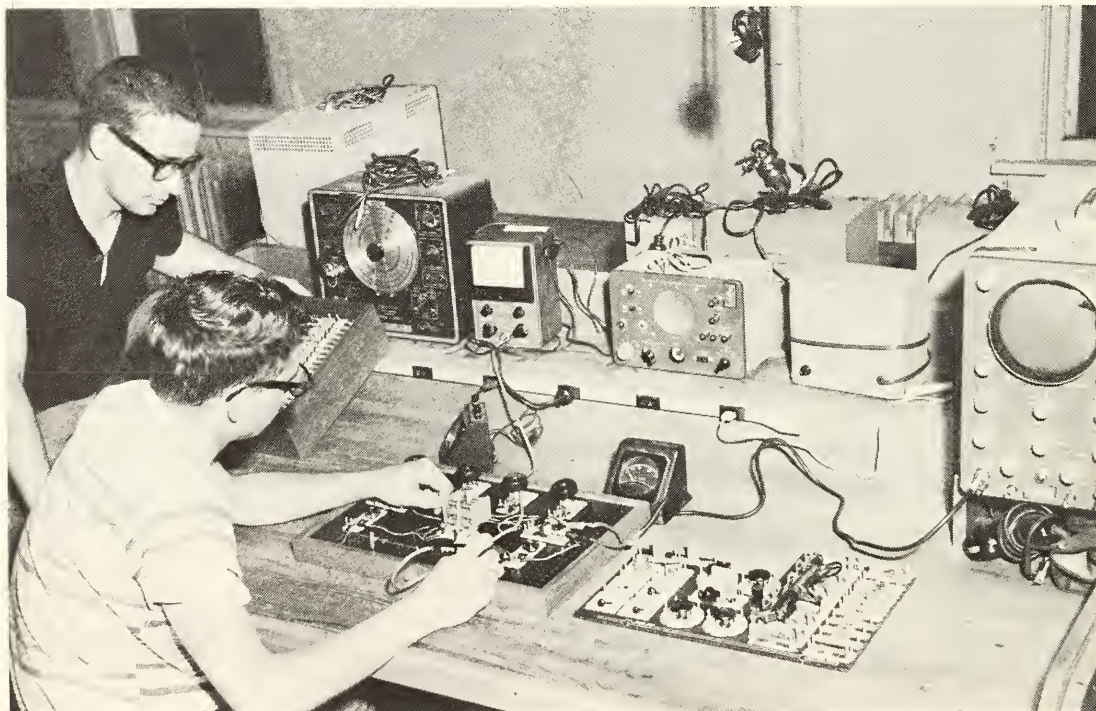
Introduction to Physical  
Science

GSA 101-3

#### SECOND QUARTER

Electronic Laboratory—Vacuum  
Tube and Transistors

VTI T 101-7



Electronic Theory—Vacuum Tube and Transistors	VTI T 125-5	FIFTH QUARTER—Option II	Principles of Television	VTI T 202-5
Introduction to Physical Science	GSA 101-3	Television Circuits and Systems	VTI T 226-5	
College Algebra	‡ GSD 114-3	Industrial Circuits	VTI T 232-3	
THIRD QUARTER		Culture, Society, Behavior	GSB 201b-3	
Electronic Laboratory— Transmitter and Receiver	VTI T 101-7	SIXTH QUARTER—Option I		
Electronic Theory— Transmitter and Receiver	VTI T 125-5	Electronic Laboratory— Service Problems	VTI T 201-5	
English Composition	* GSD 101-3	Electronic Theory— Service Principles	VTI T 225-5	
Trigonometry	GSD 114c-3	Color Television	VTI T 229-3	
FOURTH QUARTER		Political Economy	GSB 211b-3	
Electronic Laboratory—Transistor and Vacuum Tube	VTI T 201-5	SIXTH QUARTER—Option II		
Electronic Theory—Transistor and Vacuum Tube	VTI T 225-5	Microwave, Servo, Ultrasonic, and Radar	VTI T 205-5	
Federal Communications Commission License	VTI T 228-3	Color Television	VTI T 229-3	
Technical Writing	VTI G 102-3	Industrial and Microwave Systems	VTI T 231-5	
FIFTH QUARTER—Option I		Political Economy	GSB 211b-3	
Electronic Laboratory—Pulse Circuits and Microwave	VTI T 201-5	RECOMMENDED ELECTIVES		
Electronic Theory—Pulse Circuits and Microwave	VTI T 225-5	Technical Drafting	VTI D 175-3	
Industrial Circuits	VTI T 232-3	Labor Management Relations Problems	VTI G 232-4	
Culture, Society, Behavior	GSB 201b-3	Salesmanship	VTI R 127-3	
		Typewriting	VTI S 101-3	
		Oral Communication of Ideas	GSD 103-3	

### *Electronic Data Processing (Industrial and Scientific Option)*

This program provides training in the technical skills underlying the installation, operation, and maintenance of data acquisition and computing equipment as applied to scientific and 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.

A minimum of 102 hours must be completed for graduation.

#### FIRST QUARTER

Data Processing		Introduction to Physical	
Mathematics	† VTI E 100-5	Science	GSA 101-3
Automatic Data Processing		English Composition	* GSD 101-3
Machines	VTI E 101-3	College Algebra	‡ GSD 114-3

‡ Students who score below a satisfactory level on the mathematics part of the A.C.T. examinations must take VTI G 106-0 prior to taking VTI G 107-3 and GSD 114.

\* Students who score below a satisfactory level on the English part of the A.C.T. examinations must take GSD 100-0 prior to taking GSD 101-3.

† Students who score below a satisfactory level on the mathematics part of the A.C.T. examinations must take VTI G 106-0 prior to taking VTI E 100-5 and GSD 114-3.

SECOND QUARTER		Technical Writing	VTI G 102-3
Data Processing		Inorganic and Organic	
Mathematics	VTI E 100-4	Chemistry	VTI G 115-3
Automatic Data Processing		FIFTH QUARTER	
Machines	VTI E 101-5	Scientific Computer	
Introduction to Physical		Programming	VTI E 202-5
Science	GSA 101-3	Programming Systems	VTI E 206-3
English Composition	GSD 101-3	Business Statistics	VTI B 235-4
College Algebra	GSD 114-3	Political Economy	GSB 211-3
THIRD QUARTER		Oral Communication	
Computer Programming	VTI E 103-5	of Ideas	GSD 103-3
Data Processing		SIXTH QUARTER	
Applications	VTI E 104-3	Programming Systems	VTI E 206-7
Data Processing		Data Processing Field	
Information	VTI E 107-2	Project	VTI E 207-3
Labor Management Relations		Culture, Society, Behavior	GSB 201b-3
Problems	VTI G 232-4	Political Economy	GSB 211-3
Trigonometry	GSD 114-3	RECOMMENDED ELECTIVES	
FOURTH QUARTER		Accounting	VTI B 101-7
Scientific Computer		Business Law	VTI B 226-8
Programming	VTI E 202-5	Office Administration and	
Systems Design and		Supervision	VTI B 227-5
Development	VTI E 205-5	Calculating Machines	VTI K 101-6

### *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 expeditors, cost estimators, and field service representatives.

In the major courses, 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 96 hours must be completed for graduation.

