1960

1960-1962 Southern Illinois University Bulletin Carbondale Campus (Division of Technical and Adult Education)

Southern Illinois University Carbondale

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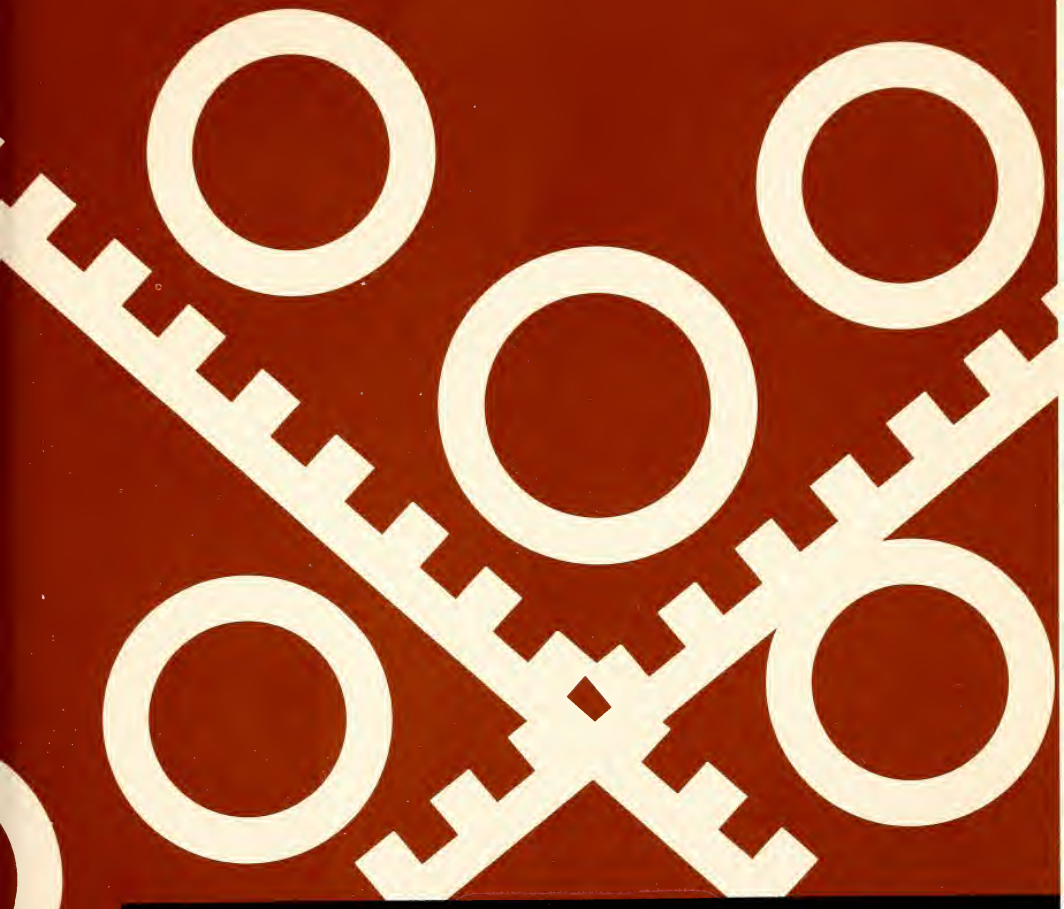

1960 · 1962

Division of Technical and Adult Education

Carbondale Campus

Vol. 2, No. 7 September, 1960

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 1960-1962

SOUTHERN ILLINOIS UNIVERSITY BULLETIN
Volume 2 Number 7 September, 1960
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The following issues of the *Southern Illinois University Bulletin* may be obtained without charge from General Publications, Southern Illinois University, Carbondale, Illinois.

General Information
Summer Session
Schedule of Classes
Graduate School
College of Education
College of Liberal Arts and Sciences
School of Agriculture
School of Applied Science
School of Business
School of Communications
School of Fine Arts
School of Home Economics
University Institutes
Division of Technical and Adult Education

Composed and printed by Printing Service
Photographs by Photographic Service
Southern Illinois University
Carbondale, Illinois

Board of Trustees

	TERM EXPIRES
John Page Wham, *Chairman,* Centralia	1965
Lindell W. Sturgis, *Vice-Chairman,* Metropolis	1965
Melvin C. Lockard, *Secretary,* Mattoon	1965
Stella Collins, West Frankfort	1961
Kenneth L. Davis, Harrisburg	1963
Harold R. Fischer, Granite City	1963
Martin F. Oehmke, East St. Louis	1961
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Louise Morehouse, *Recorder*	

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CARBONDALE CAMPUS

John E. Grinnell, *Vice-President*
T. W. Abbott, *Acting Dean of Academic Affairs*

Dean Ernest J. Simon, M.S. (Illinois)	1950
Assistant Dean Harry B. Bauernfeind, M.A. (Northwestern)	1951
Director of Vocational-Technical Institute Keith Humble, Ph.D. (Missouri)	1955
Supervisor of Adult Education Glenn E. Wills, Ed.D. (Kentucky)	1959
Registrar Robert A. McGrath, Ph.D. (Iowa)	1949
Director of Admissions Willis E. Malone, Ph.D. (Ohio State)	1939

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.

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University Calendar, 1960-1961

SUMMER SESSION

Session Begins	Monday, June 20
Independence Day Holiday	Monday, July 4
Final Examinations	Wednesday–Thursday, August 10–11
Commencement	Friday, August 12

FALL QUARTER

New Student Week	Friday–Tuesday, September 16–20
Quarter Begins	Wednesday, September 21
Thanksgiving Recess	Wednesday, 12 noon–Monday, 8 A.M. November 23–28
Final Examinations	Monday–Saturday, December 12–17

WINTER QUARTER

Quarter Begins	Tuesday, January 3
Final Examinations	Monday–Saturday, March 13–18

SPRING QUARTER

Quarter Begins	Monday, March 27
Memorial Day Holiday	Tuesday, May 30
Final Examinations	Wednesday–Tuesday, June 7–13
Commencement	Wednesday, June 14

Summer classes will begin Tuesday, June 21. During a quarter, day classes will begin on the second day of the quarter. Evening classes (5:45 P.M. or later) will begin on the first day of the quarter.