#### FIRST QUARTER

Graphics	VTI D 101-7	Manufacturing Processes	VTI M 176-3
Technical Mathematics	† VTI G 107-3	English Composition	* GSD 101-3

SECOND QUARTER		Machine Drafting	
Graphics	VTI D 101-7	and Design	VTI D 201-7
Manufacturing Processes	VTI M 176-3	Strength of Materials	VTI D 226-3
Introduction to Physical Science	GSA 101-3	Political Economy	GSB 211-3
College Algebra	‡ GSD 114-3	SIXTH QUARTER	
THIRD QUARTER		Machine Drafting	
Graphics	VTI D 101-7	and Design	VTI D 201-7
Introduction to Physical Science	GSA 101-3	Tool Design	VTI D 227-3
Culture, Society, Behavior	GSB 201b-3	Metallurgy	VTI M 275-3
Trigonometry	GSD 114c-3	Oral Communication of Ideas	GSD 103-3
FOURTH QUARTER		RECOMMENDED ELECTIVES	
Machine Drafting and Design	VTI D 201-7	Business Correspondence	VTI G 101-3
Kinematics	VTI D 225-3	Technical Writing	VTI G 102-3
Metallurgy	VTI M 275-3	Machine Tool Laboratory—Engine and Bench	VTI M 101-5
Political Economy	GSB 211-3	Machine Tool Theory—Engine and Bench	VTI M 125-3
FIFTH QUARTER		Machine Tool Laboratory—Milling Machines	VTI M 201-5
Electrical, Hydraulic, and Pneumatic Controls	VTI D 127-3	Machine Tool Theory—Milling Machines	VTI M 225-3
		Welding Laboratory—Oxy-Acetylene	VTI W 101-7
		English Composition	GSD 101-3

Machine Tool Technology

This program provides knowledge and abilities which are required in industries for services of technical operators of machines and equipment. Graduates accept jobs as inspectors, test technicians, tool and die makers, planners, operators of mechanical equipment, tool inspectors, and tool room technicians. With additional experience they may advance to positions as tool room supervisors, tooling foremen, expeditors, and tool and machine salesmen.

Emphasis is placed on modern machines and hand tools, production tooling, jig 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 and heat treatment of metals, applied mathematics, technical drafting, and human relations aspects of our American industrial life.

A minimum of 101 hours must be completed for graduation.

FIRST QUARTER		SECOND QUARTER	
Machine Tool Laboratory—Engine and Bench	VTI M 101-5	Machine Tool Laboratory—Shaper and Planer	VTI M 101-5
Machine Tool Theory—Engine and Bench	VTI M 125-5	Machine Tool Theory—Shaper and Planer	VTI M 125-3
Technical Drafting	VTI D 175-3	Technical Drafting	VTI D 175-3
Technical Mathematics	‡ VTI G 107-3		

English Composition	* GSD 101-3	Metallurgy	VTI M 275-3
College Algebra	‡ GSD 114-3	Introduction to Physical Science	GSA 101-3
THIRD QUARTER		Oral Communication of Ideas	GSD 103-3
Machine Tool Laboratory—Precision Measurements	VTI M 101-5	SIXTH QUARTER	
Machine Tool Theory—Precision Measurements	VTI M 125-3	Machine Tool Laboratory—Production Machines	VTI M 201-5
Culture, Behavior, and Society	GSB 201b-3	Machine Tool Theory—Production Machines	VTI M 225-3
Trigonometry	GSD 114c-3	Metallurgy	VTI M 275-3
Elective	3	Political Economy	GSB 211-3
FOURTH QUARTER		Elective	3
Machine Tool Laboratory—Milling Machines	VTI M 201-5	RECOMMENDED ELECTIVES	
Machine Tool Theory—Milling Machines	VTI M 225-3	Graphics	VTI D 101-7
Technical Drafting	VTI D 175-3	Machine Drafting and Design	VTI D 201-7
Introduction to Physical Science	GSA 101-3	Business Correspondence	VTI G 101-3
Political Economy	GSB 211-3	Technical Writing	VTI G 102-3
FIFTH QUARTER		Labor Management Relations Problems	VTI G 232-4
Machine Tool Laboratory—Grinding	VTI M 201-5	Typewriting	VTI S 101-3
Machine Tool Theory—Grinding	VTI M 225-3	Oxy-Acetylene and Electric Arc Welding	VTI W 175-3
		Job Orientation	VTI X 201-2
		English Composition	GSD 101-3

### *Mortuary Science and Funeral Service*

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

A minimum of 128 hours must be completed for graduation.

FIRST QUARTER		THIRD QUARTER	
The Funeral; History and Customs	VTI U 101-3	Accounting	VTI B 101-7
General Inorganic Chemistry	CHEM 110-4	Principles of Physiology	GSA 301-4
Culture, Society, Behavior	GSB 201-3	Oral Communication of Ideas	GSD 103-3
Political Economy	GSB 211-3	Elective	2
English Composition	* GSD 101-3	FOURTH QUARTER	
SECOND QUARTER		Accounting	VTI B 101-5
The Funeral; History and Customs	VTI U 101-3	Human Anatomy	PHSL 300-4
Organic Chemistry	CHEM 240-4	Psychology of Personality	PSYC 305-4
Culture, Society, Behavior	GSB 201-3	Culture, Society, Behavior	GSB 201-3
Political Economy	GSB 211-3	FIFTH QUARTER	
English Composition	GSD 101-3	Restorative Art	VTI U 202-3
		Introduction to Embalming	VTI U 203-3

Pathology	VTI U 205-3	Embalming Theory	
Social Psychology	PSYC 307-4	and Practice	VTI U 225-5
Elective	3	Mortuary Management	VTI U 250-3
		Elective	3
SIXTH QUARTER			
Pathology	VTI U 205-3	EIGHTH QUARTER	
Embalming Theory		Business Law	VTI B 226-4
and Practice	VTI U 225-5	Embalming Theory	
Communicable Diseases	HED 300-3	and Practice	VTI U 225-5
Principles of		Mortuary Management	VTI U 250-3
Microbiology	MICR 100-5	Elective	4
SEVENTH QUARTER			
Public Health, Laws		RECOMMENDED ELECTIVES	
and Regulations	VTI U 208-2	Business Law (b)	VTI B 226-4
Psychology of Funeral		Cosmetology Theory	VTI C 125-5
Service	VTI U 210-3	Introduction to Music	GSC 100-3
		First Aid	HED 334S-4
		Analysis of Divine Belief	REL 212-2

### *Printing Technology*

Employment opportunities in the graphic arts industry, composed of printing, publishing, and allied businesses, are available to students who have college training and are familiar with the technical processes of printing. This program prepares students to enter printing trades.

A minimum of 97 hours must be completed for graduation.

FIRST QUARTER			
Printing Laboratory—		Printing Theory—Offset	
Hand Platen	VTI J 101-6	Presswork and Camera	VTI J 125-3
Printing Theory—		Culture, Society, Behavior	GSB 201b-3
Hand Platen	VTI J 125-3	English Composition	GSD 101-3
Proofreading	VTI J 152-3	FOURTH QUARTER	
English Composition	* GSD 101-3	Printing Laboratory—	
		Linotype, Intertype	VTI J 201-6
SECOND QUARTER			
Printing Laboratory—		Printing Theory—	
Automatic Platen	VTI J 101-6	Linotype, Intertype	VTI J 225-3
Printing Theory—		Labor Management Relations	
Automatic Platen	VTI J 125-3	Problems	VTI G 232-4
Printing Layout and		Oral Communication	
Design	VTI J 153-3	of Ideas	GSD 103-3
Technical Mathematics	‡ VTI G 107-3	FIFTH QUARTER	
Elective	3	Printing Laboratory—	
		Linotype, Ludlow	VTI J 201-6
THIRD QUARTER			
Printing Laboratory—Offset		Printing Theory—	
Presswork and Camera	VTI J 101-6	Linotype, Ludlow	VTI J 225-3
		Political Economy	GSB 211b-3
		Elective	3

‡ Students who score below a satisfactory level on the mathematics part of the A.C.T. examinations must take VTI G 106-0 prior to taking VTI G 107-3 and GSD 114-3.

\* Students who score below a satisfactory level on the English part of the A.C.T. examinations must take GSD 100-0 prior to taking GSD 101-3.

## SIXTH QUARTER

Printing Laboratory—Letterpress and Offset Production	VTI J 201-6
Printing Theory—Letterpress and Offset Production	VTI J 225-3
Estimating and Costs in Printing	VTI J 251-3
Electives	5

## RECOMMENDED ELECTIVES

Business Law	VTI B 226-4
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
Culture, Society, Behavior	GSB 201c-3
Political Economy	GSB 211a-3

*Woodworking Technology*

These courses provide training for positions in the rapidly expanding woodworking industries. New developments in wood utilization in building and construction, manufacturing, and wood research laboratories provide increasing opportunities in the various woodworking occupations. Graduates find employment as construction estimators, kiln technologists, production specialists, and technicians in furniture and millworking plants.

A minimum of 101 hours must be completed for graduation.

## FIRST QUARTER

Production Woodworking— Machines	VTI F 101-8
Wood Technology	VTI F 128-4
Basic Woodworking Drafting	VTI D 178-3
English Composition	* GSD 101-3

Wood Preservation	VTI F 232-2
Basic Materials of Construction	VTI D 150-3
Culture, Society, Behavior	GSB 201b-3

## SECOND QUARTER

Production Woodworking— Cabinet and Millwork	VTI F 101-8
Lumber Seasoning	VTI F 130-2
Lumber Grading	VTI F 131-2
Technical Writing	VTI G 102-3
Technical Mathematics	‡ VTI G 107-3

## FIFTH QUARTER

Production Woodworking— Prefabrication	VTI F 201-8
Political Economy	GSB 211-3
Electives	6

## THIRD QUARTER

Production Woodworking— Furniture Construction	VTI F 101-8
Wood Finishing	VTI F 129-2
Furniture Drafting and Design	VTI D 179-3
Introduction to Physical Science	GSA 101-3

## SIXTH QUARTER

Production Woodworking— Manufacturing Processes	VTI F 201-8
Plant Organization and Operation	VTI F 250-3
Job Orientation	VTI X 201-2
Political Economy	GSB 211-3

## RECOMMENDED ELECTIVES

Record Keeping	VTI B 229-2
Business Correspondence	VTI G 101-3
Labor Management Relations Problems	VTI G 232-4
Calculating Machines	VTI K 101-3
Typewriting	VTI S 101-3

## FOURTH QUARTER

Production Woodworking— Light Frame	VTI F 201-8
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‡ Students who score below a satisfactory level on the mathematics part of the A.C.T. examinations must take VTI G 106-0 prior to taking VTI G 107-3.

\* Students who score below a satisfactory level on the English part of the A.C.T. examinations must take GSD 100-0 prior to taking GSD 101-3.

## CERTIFICATE PROGRAMS IN TECHNOLOGY

### *Cosmetology*

Cosmetology is one of the registered trades under the supervision of the Department of Registration and Education of the State of Illinois. The standards for the trade are established by state law.

This program in cosmetology offered by the institute meets State of Illinois standards as to the total time, teaching staff, equipment, facilities, library, and course content. Students must purchase uniforms and the makeup kit.

A minimum of 67 hours must be completed for graduation.

#### FIRST QUARTER

Cosmetology Laboratory	VTIC 101-9
Cosmetology Theory	VTIC 125-5
English Composition	* GSD 101-3

#### SECOND QUARTER

Cosmetology Laboratory	VTIC 101-9
Cosmetology Theory	VTIC 125-5
Culture, Society, Behavior	GSB 201b-3

#### THIRD QUARTER

Cosmetology Laboratory	VTIC 101-9
Cosmetology Theory	VTIC 125-5
Oral Communication of Ideas	GSD 103-3

#### FOURTH QUARTER

Cosmetology Laboratory	VTIC 101-9
Cosmetology Theory	VTIC 125-5
Record Keeping	VTIB 229-2

#### RECOMMENDED ELECTIVES

Inorganic and Organic Chemistry	VTIG 115-3
Salesmanship	VTIR 127-3
Personality Development	VTIS 125-2



### *Practical Nursing*

The practical nurse is a person trained to care for selected subacute, convalescent, and chronic patients and to assist the professional nurse in a team relationship, especially in the care of those acutely ill. She provides nursing service in private homes and in institutions. She may be employed by the lay public, hospitals, or health agencies. A practical nurse works

\* Students who score below a satisfactory level on the English part of the A.C.T. examinations must take GSD 100-0 prior to taking GSD 101-3.

only under the direct orders of a licensed physician or the supervision of a registered professional nurse.

This state-approved program includes a seventeen-week preclinical period of class work and thirty-two weeks of clinical training in actual care of patients in affiliated hospitals. The student wears the official school uniform throughout her year of training. Two classes start each year in the fall and spring quarters. Plans for admission should be made early as there are entrance requirements to be met before admission. Graduates of this program must pass the state examination in order to be licensed.

A minimum of 38 hours must be completed for graduation.

#### FIRST QUARTER

Nursing Practice and  
Theory  
Foods  
Health

VTI P 101-7  
VTI P 131-4  
VTI P 132-3

#### SECOND QUARTER

Nursing Practice and  
Theory  
Health  
Clinical Theory and  
Practice

VTI P 101-3  
VTI P 132-1  
VTI P 103-4

#### THIRD QUARTER

Clinical Theory and  
Practice

VTI P 103-8

#### FOURTH QUARTER

Clinical Theory and  
Practice

VTI P 103-8



### *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 non-ferrous 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. To complete the required number of quarter hours the student must choose additional courses from the list of recommended electives. A minimum of 49 hours must be completed for graduation.

## FIRST QUARTER

Welding Laboratory—	
Oxy-Acetylene	VTI W 101-7
Welding Theory—	
Oxy-Acetylene	VTI W 125-3
Technical Mathematics	‡ VTI G 107-3
English Composition	* GSD 101-3

## SECOND QUARTER

Welding Laboratory—Arc	VTI W 101-7
Welding Theory—Arc	VTI W 125-3
Technical Drafting	VTI D 175-3
Metallurgy	VTI M 275-3

## THIRD QUARTER

Welding Laboratory—	
Inert Arc	VTI W 101-7
Welding Theory—Specifications	
and Inspection	VTI W 125-3
Job Orientation	VTI X 201-2
Elective	5

## RECOMMENDED ELECTIVES

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

Introduction to Physical  
Science

GSA 101-3

Culture, Society, Behavior

GSB 201b-3

Political Economy

GSB 211b-3



## COURSE DESCRIPTIONS

## 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) Drive trains, including repair of differentials, over-drives, and two-speed automatic transmissions. (b) Repair of multiple gear-set transmissions. (c) Engine rebuilding. Development of skills required of the automotive machinist. Must be taken

‡ Students who score below a satisfactory level on the mathematics part of the A.C.T. examinations must take VTI G 106-0 prior to taking VTI G 107-3.

\* Students who score below a satisfactory level on the English part of the A.C.T. examinations must take GSD 100-0 prior to taking GSD 101-3.

in a,b,c or c,a,b sequence, concurrently with a corresponding section of 220. Prerequisite: 101c.

- 220-11 (3,5,3) **AUTOMOTIVE THEORY.** (a) Theory of operation of transmissions, overdrives, differentials, and two-speed automatic transmissions. (b) An advanced study of multiple gear-set automatic transmissions. (c) Engine rebuilding: the theory of restoring tolerances by the machining of engine parts. Must be taken in a,b,c or c,a,b sequence, concurrently with a corresponding section of 201. Prerequisite: (a) 125c; (b) 220a; (c) 101c.