University Calendar, 1961-1962

SUMMER SESSION*

Session Begins	Monday, June 19
Independence Day Holiday	Tuesday, July 4
Final Examinations	Wednesday–Thursday, August 9–10
Commencement	Friday, August 11

SUMMER QUARTER*

Quarter Begins	Monday, June 19
Independence Day Holiday	Tuesday, July 4
Quarter Ends	Friday, September 1

FALL QUARTER

New Student Week	Sunday–Tuesday, September 17–19
Quarter Begins	Wednesday, September 20
Thanskgiving Recess	Wednesday, 12 noon–Monday, 8 A.M. November 22–27
Final Examinations	Monday–Saturday, December 11–16

WINTER QUARTER

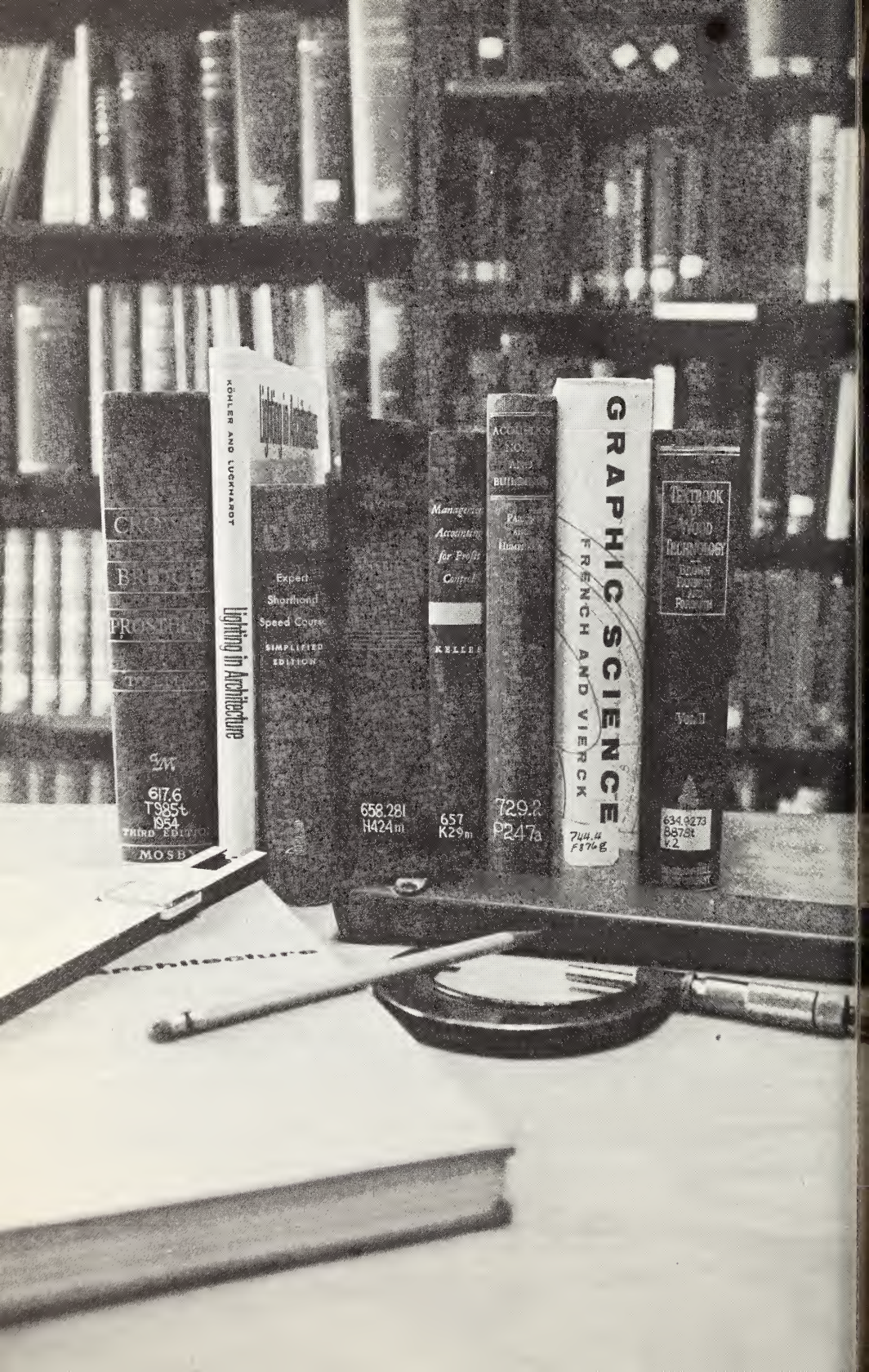
Quarter Begins	Tuesday, January 2
Final Examinations	Monday–Saturday, March 12–17

SPRING QUARTER

Quarter Begins	Monday, March 26
Memorial Day Holiday	Wednesday, May 30
Final Examinations	Wednesday–Tuesday, June 6–12
Commencement	Wednesday, June 13

Summer classes will begin on Tuesday, June 20. During the fall, winter, and spring quarters, day classes will begin on the second day of the quarter. Evening classes (5:45 P.M. or later) will begin on the first day of the quarter.

* Provision has been made for either an eight-week summer session or a regular summer quarter. The one to be followed will not be known until after the Illinois General Assembly acts on the University's budget during the 1961 legislative session.


KOHLER AND LUCKHARDT
Lighting in Architecture
Expert Shorthand Speed Course
SIMPLIFIED EDITION
Managerial Accounting for Profit Control
KELLER
GRAPHIC SCIENCE
FRENCH AND VIERCK
TEXTBOOK OF WOOD TECHNOLOGY
Vol. II
617.6 TS85t 1954
THIRD EDITION
MOSBY
658.281 H424m
657 K29m
729.2 P247a
744.4 F87G
634.9273 B878t v.2

The University

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.