### VTI B

- 101-16 (7,5,4) **ACCOUNTING.** (a) A study of the balance sheet, income statement, trial balance, journalizing and posting, sales, purchases, adjusting and closing entries, and periodic summaries, as applied to single proprietorships and partnerships. (b) Notes and interest, valuation of assets, the voucher system, payroll and tax accounting, and prepaid items. (c) Corporate organization and records, stocks and bonds, surplus and dividends, departmental and branch accounting, accounting for manufacturing analysis, and interpretation of financial statements. 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 statements, analysis of working capital, analytical and comparative percents, and analytical ratios; and (b) current assets, investments tangible fixed assets, intangible fixed assets, liabilities, reserves, and the statement or application of funds. 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 of torts, contracts, sales, liens, negotiable instruments, law of insurance agency, master and servant, real property, and landlord and tenant. (b) Legal problems in normal business relationships, including the law of contracts, agency, sales, bailments, negotiable instruments, insurance, private property, and business organization. Must be taken in a,b, sequence.
- 227-5 **OFFICE ADMINISTRATION AND SUPERVISION.** Principles of man-

agement 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. The preparation of the audit program, working papers, and reports are considered, and selected problems dealing with various asset, liability, and capital accounts are worked and discussed. Prerequisite: 204.
- 233-5 FEDERAL TAXES. Problem material in income, estates, and gift taxes as they affect individuals and various forms of business organization. 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

- 101-36 (9,9,9,9) 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, and 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.
- 201-4 to 12 STUDENT TEACHING IN COSMETOLOGY. Practical experience in teaching cosmetology as required by the Illinois Department of Registration and Education. Supervision under the direction of licensed instructors as per state regulations. Prerequisite: licensed cosmetologist in Illinois.
- 225-4 to 12 METHODS OF TEACHING COSMETOLOGY. Methods and principles of teaching as applied to cosmetology. Prerequisite: licensed cosmetologist in Illinois.

## VTI D

- 101-21 (7,7,7) GRAPHICS. (a) Sketching, lettering, instrument drawing, and dimensioning. (b) Principles of descriptive geometry and welding specifications. (c) Principles and practices in making, changing, and reproducing complete sets of drawings for both unit and mass production. Laboratory and lecture. Must be taken in a,b,c sequence. Prerequisites: (a) None. (b) VTIG 107 or consent of adviser. (c) Consent of adviser.
- 110-5 ARCHITECTURAL DRAFTING. Use of the drafting instruments; free-hand lettering; orthographic projections; shades and shadow; perspective construction using one-, two-, and three-point methods. Lecture and laboratory.
- 121-8 (4,4) ARCHITECTURAL DESIGN. A study of the principles of architectural planning, design, composition, and presentation. (a) Simple structures of a commercial and residential nature. (b) Complex structures and building groups. Lecture and laboratory. Must be taken in a,b, sequence. Prerequisites: 110, 146a,b, 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 hydraulic controls; and the operating principles of hydraulic 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 VTIG 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.
- 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.
- 151-3 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, staking out buildings and roads, check list for site plans. Lecture and laboratory. Prerequisite: 110 and GSD 116, 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 116 or concurrently, or consent of adviser.

- 175-9 (3,3,3) **TECHNICAL DRAFTING.** (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.
- 201-21 (7,7,7) **MACHINE DRAFTING AND DESIGN.** (a) Assigned problems involve the analysis of suitable mechanisms and the motions required. (b) Determination of forces, and the selection of materials and proportions to withstand the forces applied. (c) Designing of tools, dies, jigs, and fixtures. Must be taken in a,b,c sequence. 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 architectural 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 VTID 201a concurrently or consent of adviser.
- 226-3 **STRENGTH OF MATERIALS.** A study of the forces acting on the various parts of machines and the determination of suitable materials and proportions for those parts. Prerequisite: 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.
- 250-10 (3,3,4) **MATERIALS AND METHODS OF CONSTRUCTION.** Comprehensive study of materials and methods of construction including foun-

- dations, 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 major 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 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 major 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 the design of structural elements and use of the hand books. (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 A.C.T. mathematics score or VTIG 106.
- 101-8 (3,5) AUTOMATIC DATA PROCESSING MACHINES. The development of data processing systems covering the history of, need for, and function of automatic data processing equipment. (a) General concepts. (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. 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 re-

- ceivable, accounts payable, inventory control, and payroll. Prerequisite: 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 Fortran language system for the IBM 1620. Must be taken 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. (b) Complex problems involving magnetic tape using the Autocoder 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 of 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. Co-ordination of his activity is by the institute's data processing program co-ordinator; evaluation of his performance is by the manager of the co-operating center in conjunction with the academic adviser. Prerequisite: 206a.

### VTI F

- 101-24 (8,8,8) PRODUCTION WOODWORKING. Fundamentals of production woodworking, machine operation, cabinet making, millwork, and furniture construction. Lecture, laboratory, and field trip. (a) Production woodworking machines. (b) Cabinet and millwork. (c) Furniture construction. Building construction technology majors take this course for 4 hours of credit. Must be taken in a,b,c or b,a,c sequence.
- 128-4 WOOD TECHNOLOGY. Study of the structure, identification, and physical properties of wood.
- 129-2 WOOD FINISHING. Principles of wood finishing and finishing materials. Lecture and laboratory.
- 130-2 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.

- 201-24 (8,8,8) **PRODUCTION WOODWORKING.** Advanced machine operation, conventional light frame construction, prefabrication, production scheduling, and manufacturing methods. (a) Light frame construction. (b) Prefabrication methods. (c) Production processes. Building construction technology majors take this course for 5 hours of credit. Lecture, laboratory, and field trips. Must be taken in a,b,c sequence. Prerequisite: 101a.
- 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 cost. 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 A.C.T. mathematics score or 106.
- 115-3 **INORGANIC AND ORGANIC CHEMISTRY.** A study of inorganic and organic dental materials including impression and duplicating compounds, denture base materials, acrylic resin teeth and bridges, dental waxes, and porcelains.
- 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.
- 177-2 **ECONOMICS OF DISTRIBUTION.** A review of our economic system, markets, production value, price, etc., emphasizing the place and function of distribution in our national and world economy.
- 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*

- 112-3 JURY CHARGE. Material is dictated from actual jury charges from official records. Because this form is different from ordinary dictation, prospective court reporters need this practice. Prerequisites: VTIS 224, 230.
- 120-17 (7,5,5) 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 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.
- 123-4 (2,2) STENOGRAPH MACHINES TRANSCRIPTION. (a) 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. (b) Practice on transcription of notes taken from the dictation of familiar material, 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 according to modern business office standards. Must be taken in a,b sequence, concurrently with 120b,c. Prerequisite: 120a.
- 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: 123 or VTIS 209a and 221a.

*VTI J*

- 101-18 (6,6,6) COMPOSITION AND PRESSWORK LABORATORY. (a) Elementary composition and platen presswork. Application of the principles of hand composition, with emphasis on correct spacing, justification, and punctuation. Operation and care of a hand-fed platen press. (b) Advanced composition and automatic presswork. Techniques of tabular and multiple justification problems in hand composition. Type forms are set and prepared for two-color register printing. Operation and care of automatic platen and cylinder presses. (c) Elements of offset presswork and camera-work. Copy preparation, stripping of flats, plate making, and darkroom and camera procedures. Must be taken in a,b,c sequence, concurrently with a corresponding section of 125.
- 125-9 (3,3,3) COMPOSITION AND PRESSWORK THEORY. (a) Elementary composition and platen presswork. History and development of the print-

ing trade. A study of the California job case, rules for division of words, the printers' system of measurement, and techniques of printing with a platen press. (b) Advanced composition and automatic presswork. Procedures for setting complicated handset forms and for making up multiple forms involving both handset and machine types. An operation analysis is made for each of the automatic presses. (c) Elements of offset presswork and camerawork. Offset press techniques contrasted to letterpress. The kinds of reproducing plates that are available is discussed, and the procedures for operation of camera and darkroom equipment is analyzed. Must be taken in a,b,c sequence, concurrently with a corresponding section of 101.