For some years after its establishment, Southern operated as a two-year normal school. In 1907 it became a four-year, degree-granting institution, though continuing its two-year course until 1936. In 1943 the state legislature changed the institution, which had been in theory exclusively a teacher-training school, into a university, thereby taking official recognition of the great demand in the area for diversified training.

The Graduate School, approved in 1943, at first granted only the Master of Science in Education degree. In 1948 it was authorized to grant also the Master of Arts and Master of Science degrees. In 1952 the Master of Fine Arts degree was added to this list, and in 1955 the Doctor of Philosophy degree was added. The Master of Music and the Master of Music Education degrees were authorized in 1956.

In 1949 the Belleville Residence Center was established and the Alton and East St. Louis residence centers in 1957. In 1958 the Southwestern Illinois Residence Office was created to co-ordinate and direct the University's educational activities in the Madison–St. Clair counties area. In 1959 its name was changed to the Southwestern Illinois Campus and the residence centers to the Alton Center and the East St. Louis Center.

LOCATION

The general administrative offices for the University's campuses at Carbondale, Southern Acres, and Little Grassy Lake are located at Carbondale. The Southwestern Illinois Campus, the administrative office for the Alton Center and the East St. Louis Center, is located at Edwardsville.

The facilities at Carbondale now include more than twenty-three hundred acres of land, thirty-six permanent buildings, and numerous temporary buildings. These buildings house classrooms, auditoriums, laboratories, libraries, offices, living quarters, cafeterias, and farm equipment and animals. The Little Grassy Lake and Southern Acres campuses are each about ten miles from Carbondale.

The Southwestern Illinois Campus at Edwardsville offers classes at the Alton and East St. Louis centers. The facilities of the former Shurtleff College have been leased by the University for the operation of the Alton Center. The East St. Louis Center is located at the former East St. Louis High School building.

SESSIONS

The academic year is divided into three quarters. Each quarter is approximately twelve weeks in length.

The fall quarter opens near the middle of September and closes just prior to the Christmas vacation period. The winter quarter begins early in January and ends about the middle of March. The spring quarter begins the latter part of March and ends about the second week in June. Definite dates for each quarter may be found in the University Calendar.

In addition to the three quarters, there is an eight-week summer session which begins immediately following the close of the spring quarter. The summer session consists of a comprehensive program of courses offered by the departments of the University. In addition to the courses which run the full eight weeks, there are workshops and short courses covering shorter periods of time.

REGULATIONS

The University and its various instructional units reserve the right to change the rules regulating admission, instruction, and graduation; to change courses and fees; and to change any other regulation affecting the student body. Such regulations shall go into force whenever the proper authorities so determine, and shall apply both to prospective students and to those who have enrolled in the University.

Division of Technical and Adult Education

In September of 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 degree of Associate in Business or Associate in Technology.
   b. Other students enrolling in one-year vocational or technical courses toward a certificate.
2. To administer non-credit adult education courses taught by staff of the Vocational-Technical Institute, other university college departments, 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 semi-professional 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

Associate Professor Walter J. Elder, M.S. (New York) 1954
Associate Professor Marvin P. Hill, M.S. (Colorado) 1956
Associate Professor Francis D. Modlin, M.S. (Kansas State Teachers) 1954
Associate Professor Karl K. Webber, D.D.S. (St. Louis University) 1960
Associate Professor Herbert D. White, Ph.D. (Leipzig, Germany) 1957
Assistant Professor S. Charles Balsamo, D.D.S. (Kansas City) 1958–60
Assistant Professor Daniel Boza, F.A.A.R.
(American Academy in Rome, Italy) 1960
Assistant Professor George C. Brown, M.S. (Kansas State Teachers) 1956
Assistant Professor Ruth H. Burnett, M.S. (New York) 1956
Assistant Professor Jason J. Collins, M.S.Ed. (Southern Illinois) 1955
Assistant Professor Charles C. Crookshank, M.A. (Columbia) 1960
Assistant Professor John William Cundiff, J.D. (Northwestern) 1958
Assistant Professor Stanley Gettle, B.S. (Illinois
Institute of Technology) 1960
Assistant Professor Charles M. Green, M.S. (Illinois Normal) 1957
Assistant Professor Kenneth D. Jennings, B.S. (Illinois) 1960
Assistant Professor Paul J. Lougeay, B.S. (Illinois) 1954
Assistant Professor John M. McDermott, M.S. (Southern Illinois) 1956
Assistant Professor Frank W. Muhich, M.S.Ed. (Southern Illinois) 1952
Assistant Professor Raymond Schultz 1952
Assistant Professor Lucian D. Willey, B.Ed. (Western Illinois) 1953
Instructor Marion Lorene Davis, M.A. (Wisconsin) 1959
Instructor Richard W. Anschutz, B.S. (Kansas) 1957
Instructor Jack E. Bizzell, M.A. (Southern Illinois) 1958
Instructor Billy James Briggs, M.M.A. 1957–59
(Southwestern State College)
Instructor Joseph H. Crenshaw, M.S. (Illinois) 1958
Instructor Charles T. Crowe, M.A. (Southern Illinois) 1958
Instructor Murnice H. Dallman, M.S. (Southern Illinois) 1954
Instructor Robert C. Etherton, M.S. (Southern Illinois) 1954
Instructor Margaret Garrison, M.S.Ed. (Southern Illinois) 1955
Instructor John E. Griswold, M.Ed. (Illinois) 1955
Instructor Richard A. Hoffman, B.F.A. (Washington University) 1960

Instructor Orville G. Hoyle, B.Ed. (Western Illinois)	1957–60
Instructor Chester E. Johnston, M.A. (George Peabody)	1955
Instructor Duncan L. Lampman, M.S. (Southern Illinois)	1954
Instructor James H. McDonald, B.S.Ed. (Central Missouri)	1955
Instructor Winifred M. Mitchell, B.S. in Nursing Arts (Columbia)	1958
Instructor Harold W. Moore, M.S. (Kansas State Teachers)	1955
Instructor Harold W. Osborn, B.S. (Stout), M.S.Ed. (Southern)	1955
Instructor O. B. Ray, B.S. (Murray)	1953
Instructor William W. Rice, M.F. (Yale)	1954
Instructor E. Carl Schroeder, M.S.Ed. (Southern Illinois)	1955–60
Instructor James E. Tooley, M.S.Ed. (Southern Illinois)	1954
Instructor George L. Traylor, B.S. (Western Kentucky)	1957
Assistant Instructor Katherine Christensen, R.N. (Memorial Hospital, Alton, Illinois)	1954
Assistant Supervisor Frederick E. Lloyd	1955
Lecturer Geraldine Anschutz, M.S. (Michigan)	1957–60
Lecturer Dorothy Bleyer, B.S. (Southern Illinois)	1960–61
Lecturer Raymond L. Christensen	1959–61
Lecturer Jean Marie Danielson, M.A. (Southern Illinois)	1959
Lecturer Lena Joanne Forker, B.S.Ed. (Southern Illinois)	1956
Lecturer Marianne E. Hubeli, B.S. (Missouri Valley)	1960
Lecturer Edgar Hutchins	1956–57
Lecturer William A. Joy	1957
Lecturer Eleanor K. Mathis	1953
Lecturer John J. McCarty, M.S. (Southern Illinois)	1957–61
Lecturer Ganelle Alice Meyer	1956–57
Lecturer William J. Miller, B.S. (Cincinnati)	1959
Lecturer Emilyn S. Morris, M.S.Ed. (Southern Illinois)	1959–60
Lecturer David D. Taylor	1956–59
Lecturer Frank Eugene Vaughn, B.S. (Southern Illinois)	1952
Lecturer Kent Venters, B.A. (Southern Illinois)	1957–59
Lecturer Kathryn P. Westlake, R.N. (Michigan)	1957
Lecturer Isolde York	1957
Lecturer Raymond A. Stevens	1959–60
Lecturer Eula R. Wilson	1960

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 the Carbondale Campus is free for all students of the University.

OBJECTIVES OF THE 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.

DEGREES AND CERTIFICATES OFFERED BY THE INSTITUTE

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; and
3. One-year programs, each leading to a certificate in practical nursing, cosmetology, welding, calculating machines, bookkeeping-clerical, or stenographic.

The institutes'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 credits 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 dean 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.

ADMISSION AND REGISTRATION

Admission to the Vocational-Technical Institute should be initiated through the University's Admissions Office. Application for admission may be made at any time during the year but should be initiated at least thirty days in advance of the desired entrance date to permit necessary processing to be completed. A high school senior should apply at the beginning of his last semester.

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

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

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.

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.

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 on the Southern Acres Campus and at the one on the Carbondale Campus. Regular facilities of the Health Service are supplemented by a local doctor, a nearby hospital, and a nurse whose headquarters are on the Southern Acres Campus. Textbooks are issued 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 on the Carbondale Campus. The Placement Service, which is in contact with industrial, business, and professional groups, arranges interviews for graduates and provides credentials to prospective employers. 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 the Carbondale Campus is free for students and faculty members.

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.

Recreational facilities are available on the campus for indoor and outdoor activities. Crab Orchard Lake, which is less than a mile away, affords excellent facilities for swimming, fishing, boating, and picnicking.

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.

The business programs train young men and women for their initial jobs in accounting; executive, legal, or medical secretarial work; clerical bookkeeping; office machine operation; insurance; and retailing. 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 ninety-six 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.

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, will permit students to take electives in lieu of some required courses.

Accounting

This curriculum offers 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 of this curriculum.

SUGGESTED CURRICULUM

		Hours
	FIRST QUARTER	
101B	Accounting I	2–7
126B	Fundamentals of Business	3
100G	English Fundamentals	3
104G	Mathematics Fundamentals	5
	or	
105G	Algebra Fundamentals	(2)
	SECOND QUARTER	
102B	Accounting II	5
235B	Business Statistics	4
101G	Business Correspondence	3
101K	Calculating Machines I	3
101S	Typewriting I	3
	THIRD QUARTER	
103B	Accounting III	5
127B	Business Law I	4
116G	Principles of Speech	4
102K	Calculating Machines II	3

		Hours
	FOURTH QUARTER	
201B	Accounting IV	4
202B	Cost Accounting I	4
226B	Business Law II	4
227B	Office Administration and Supervision	2–5
142G	Psychology of Human Relations	4
	FIFTH QUARTER	
204B	Cost Accounting II	4
233B	Federal Taxes	5
275B	Credits and Collections	5
127G	Economic Principles	5
	SIXTH QUARTER	
203B	Accounting V	4
230B	Auditing	5
201X	Job Orientation	2
121G	Problems of American Democracy	5

Recommended Electives

109B	Departmental Accounting	7
103K	Calculating Machines III	3
107S	Filing	2
227R	Personnel Management	3
102G	English Problems Analysis	3
232G	Labor Management Relations Problems	4
136G	Introductory Sociology	4
102S	Typewriting II	3

Executive Secretarial

This curriculum is planned for students who wish to prepare for positions as professional secretaries in business, industrial, and governmental offices. It includes 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.

SUGGESTED CURRICULUM

FIRST QUARTER

101S	Typewriting I	3
104S	Shorthand Theory	7
107S	Filing	2
100G	English Fundamentals	3
126B	Fundamentals of Business	3

SECOND QUARTER

102S	Typewriting II	3
204S	Shorthand Dictation I	5
207S	Transcription I	2
102G	English Problems Analysis	3
116G	Principles of Speech	4

THIRD QUARTER

103S	Typewriting III	3
206S	Shorthand Dictation II	5
220S	Transcription II	2
127B	Business Law I	4

Transcription on electric typewriters

FOURTH QUARTER

205S	Typewriting IV	3
209S	Shorthand Dictation III	5
221S	Transcription III	2
104B	Secretarial Accounting	5
101K	Calculating Machines I	3

FIFTH QUARTER

208S	Typewriting V	2
224S	Legal-Dictation Shortcuts	5
230S	Legal Transcription I	2
121G	Problems of American Democracy	5
142G	Psychology of Human Relations	4

SIXTH QUARTER

210S	Typewriting VI	2
233S	Dictation IV	5
234S	Transcription IV	2
223S	Secretarial Office Procedures	5
101G	Business Correspondence	3

Recommended Electives

225S	Medical Dictation I	5
226S	Medical Transcription I	2
214S	Co-operative Secretarial Experience	5
102K	Calculating Machines II	3
103K	Calculating Machines III	3
101B	Accounting I	7
227B	Office Administration and Supervision	5

Legal Secretarial

This curriculum provides 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, and legal consultants or may continue their study in order to become conference or court reporters.