- 152-3 PROOFREADING. A study of proofreaders' marks and their application to copy preparation and marking of printers' proofs. Application of spelling, punctuation, and word division, and adherence to office style.
- 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) MACHINE TYPESETTING AND PRODUCTION LABORATORY. (a) Principles of Linotype and Intertype operation, with emphasis on touch system. Practice in many types of machine composition. (b) Advanced Linotype and elements of Ludlow operation, with the application of tabular and broached rule composition. Operation of Ludlow type caster. (c) Advanced production printing, letterpress and offset. Application of the techniques learned in relation to real jobs in the shop. The paper drill, paper stitcher, and paper 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) MACHINE TYPESETTING AND PRODUCTION THEORY. (a) A study of the correct keyboard system for slug-casting machines, word division, and straight-matter composition procedures. (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. Prerequisites: 101a, 125a.
- 251-3 ESTIMATING AND COSTS IN PRINTING. How to estimate the amounts of ink and paper needed for a job. How to determine cost and price. 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*

- 111-5 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.

*VTI M*

- 101-15 (5,5,5) MACHINE TOOL LABORATORY. Supervised practice of operations. (a) Engine lathe and bench work. (b) Shaper and planer. (c) Precision measurement techniques. Must be taken in a,b,c or a,c,b sequence, concurrently with a corresponding section of 125.
- 125-11 (5,3,3) MACHINE TOOL THEORY. (a) Engine lathe and bench work. (b) Shaper and planer. (c) Precision measurement techniques. 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 PROCESSES. (a) Chip machining. (b) Chipless machining. May be taken in a,b or b,a sequence.
- 201-15 (5,5,5) MACHINE TOOL LABORATORY. Supervised projects involving: (a) Milling machines. (b) Precision grinding machines. (c) Production machines. May be taken in any sequence, concurrently with a corresponding section of 225. Prerequisite: 101a.
- 225-9 (3,3,3) MACHINE TOOL THEORY. (a) Milling machines. (b) Precision grinding machines. (c) Production machines. Must be taken concurrently with a corresponding section of 201. Prerequisite: 125a.
- 275-6 (3,3) METALLURGY. (a) Properties of steel, selection and heat treatment of steels, theory of alloys, and study of basic phase diagrams. (b) General characteristics of the metallic elements, study of constitutional and phase diagrams, study of micro-structures of metals and principal non-ferrous metals and their alloys. Must be taken in a,b 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: 125-10.
- 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: 130-10.

210-26 (8,9,9) **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 230. Prerequisite: 125c.

230-26 (8,9,9) **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 suitability. (c) Emphasis on advanced air-brush rendering, photo retouching, and technical manual publication. Must be taken in a,b,c sequence, concurrently with a corresponding section of 210. Prerequisite: 125c.

### VTI P

101-10 (7,3) **NURSING PRACTICE AND THEORY.** (a) Development of basic nursing skills in the classroom as well as in the patient setting, where the student's practice is carefully supervised. Concurrent nursing classes focus on the development of nursing ethics and an understanding of the legal rights and opportunities of a licensed Practical Nurse. (b) Development of advanced nursing skills, including first aid; aid through diversional and rehabilitative activities, in the restoration to useful activity of persons handicapped by disease or deformity; care of the well child, with emphasis on growth and development from infancy through adolescence. Study of the family setting and its influence, and of the normal problems of children. Must be taken in a,b sequence.

103-20 (4,8,8) **CLINICAL THEORY AND PRACTICE.** (a), (b), (c) may be taken concurrently. During the clinical period of 32 weeks, courses are concurrent, with the students rotating as closely as possible. The students rotate from one area of learning to another every six weeks. Prerequisite: 101. These supervised areas and courses include (1) nursing care of the aged, chronic, and convalescent; (2) nursing care of the sick child in regard to specific diseases found in children; (3) care of mothers, fetal development, normal pregnancy, prenatal care and post-partum nursing, routine care of the newborn, formula preparation, and disorders of the newborn; (4) nursing care of selected medical and surgical diseases; and (5) diet service of two weeks. Cluster classes are held each week in the individual hospitals relating to specific treatments and nursing care. This consists of a discussion group and exchange of ideas assisted by the instructor. Vocational opportunities are taught as an orientation to the possibilities of employment and information is given concerning nursing organizations.

- 131-4 FOODS. Meal planning, marketing, preparation, table service, and normal dietary needs.
- 132-4 (3,1) HEALTH. Emphasis on understanding the normal body functions as a basis for understanding deviations from normal in time of disease and the care which may be given a patient with particular disease. (a) Includes the scope of scientific knowledge which enables man to maintain vigorous health and guard against disease. Principles of individual hygiene and public health. (b) A preclinical introduction to the nursing care of patients for selected medical and surgical diseases. Must be taken in a,b sequence.

### VTI R

- 124-4 INTRODUCTION TO RETAILING. Distribution functions, modern store organization, history and background of modern retailing, and the basic responsibilities of the student in co-operative retailing.
- 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.
- 176-3 PRODUCT ANALYSIS. A background course in basic theories and principles of analyzing merchandise.
- 177-15 (5,5,5) PRODUCT INFORMATION LABORATORY. Basic theories and principles of analyzing merchandise and the study of how merchandise information is used. (a) An application to hardline, softline, food, and sundry merchandise. (b) A study of a particular line of merchandise. (c) An intensive study of merchandise or service of particular interest to the student, with emphasis on use of product information in buying and selling. Must be taken in a,b,c sequence. Prerequisites: (a) 176 or concurrently; (c) consent of adviser.
- 179-5 RETAIL MATHEMATICS. Analysis and calculations encountered daily in merchandising. Mark-up, mark-down, stock records, profits, expense, discount, budgeting.
- 201-4 to 20 CO-OPERATIVE WORK EXPERIENCE. Full-time training in a University-approved merchandising establishment for at least one 40-hour week per hour of credit. (a) Opportunity to learn the functional organization of the company, to become acquainted with the store system and policies, and to perform duties in at least one payroll job. Includes preparation of weekly reports, participation in periodic discussions with other trainees led by the co-ordinator, and completion of a written project assigned by the co-ordinator. (b) Work in a situation in which the co-ordinator and store supervisor agree offers opportunity for additional learning and experience. (c) Opportunity to survey and participate in some of the planning and preparation of sales promotion efforts of the training station. (d) Work in some supervisory or responsible position in the merchandising division of the store. Must be taken in a,b,c,d sequence except with consent of adviser.
- 205-4 MERCHANDISING PRINCIPLES. The buying process (what, where, how, and when to buy), orders, terms, prices, invoices, types of buying, trade relations, duties of the buyer or department manager.