SUGGESTED CURRICULUM

FIRST QUARTER

120H	Stenograph Theory	7
101S	Typewriting I	3
100G	English Fundamentals	3
142G	Psychology of Human Relations	4

SECOND QUARTER

121H	Stenograph Dictation I	7
123H	Stenograph Transcription I	2
102G	English Problems Analysis	3
101K	Calculating Machines I	3
102S	Typewriting II	3

THIRD QUARTER

122H	Stenograph Dictation II	7
124H	Stenograph Transcription II	2
103S	Typewriting III	3
127B	Business Law I	4

FOURTH QUARTER

205S	Typewriting IV	3
209S	Shorthand Dictation III	5
221S	Transcription III	2
225S	Medical Dictation I	5
226S	Medical Transcription I	2

FIFTH QUARTER

208S	Typewriting V	2
224S	Legal-Dictation Shortcuts	5
230S	Legal Transcription I	2
226B	Business Law II	4
121G	Problems of American Democracy	5

SIXTH QUARTER

210S	Typewriting VI	2
227B	Office Administration and Supervision	5
104B	Secretarial Accounting	5
107S	Filing	2
116G	Principles of Speech	4

Recommended Electives

101B	Accounting I	7
126B	Fundamentals of Business	3
112H	Jury Charge	3
210H	Two-Voice Testimony	4
102K	Calculating Machines II	3
231S	Courtroom Orientation	2
232S	Work Experience	5
136G	Introductory Sociology	5

Instruction on voice-writing equipment

Co-operative Medical Secretarial

This curriculum is of special interest to young women with good mental and personal traits and a sincere 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 curriculum 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.

SUGGESTED CURRICULUM

FIRST QUARTER

101S	Typewriting I	3
104S	Shorthand Theory	7
107S	Filing	2
100G	English Fundamentals	3
126B	Fundamentals of Business	3

SECOND QUARTER

102S	Typewriting II	3
204S	Shorthand Dictation I	5
207S	Transcription I	2
102G	English Problems Analysis	3
116G	Principles of Speech	4

THIRD QUARTER

103S	Typewriting III	3
206S	Shorthand Dictation II	5
220S	Transcription II	2
127B	Business Law I	4
Elective		

FOURTH QUARTER

205S	Typewriting IV	3
225S	Medical Dictation I	5
226S	Medical Transcription I	2
104B	Secretarial Accounting	5
101G	Business Correspondence	3

FIFTH QUARTER

208S	Typewriting V	2
223S	Secretarial Office Procedures	5
227S	Medical Dictation II	5
228S	Medical Transcription II	2
142G	Psychology of Human Relations	4

SIXTH QUARTER—OPTION I

233S	Dictation IV	5
234S	Transcription IV	2
121G	Problems of American Democracy	5
141G	Introduction to Physiology	5

SIXTH QUARTER—OPTION II

215S	Work Study Problems	5
218S	Co-operative Medical Secretary Experience	4
141G	Introduction to Physiology	5

Recommended Electives

101B	Accounting I	7
226B	Business Law II	4
101K	Calculating Machines I	3
136G	Introductory Sociology	5
215S	Work Study Problems	5
218S	Co-operative Medical Secretary Experience	4

Insurance

This curriculum is designed for students who will go into business for themselves or become associated with others engaged in the practice of insurance. The courses are designed to build a suitable background for

ntering the insurance field, and to prepare for the Chartered Life Underwriter's examinations upon suitable attainment of experience in the field.

SUGGESTED CURRICULUM

FIRST QUARTER

01B	Accounting I	7
26B	Fundamentals of Business	3
00G	English Fundamentals	3
04G	Mathematics Fundamentals	5
	or	
05G	Algebra Fundamentals	(2)

SECOND QUARTER

02B	Accounting II	5
01G	Business Correspondence	3
07G	Technical Mathematics	5
21G	Problems of American Democracy	5
27G	Economic Principles	5

THIRD QUARTER

27B	Business Law I	4
234B	Real Estate Principles	3
235B	Business Statistics	4
16G	Principles of Speech	4
Elective		3

FOURTH QUARTER

226B	Business Law II	4
236B	Insurance Principles I	5
237B	Real Estate Appraisal	3
101S	Typewriting I	3
142G	Psychology of Human Relations	4

FIFTH QUARTER

238B	Life Insurance I	5
239B	Fire and Inland Marine Insurance	3
240B	Property and Casualty Insurance I	4
102S	Typewriting II	3
Elective		3

SIXTH QUARTER

227B	Office Administration and Supervision	4
233B	Federal Taxes	5
241B	Property and Casualty Insurance II	4
201X	Job Orientation	2
Elective		3

Recommended Electives

107S	Filing	2
227R	Personnel Management	3
101N	Drawing and Composition I	3
177G	Economics of Distribution	2

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 a store.

The University, through its merchandising faculty, makes every effo to provide second year students with satisfactory on-the-job training; how ever, the student must understand that he has mutual responsibility i finding employment and maintaining satisfactory employee-employer re lationships.

In addition to formal course requirements, each student is expecte to provide a record of 320 clock hours of satisfactory merchandising experi ence gained independently of the University before he will be recom mended for graduation. This experience can be gained during vacatio periods.

Each student must satisfactorily complete at least 104 hours in recom mended courses to be eligible for graduation.

SUGGESTED CURRICULUM

FIRST QUARTER

124R	Introduction to Retailing	4
176R	Product Analysis	3
116G	Principles of Speech	4
142G	Psychology of Human Relations	4
Elective		2

SECOND QUARTER

177R	Product Information Laboratory	2–15
100G	English Fundamentals	3
127G	Economic Principles	5
Electives		5

THIRD QUARTER

127R	Salesmanship	2–6
177R	Product Information Laboratory	2–15
179R	Retail Mathematics	5
101G	Business Correspondence	3

SUMMER SESSION

(Off campus eight weeks)

201R	Co-operative Work Experience	4–20

FOURTH QUARTER

(On campus eight weeks)

206R	Records and Statistics	5
227R	Personnel Management	3
232G	Labor Management Relations Problems	4

(Off campus four weeks)

201R	Co-operative Work Experience	4–20

FIFTH QUARTER

(On campus eight weeks)

205R	Merchandising Principles	4
224R	Retail Store Organization and Operation	4
127B	Business Law I	4

(Off campus four weeks)

201R	Co-operative Work Experience	4–20

SIXTH QUARTER

(Off campus four weeks)

201R	Co-operative Work Experience	4–20

(On campus eight weeks)

207R	Sales Promotion	2–6
208R	Fashion Merchandising	2–6
280R	Retail Credits and Collections	3
201X	Job Orientation	2

Recommended Electives

126B	Fundamentals of Business	3
227B	Office Administration and Supervision	2–5
121G	Problems of American Democracy	5
153J	Printing Layout and Design	3
101K	Calculating Machines I	3
150N	Art Appreciation	3
101S	Typewriting I	3
125S	Personality Development I	2
126S	Personality Development II	2

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 forty-eight hours of approved courses must be completed for graduation.

SUGGESTED CURRICULUM

FIRST QUARTER

101K	Calculating Machines I	3
101S	Typewriting I	3
111L	Clerical Procedures	5
100G	English Fundamentals	3
104G	Mathematics Fundamentals	5

SECOND QUARTER

101B	Accounting I	7
102S	Typewriting II	3
126B	Fundamentals of Business	3
121G	Problems of American Democracy	5

THIRD QUARTER

102K	Calculating Machines II	3
107S	Filing	2
201X	Job Orientation	2
103S	Typewriting III	3
142G	Psychology of Human Relations	4

Recommended Electives

102B	Accounting II	5
101G	Business Correspondence	3
102G	English Problems Analysis	3
107G	Technical Mathematics	5
116G	Principles of Speech	4
127G	Economic Principles	5
136G	Introductory Sociology	5
103K	Calculating Machines III	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 ordinarily used in business offices.

A minimum of forty-eight hours of approved courses must be completed for graduation.

SUGGESTED CURRICULUM

FIRST QUARTER

101K	Calculating Machines I	3
101S	Typewriting I	3
107S	Filing	2
100G	English Fundamentals	3
104G	Mathematics Fundamentals	5

SECOND QUARTER

102K	Calculating Machines II	3
102S	Typewriting II	3
121G	Problems of American Democracy	5
142G	Psychology of Human Relations	4
Elective		3

THIRD QUARTER

103K	Calculating Machines III	3
111L	Clerical Procedures	5
116G	Principles of Speech	4
201X	Job Orientation	2
126B	Fundamentals of Business	3

Recommended Electives

101B	Accounting I	7	107G	Technical Mathematics	5
101G	Business Correspondence	3	136G	Introductory Sociology	5
102G	English Problems Analysis	3	103S	Typewriting III	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 sixty-two hours of approved courses must be completed for graduation.

SUGGESTED CURRICULUM

FIRST QUARTER

101S	Typewriting I	3
100G	English Fundamentals	3
121G	Problems of American Democracy	5
126B	Fundamentals of Business	3
101K	Calculating Machines I	3

SECOND QUARTER

102S	Typewriting II	3
104S	Shorthand Theory	7
107S	Filing	2
102G	English Problems Analysis	3
116G	Principles of Speech	4

THIRD QUARTER

103S	Typewriting III	3
204S	Shorthand Dictation I	5
207S	Transcription I	2
101G	Business Correspondence	3
142G	Psychology of Human Relations	4

FOURTH QUARTER

205S	Typewriting IV	3
206S	Shorthand Dictation II	5
220S	Transcription II	2
223S	Secretarial Office Procedures	5
201X	Job Orientation	2

Recommended Electives

208S	Typewriting V	2	104B	Secretarial Accounting	5
209S	Shorthand Dictation III	5	102K	Calculating Machines II	3
210S	Typewriting VI	2	101N	Drawing and Composition I	3
221S	Transcription III	2	127G	Economic Principles	5
			136G	Introductory Sociology	5

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.

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.

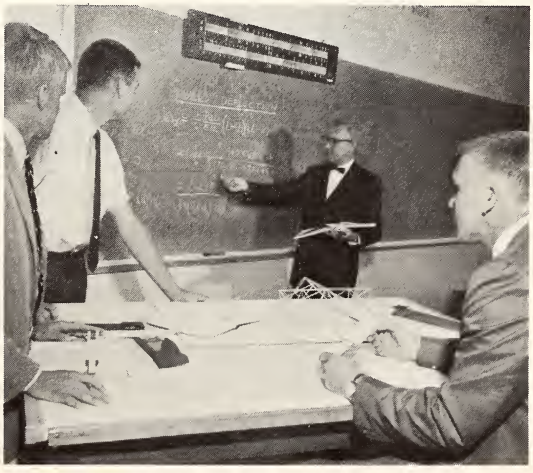
The programs also include courses in general education to help the student understand problems encountered in living and working within his community. These programs are six quarters or more in length and require a minimum of 102 to 114 quarter hours.

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, and printing.

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

Architectural Drafting and Design Technology

This curriculum provides training for students in various aspects of the architectural profession. It offers courses of a technical and technically related nature which will provide the student with the basic knowledge required in the architectural profession. It leads to employment as assistant designers, draftsmen, junior engineers, estimators, detailers, and architectural supervisors.



Planning, design, and structural technology are necessary for total understanding of architectural problems.

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 used in the training program.