- 206-5 RECORDS AND STATISTICS. Survey of systems of keeping and interpreting systematic retail records and statistics. Analyzing merchandising and expense-control data. Related technically to 205. Prerequisite: 179.
- 207-6 (2,4) SALES PROMOTION. Fundamentals of sales promotion and its relationship to advertising and display. (a) The principles and techniques of the physical presentation of merchandise. (b) The fundamentals of sales promotion and its relationship to all forms of publicity. Principles and techniques of retail advertising. May be taken in any sequence.
- 208-6 (4,2) FASHION MERCHANDISING. The influence of fashion in all phases of merchandising. Aid in forecasting fashion trends. Analysis and appreciation of color and line in design. Interpretation of the underlying factors which determine fashion. (a) Fashion as it applies to all phases of buying and selling of both textile and non-textile merchandise, basic principles of color line and design. Interpretation of factors influencing fashion. (b) Current fashion trends as determined from a survey of current fashion literature. May be taken in any sequence.
- 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, non-selling duties, insurance, and store policies.
- 227-3 PERSONNEL MANAGEMENT. Retail personnel management, employee relations, policies and techniques. Methods of recruitment, selection, placement, and training.
- 280-3 RETAIL CREDITS AND COLLECTIONS. Modern consumer credit management, consumer credit sales practices, collection procedures, legal aspects, human relations in the credit department, credit letters, trends.

### 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 on numbers and special symbols. (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. Must be taken in a,b,c sequence.
- 104-17 (7,5,5) SHORTHAND. (a) An introduction, utilizing demonstration, drills on word lists, practice in reading materials, intensive drills on brief forms, phrases, and word families. No credit for students who have had one year or more of shorthand instruction. (b) Vocabulary, brief forms, word families, English fundamentals, punctuation, and spelling aids. A minimum dictation rate of 80 words per minute is attained. (c) Emphasis on dictation, speed building, mailable transcripts, and sustained writing practice. A minimum dictation rate of 100 words per minute is attained. Must be taken in a,b,c sequence.
- 105-4 (2,2) TRANSCRIPTION. (a) Instruction in the principles of transcription, placement of letters, punctuation, spelling, vocabulary building, and

application of grammar. The transcription of business letters and reports according to business standards. (b) Building speed and accuracy in transcription. Practice in transcribing from "cold" notes and office-style dictation. Transcription speed of 25 words per minute is attained with much emphasis on spelling, punctuation, and English usage. Must be taken in a,b sequence, concurrently with 104b,c. Prerequisite: 101a.

107-2 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.

125-2 PERSONALITY DEVELOPMENT. (Required of all secretarial students majoring in one of the business programs.) Special instructional sessions offered on personal hygiene, personality, clothing, job application, and professional ethics.

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.

209-10 (5,5) SHORTHAND. (a) Emphasis on dictation and transcription leading to mailable copy according to modern business standards. A minimum dictation rate of 110 words per minute is attained. Attention is given to most-used business phrases, common business words and terms, spelling, English fundamentals, and shorthand theory. (b) Development of shorthand dictation skills leading to attractive and mailable transcribed copies at minimum speeds of 120 words per minute. Must be taken in a,b sequence. Prerequisite: 104c.

214-5 CO-OPERATIVE 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 major (in stenographic, nonstenographic, accounting, or office machines). 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 major.

218-4 CO-OPERATIVE 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 major. 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 major.

221-4 (2,2) TRANSCRIPTION. (a) The principles of transcription, placement of letters, punctuation, spelling, vocabulary building, and application of grammar according to modern business office standards. (b) 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, concurrently with 209a,b. Prerequisite: 101b.
- 223-5 SECRETARIAL OFFICE PROCEDURES. Handling office work in a detailed manner. Receiving callers, handling correspondence, planning itineraries, care of appointments, preparation of legal documents, personnel records, and telephone technique. Techniques of successful placement for employment are integrated with the placement counselor of the institute. Lecture and laboratory. Prerequisites: 104c, 105c.
- 224-5 LEGAL DICTATION SHORTCUTS. Dictation, involving special legal terms, vocabulary building, shortcuts in writing legal terms in Gregg shorthand, or in machine shorthand. Special phrasing, advanced brief forms, and technical terms needed in legal secretarial work. Prerequisites: 104c, 105c.
- 225-10 (5,5) MEDICAL DICTATION. (a) Advanced dictation involving medical terminology, phrasing, and vocabulary. Special terms and definitions are used in preview of materials found in the dictation for transcription. Emphasis on definitions, spelling, and shorthand writing of medical prefixes and suffixes. (b) Increasing speed and proficiency in the writing of medical case histories, medical phrases, and special medical terms. Medical secretarial techniques are stressed. Must be taken in a,b sequence. Prerequisites: 104c, 105c.
- 226-4 (2,2) MEDICAL TRANSCRIPTION. (a) Transcription from dictated notes, using terminology from general medicine and specialized related areas. Preparation of medical case histories, X-ray reports, and post-operative diagnosis. (b) Emphasis on increasing speed and proficiency of medical transcriptions. Advanced medical terms, special types of case histories, medical phrases, and special forms are included. Special medical secretarial techniques are stressed. Laboratory. Must be taken in a,b sequence, concurrently with 225a,b. Prerequisites: 104c, 105c.
- 230-2 LEGAL TRANSCRIPTION. Transcription from dictation notes peculiar to the work of a legal secretary or court stenographer. Special work in preparation of briefs, court testimony, and legal documents with State of Illinois Standard Form. Must be taken concurrently with 224.

### 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 and vacuum tube laboratory. (b) Pulse and microwave laboratory. (c) Service problems 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. Prerequisites: 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 and vacuum tube principles. (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.

### VTIU

- 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.
- 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 chemistry 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 de-

ceased human bodies. Lecture and laboratory. Must be taken in a,b,c sequence. Prerequisite: 203.

- 250-6 (3,3) 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.

### VTI W

- 101-21 (7,7,7) WELDING LABORATORY. (a) Oxy-acetylene welding of light gauge steel in all positions, fusion and hard soldering (brazing) in non-ferrous metals, and use of the oxy-acetylene cutting blowpipe, manual and machine. (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. Inert arc welding (heliarc) with ferrous and non-ferrous metals. Must be taken in a,b,c or b,c,a sequence, concurrently with a corresponding section of 125.
- 125-9 (3,3,3) WELDING THEORY. (a) Oxy-acetylene theory involving the proper use of welding and cutting blowpipes, acetylene generators, regulators, and proper techniques of welding and brazing ferrous and non-ferrous metals. (b) Theory of metallic arc welding including types of electrodes, welding machines, techniques, proper joints and inert arc (heliarc) machines and techniques. (c) Welding specifications and inspection methods dealing with weld testing methods, procedures and inspection that the student will encounter in the field. Must be taken in a,b,c or b,c,a sequence, concurrently with a corresponding section of 101.
- 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. 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 co-operating with the dental profession. Legal requirements of the technician and the dental laboratory.

### VTI Y

- 101-27 (9,9,9) DENTAL PROSTHETICS. (a) A detailed study of individual tooth form and surface anatomy, with emphasis on the relationship of form to function and on correct usage of nomenclature. (b) Removable partial denture construction including wire bending, soldering with gas and electric resistance, surveying and design and casting by means of lost wax pattern techniques. (c) Complete denture construction including

bite blocks, recording mandibular movements on an articulator, Hanau's laws of articulation, setting up full dentures in bi-lateral balance, carving and festooning, tooth form and selection, and the use of acrylic resins as well as metal bases. Must be taken in a,b,c sequence.

- 113-3 SCIENCE OF DENTAL MATERIALS. Principles of physical science with emphasis on the structure and behavior of materials used in dentistry.
- 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 symptomatology 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 symptoms 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: 130, VTIG 141.
- 139-3 DENTAL NUTRITION. Correlation of nutritional principles and needs with biochemistry to furnish a background for dental health education.
- 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: VTIG 115.
- 201-27 (9,9,9) CROWN AND BRIDGEWORK. (a) A study of the theory and practice of gold inlay, crowns, veneers, pontics and small bridges, carvings, investment casting, and soldering and polishing. (b) Theory and practice of advanced types of crown and bridgework and mouth rehabilitation as it involves laboratory procedures. (c) Dental ceramics and the use of precision attachments, working with dental porcelains and platinum matrices shadings, staining and glazing with the proper placement and parallelism of precision attachments used in removable bridgework. Must be taken in a,b,c sequence. Prerequisite: 101c.