A minimum of 109 hours must be completed for graduation.

SUGGESTED CURRICULUM

FIRST QUARTER

110D	Architectural Projections	7
146D	Architectural Rendering I	3
150D	Introduction to Architecture	3
107G	Technical Mathematics	5

SECOND QUARTER

121D	Architectural Design I	4
147D	Architectural Rendering II	3
111G	Basic Physics I	4
110G	Trigonometry	3
121G	Problems of American Democracy	5

THIRD QUARTER

148D	Architectural Rendering III	3
151D	Materials and Methods of Construction I	3
152D	Site Engineering	2
220D	Architectural Design II	6
247D	Mechanics and Strength of Materials	4

FOURTH QUARTER

221D	Architectural Design III	6
250D	Materials and Methods of Construction II	3
284D	Strength of Materials	3
280D	History of Architecture	3
100G	English Fundamentals	3

FIFTH QUARTER

222D	Architectural Design IV	6
251D	Materials and Methods of Construction III	3
142G	Psychology of Human Relations	4
201X	Job Orientation	2
301D	Theory of Structures I	3

SIXTH QUARTER

252D	Materials and Methods of Construction IV	6
254D	Mechanical Equipment of Buildings	4
259D	Architectural Design V	6
302D	Theory of Structures II	3

Recommended Electives

246D	Architectural Rendering IV	3
282D	Interior Design I	3
283D	Architectural Construction Analysis I	3
285D	Architectural Design Analysis I	3
101G	Business Correspondence	3
116G	Principles of Speech	4
232G	Labor Management Relations Problems	4
101S	Typewriting I	3
126B	Fundamentals of Business	3

Automotive Technology

This curriculum presents an opportunity to acquire complete technical training in the areas of wheel alignment, brakes, ignition, carburetion, hydraulic and electric servo-mechanisms, automatic transmissions, drive trains, and engine rebuilding. This training is designed to acquaint the student with the basic principles of operation, rather than diversified application of those principles, and to reduce the time required to surpass journeyman standards of diagnosis and repair.

A minimum of 104 hours must be completed for graduation.

SUGGESTED CURRICULUM

FIRST QUARTER

101A	Automotive Engines	7
125A	Internal Combustion Engines	5
104G	Mathematics Fundamentals	5
	or	
107G	Technical Mathematics	(5)
100G	English Fundamentals	3

SECOND QUARTER

102A	Brake and Steering	7
126A	Chassis and Brake Systems	5
111G	Basic Physics I	4
275M	Metallurgy I	3

THIRD QUARTER

103A	Ignition and Carburetion	7
127A	Theory of Ignition and Carburetion	5
116G	Principles of Speech	4
Elective		3

FOURTH QUARTER

128A	Transmissions and Drive Trains	3
201A	Drive Train	7
142G	Psychology of Human Relations	4
Elective		3

FIFTH QUARTER

220A	Automotive Transmissions	5
202A	Multiple Gear-Set Transmissions	7
175M	Basic Machine Shop Practice	3
121G	Problems of American Democracy	5

SIXTH QUARTER

227A	Engine Rebuilding	3
203A	Engine Rebuilding	7
101W	Oxy-Acetylene Welding Shop	7
201X	Job Orientation	2

Recommended Electives

175D	Technical Drafting I	3
102W	Arc Welding Shop I	7
125W	Theory of Oxy-Acetylene Welding	3
101S	Typewriting I	3
101G	Business Correspondence	3
229B	Record Keeping	2

Working on automotive transmissions

Building Construction Technology

This curriculum provides training for positions in the maintenance, production, construction, sales, and management fields of the building industry. The courses provide training in the basic fundamentals and the construction methods, materials, equipment, procedures, and structures that

are essential in a successful building operation. Training of personnel for home building, the nation's largest industry, is emphasized although specialization for another field is possible through careful selection of electives.

The courses are specifically designed to train the technician who is the link between the architect and the craftsman who executes the work. Appropriate periods of gaining practical experience and knowledge are necessary to supplement the academic training before the education of the building construction technician is completed. Subsequent to graduation, the student should plan to spend an additional period gaining practical experience which is essential for positions of leadership in the home building industry.

The well-balanced program of studies and training leads to positions as home builders, supervisors, foremen, estimators, building inspectors, timekeepers, building materials salesmen, and materials expediters in the industry.

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 used in the training program.

A minimum of 105 hours must be completed for graduation.

SUGGESTED CURRICULUM

FIRST QUARTER

115D	Residential Architecture I	7
100G	English Fundamentals	3
154D	Introduction to Residential Building	3
104G	Mathematics Fundamentals	5

SECOND QUARTER

116D	Residential Architecture II	3
151D	Materials and Methods of Construction I	3
107G	Technical Mathematics	5
121G	Problems of American Democracy	5
200G	Economics for Home Builders	2

THIRD QUARTER

117D	Residential Architecture III	3
152D	Site Engineering	2
247D	Mechanics and Strength of Materials	4
250D	Materials and Methods of Construction II	3
142G	Psychology of Human Relations	4
101F	Introductory Woodworking	3

FOURTH QUARTER

153D	Site Planning and Construction I	3
210D	Construction I	3
251D	Materials and Methods of Construction III	3
258D	Structural Elements	4
266D	Electrical Services for Residential Building	2
265D	Sanitary Services for Residential Buildings	2

FIFTH QUARTER

211D	Construction II	3
252D	Materials and Methods of Construction IV	6
267D	Heating and Air-conditioning for Residential Buildings	2
250B	Real Estate for Home Builders	3
201X	Job Orientation	2

SIXTH QUARTER

212D	Construction III	3
260D	Materials and Methods of Construction V	6

251B	Record Keeping for Home Builders	3
201G	Ethics for Home Builders	2
232G	Labor Management Relations Problems	4

Recommended Electives

128F	Wood Technology	2–4
130F	Lumber Seasoning	2–4
131F	Lumber Grading	2
101G	Business Correspondence	3
110G	Trigonometry	3
116G	Principles of Speech	4
101K	Calculating Machines I	3
101S	Typewriting I	3
127B	Business Law I	4
229F	Wood Finishing	2–6
236B	Insurance Principles I	5
237B	Real-Estate Appraisal	3
282D	Interior Design I	3
284D	Strength of Materials	3
301D	Theory of Structures I	3
302D	Theory of Structures II	3

Field work is a major activity in building construction technology.