- 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, VTIG 141, 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: VTIG 115, sophomore standing in dental hygiene.
- 216-2 **DENTAL ETHICS AND ADMINISTRATION.** Dental ethics, office administration, and legal regulations of dental practice and dental auxiliaries. Guest lecturers of recognized stature in the field. Lectures and field trips.
- 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 101, 102, 103, GSB 202, sophomore standing in dental hygiene.
- 218-4 (2,2) **CLINICAL DENTAL ROENTGENOLOGY.** Instruction in the production, use, and protection of X-radiation. (a) The theory and production of X-rays; radiation dosages and protection. (b) Techniques of exposing, developing, fixing and mounting X-ray films in surveying the teeth and oral cavity. Must be taken in a,b sequence. Prerequisites: 132, 137, VTIG 115, 141, sophomore standing in dental hygiene.

# Adult Education

## (Carbondale Campus)

ADULT EDUCATION is becoming 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	Farm Management
Beef Production	Farm Records
Crop Diseases	Fruit Production
Dairy Production	Sheep Production
Egg Grading	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	Music Appreciation
Oil Painting	Leathercraft
Portrait Painting	Jewelry
Sketching	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:

A More Charming You	Tailoring
Clothing Construction	Parenthood in a Free Nation
Home Work Simplification	Nutritional Weight Control
Interior Decorating	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	Insurance, C.L.U., C.P.C.U.
Calculating Machines	Medical Clinic Office Procedure
Certified Professional Secretaries	Payroll Accounting
Refresher	Real Estate Law, Appraisal, and Sales
Clerical Procedures	Retail Management
Cost Control	Small Retail Store Problems
Filing	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

German for Travelers  
Technical Russian

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:

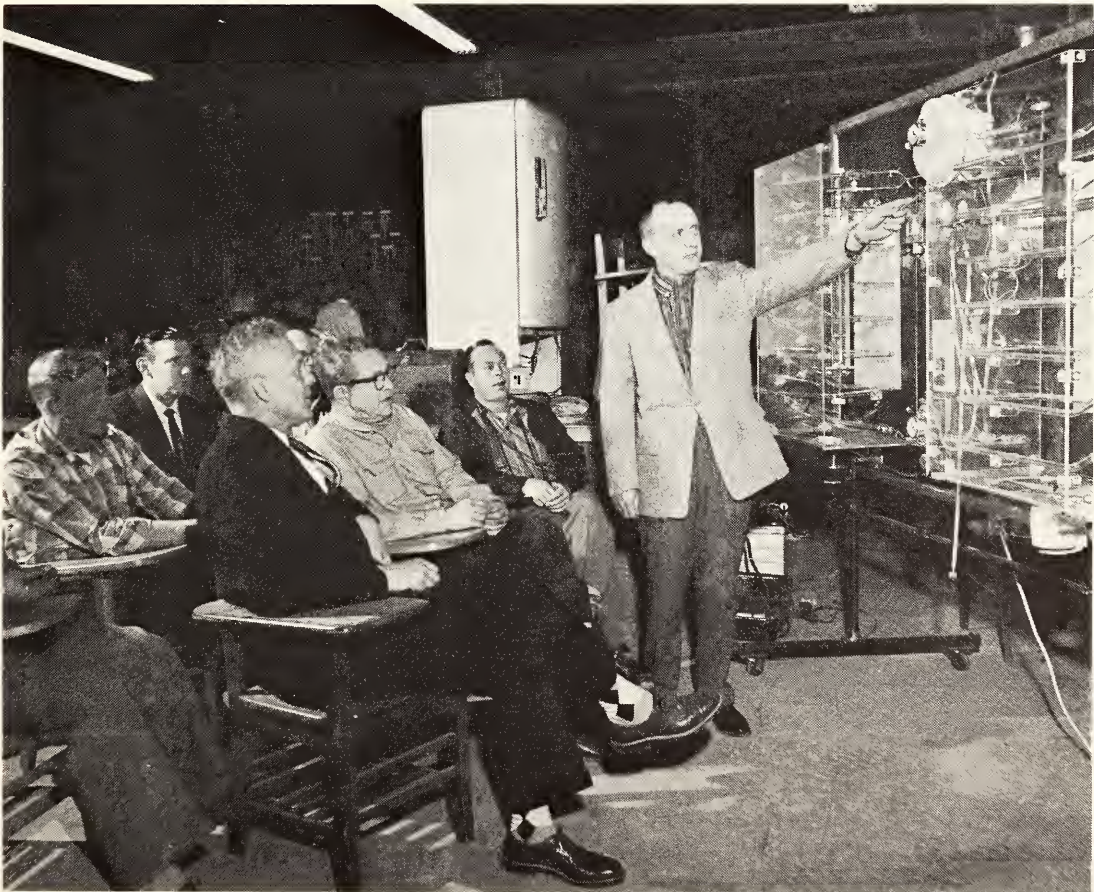
Dielectric Heating  
Machine Tooling  
Precision Measurement  
Quality Control  
Welding

Automotive Procedures  
Electronics  
Electricity  
Machine Drafting  
Blueprint Reading for Shop Mechanics

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 co-operation 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 Plumbers



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

Great Books	Photography
Reading Improvement	Home Mechanics
Furniture Re-upholstering	Planning for Retirement

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

Illinois Bankers School	School of Advanced Cosmetology
Hospital Managers and Accountants	Marine Financing
Restaurant Manager	School for Masters and Mates
Rural Electric Co-operatives	Transportation Sales

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 co-operative 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 co-operative 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.

*Professors* Isaac Brackett, Charles Clayton, George Hand, Frank Klingberg, Ralph Micken, William Westberg, Walter Wills. *Associate Professors* William Cundiff, Walter Elder, Scott Hinners, William Horrall, William Nagel. *Assistant Professors* Ralph Bedwell, Howard Benson, Daniel Boza, Jason Collins, Charles Crookshank, Chester Johnston, Marjorie Jones (on leave), John McDermott, Howard Miller, James Robb, Raymond

Schultz. *Instructors* Mina Bennett, Jack Bizzel, James Harbison, Harold Moore, Harold Osborn, Lelan G. Traylor, Frank Vaughn, Arthur Workun.

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*Lecturers* Austin C. Aldridge, Helen Allen, Julio Almeida, Robert L. Barker, Alma Bay-singer, Henrietta Becker, Barbara Benard, Robert A. Best, Ronald M. Beveridge, Russell G. Biekert, Kent Boeger, Harley Bradshaw, Alma Bremerman, Donna Sue Brown, Larnz Bruns, Dennis Butts, Kenneth Caraway, Helen Carruthers, Gladys Caveny, Carroll Chamness, Scott Courier, Milas M. Cozart, Charles Craig, Nelson Curtis, Lawrence Davis, Lois Davis, Robert Deere, Charles Doty, Stanley Durst, Larry Englebright, Alberta Fleming, Lynn Giltner, Jacob Goranflo, Lyman Greer, Thomas M. Gregory, Claude Grotts, Roger Gruen, Judith Hall, Morton Harris, Ray B. Hart, Edward E. Hawkins, Max Heinzman, Richard Heitholt, William Held, Russell Hewitt, Glendon C. Hodson, Nonnie Hoffee, Hazel Hornback, Robert B. Horrall, Harrell Howard, Birdie Hughes, Kenneth Hurt, Christine Hutchison, Marianne Icenogle, Florence Jaenke, Scesna James, James Jennings, Elizabeth Kelly, Dolores P. Klaus, Loris Lambert, R. Eugene Leasman, Charles Lerner, Enno Lietz, Carolyn Long, James Loy, Murrell J. Loy, Alvin H. Maeys, Jr., William E. Mahew, Philip Martin, Margot McAfoos, James McDaniel, Evalee McGee, Chester McMeen, Katharine Mendenhall, Derald A. Merriman, Josephine Miriani, Theresa Miriani, Roscoe Misselhorn, J. C. Mitchell, Madge Moore, Theodore Mueller, Duane Neet, Clarence Neumeyer, Patricia Nobbe, Russell Oakes, Dianne Over-ton, Eschol Perry, Eileen Peters, Charles Pinkerton, Ann Posgate, William Rademacher, Gilbert Ragsdale, Violet Renshaw, Helen Richey, Rita Ridgway, Richard Ritzheimer, Harold Robbins, Jane Rocconi, Ann Marie Rolando, John D. Rosetti, Margaret Rust, Frank Samuel, James Schmidt, Maurice Schmollinger, Wanda Schroeder, Venita Schwarm, Eugene Shaffer, James L. Shatzsall, Dale Smith, Evelyn Smith, Ada Songer, Ernest Sorgen, Anita Sparks, Hazel Stanley, Thomas Statler, John Steele, Louis Stivers, Dale Stretch, Genevieve Sutliff, J. B. Taylor, Clinton Telle, Aline Travelstead, Frank Tresso, Mary Grace Walker, Douglas Warford, Robert White, Joyce Wilson, Robert T. Woods, Zella Young.

# Technical and Adult Education

## (Edwardsville Campus)

THE DIVISION of Technical and Adult Education is represented on the Edwardsville Campus by the office of Industrial and Technical Programs. This office co-ordinates all noncredit courses and the associate degree program offered by the University in the area. Its purpose is to serve the needs of the community for educational programs for adults at the sub-baccalaureate level. Special attention is given the needs of industry and business though to a certain extent general adult education courses are provided upon demand.

## ASSOCIATE DEGREE PROGRAM

The Associate in Business degree program on the Edwardsville Campus is designed for students who want to learn while they earn. It is possible to be fully employed during the day and to enroll in a four-year evening curriculum in the field of business with specialization in accounting, business administration, economics, or marketing.

Each candidate for the Associate in Business degree must complete a minimum of 96 hours of approved courses plus any deficiency requirements which are apparent when the adviser prepares the student's program.

The courses under this program may be counted toward a bachelor's degree, and the student may continue his studies and obtain a bachelor's degree if he meets the regular academic requirements.

All inquiries concerning admission to this program should be directed to the Registrar and Director of Admissions, Southern Illinois University, Edwardsville, Illinois. Application for admission and transcript of high school and previous college work should be received by the registrar at least thirty days in advance of the desired entrance date. Applications for admission may be submitted earlier if desired. Additional information concerning this program may be secured from the Business Division, Southern Illinois University, Alton, Illinois, or from Industrial and Technical Programs, Southern Illinois University, Edwardsville, Illinois.

## TYPICAL ADULT EDUCATION PROGRAMS

### *INDUSTRIAL MANAGEMENT PROGRAM*

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 to twelve weeks.

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

### *IN-PLANT PROGRAM*

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

### *TECHNICAL PROGRAMS*

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 for the Interstate Commerce Commission Practitioners examination.

Noncredit courses included in the program are:

Rates and Tariffs I, II

Interstate Commerce Law I, II

Credit courses included in the program are:

Management 170-4,

Government 210-4,

Marketing 230-5,

Economics 210-5,

General Studies Area A 211a-3,

Geography 211-5,

Management 340-4,

Marketing 341-4,

Marketing 451-4,

Introduction to Business Administration

American Government

Principles of Marketing

Principles of Economics

Economic Geography

Political Economy

Business Organization and Management

Transportation

Traffic Management

### *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 co-ordinator into an integrated program. Categories are fundamentals of management, manpower management, business conditions and the manager, and administrative policy and procedure. Enrollment is limited.

### *MISCELLANEOUS SHORT COURSES*

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

WIBV, 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         | Training Employees on the Job—City of Alton |
| One Day Conference on Coaching and Counseling | Parent-Child Relationships                  |
| Conference Leadership—League of Women Voters  | Creative Selling                            |
| One Day Conference on Industrial Safety       | Union Leadership—United Steel Workers       |

TEACHING STAFF

The academic divisions of the University, business, industry, and the professions are sources for the teaching staff in Adult Education programs. All teaching assignments are made on a part-time basis as the needs arise.

*Professors* Cameron W. Meredith, William C. Westberg. *Associate Professors* Robert W. Duncan, Andrew J. Kochman, Gerald J. T. Runkle, Ann S. Schwier, Fremont A. Shull, Jr., H. Dene Southwood, Dimiter E. Wassen. *Assistant Professors* Ray C. Gwillim, Robert B. Hawkins, Charles Parish, Claude I. Shell, Clarence E. Vincent. *Instructors* Jerome M. Birdman, Evelyn Buddemeyer, Richard N. McKinney, Paul H. Phillips, Paul J. Skjerseth.

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*Lecturers* Gilbert W. Anderson, Don M. Baird, Clarence A. Bester, J. Allan Blount, Herbert T. Bock, John F. Brennan, Edward K. Brenner, William D. Brunner, Eric Carlson, George A. Chandler, Charles Chapman, Michael J. Ebeling, Richard H. Elzy, George Ferguson, Sylvester J. Geolat, Edwin Gerling, William N. Grandy, Harold N. Hertenstein, William H. Higginbotham, Karl K. Hoagland, Edgar F. Hoffman, Marvin H. Hord, Roy M. Kennedy, Mervin Kohn, Louis T. Lanz, Ralph S. Long, Jr., Frank C. Mansfield, Frank L. Martini, Charles M. Mason, Robert S. Minsker, Loland K. Mocabee, J. Alvin Queen, William J. Randle, Wayne L. Rock, Franklin B. Rogers, Manford E. Ruby, Aldo E. Schnack, Sterling H. Schoen, Wallace D. Schoenbeck, Robert D. Stallard, John A. Strickland, Carl E. Upchurch, Earl F. Voelz, Carl Walther, Lester F. Wicks, H. Edmond Young, Stanley Young, Thomas Young.

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The Southern Illinois University Foundation is a nonprofit corporation chartered by the state and authorized by the Board of Trustees to receive gifts for the benefit of the University, to buy and sell property, and otherwise to serve the University.

It respectfully asks alumni and other citizens of Southern Illinois to consider making gifts and bequests to benefit the University. Such gifts should be conveyed to the Foundation, with proper stipulation as to their uses. The Foundation, through its officers and members, will be glad to confer with intending donors regarding suitable clauses to insert in wills and suitable forms of gifts and memorials, including bequests by means of life insurance. Large or small gifts to the library will be appreciated; likewise, gifts for special equipment, buildings, endowment of professorships in particular subjects, gifts to student loan funds and scholarship funds, gifts for the use of foreign students, and endowments for particular sorts of research. Any gifts or bequests can be given suitable memorial names.

The staff members of the Foundation are

Mr. Kenneth R. Miller, *Executive Director*, Carbondale, Illinois

Mrs. Lois H. Nelson, *Secretary*, Carbondale, Illinois

Mr. Robert L. Gallegly, *Treasurer*, Carbondale, Illinois

Mr. C. Eugene Peebles, *Assistant Treasurer*, Edwardsville, Illinois

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Mr. Warren Stookey, *Field Representative*, Edwardsville, Illinois.