Commercial Art

Experienced commercial artists receive excellent incomes in the growing field of art. This field offers continuous advancement for persons of ability and ambition. Graduates are in demand by a variety of business and industrial firms such as publishers, printers, advertising agencies, department stores, television studios, aircraft manufacturers, and the automobile industry.

The curriculum provides training and experience in sketching, drawing, and designing applied to commercial art. A professionally equipped commercial art studio is used for training purposes.

A student may select any one or two of the following areas for special emphasis: (1) advertising layout and production, (2) advertising and story illustration, (3) technical illustration, and (4) fashion illustration.

Each student will be required to prepare a portfolio of his work before graduation. A minimum of 102 hours must be completed for graduation.

SUGGESTED CURRICULUM

FIRST QUARTER			SECOND QUARTER		
101N	Drawing and Composition I	3	102N	Drawing and Composition II	3
125N	Figure Drawing I	3	126N	Figure Drawing II	3
130N	Lettering and Layout I	3	131N	Lettering and Layout II	3
140N	Advertising Illustration I	3	141N	Advertising Illustration II	3
100G	English Fundamentals	3	121G	Problems of American Democracy	5
150N	Art Appreciation	3			

THIRD QUARTER

103N	Drawing and Composition III	3
127N	Figure Drawing III	3
132N	Lettering and Layout III	3
142N	Advertising Illustration III	3
142G	Psychology of Human Relations	4

FOURTH QUARTER

201N	Advertising Layout and Production I	3–12
210N	Advertising and Story Illustration I	3–12
220N	Fashion Illustration I	3–12
230N	Technical Illustration I	3–12
Elective		

FIFTH QUARTER

202N	Advertising Layout and Production II	3–12
211N	Advertising and Story Illustration II	3–12
221N	Fashion Illustration II	3–12
231N	Technical Illustration II	3–12
Elective		6

SIXTH QUARTER

203N	Advertising Layout and Production III	3–12
212N	Advertising and Story Illustration III	3–12
222N	Fashion Illustration III	3–12
232N	Technical Illustration III	3–12
201X	Job Orientation	2
Elective		5

Recommended Electives

125J	Print Shop Theory I	5
175D	Technical Drafting I	3
146D	Architectural Rendering I	3
225N	Figure Drawing IV	3
226N	Figure Drawing V	3
227N	Figure Drawing VI	3
177R	Product Information	3
279G	Public Relations–Community Problems	3
280D	History of Architecture	3
282D	Interior Design I	3
116G	Principles of Speech	4
101G	Business Correspondence	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.

View of class in dental laboratory practice

This curriculum is designed to meet the high 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, and requires at least 104 hours for graduation.

SUGGESTED CURRICULUM

FIRST QUARTER

101Y	Tooth Anatomy and Nomenclature	9
100G	English Fundamentals	3
104G	Mathematics Fundamentals	5
	or	
105G	Algebra Fundamentals	(2)

SECOND QUARTER

102Y	Removable Partial Dentures	9
128Y	Oral Anatomy	2
113Y	Chemical and Physical Principles	3
Elective		2

THIRD QUARTER

103Y	Complete Denture Construction	9
277M	Metallurgy II	3
Elective		5

FOURTH QUARTER

201Y	Beginning Crown and Bridge Work	9
121G	Problems of American Democracy	5
Elective		3

FIFTH QUARTER

202Y	Advanced Crown and Bridge Work	9
142G	Psychology of Human Relations	4
Elective		4

SIXTH QUARTER

203Y	Ceramics, Precision Attachments	9
202X	Professional Ethics	2
Elective		6

Recommended Electives

230N	Technical Illustration I	3–12
229B	Record Keeping	2
101G	Business Correspondence	3
111G	Basic Physics I	4
141G	Introduction to Physiology	5
107G	Technical Mathematics	5
175W	Oxy-Acetylene and Electric Arc Welding	3
101S	Typewriting I	3

Electronics Technology

This curriculum consists of the fundamentals, theories, and application of principles in electronics to provide the necessary background for employment in many areas of industrial electronics and the radio and television field.

A minimum of 105 hours must be completed for graduation.

SUGGESTED CURRICULUM

FIRST QUARTER

101T	Audio Systems	7
125T	Principles of Electronics	5
104G	Mathematics Fundamentals	5

SECOND QUARTER

102T	Electrical Tests and Measurements	7
126T	Fundamentals of Electronic Circuitry	5

100G	English Fundamentals	3
107G	Technical Mathematics	5

THIRD QUARTER

103T	Circuit Analysis I	7
127T	Principles of Analysis and Diagnosis I	5
110G	Trigonometry	3
112G	Basic Physics II	4

FOURTH QUARTER

201T	Circuit Analysis II	5
225T	Principles of Analysis and Diagnosis II	5
228T	Federal Communications Commission License	3
121G	Problems of American Democracy	5

FIFTH QUARTER

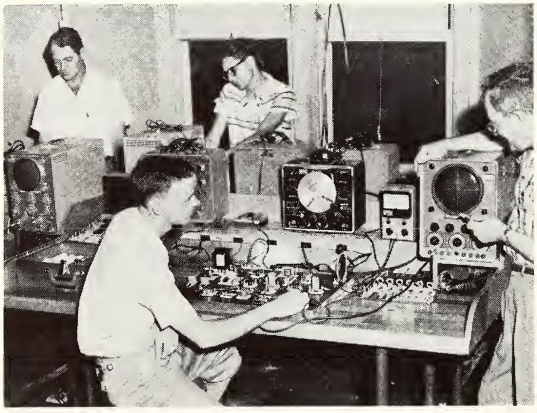
202T	High Frequency Tests and Measurements	5
226T	Fundamentals of Antennas and Television Circuitry	5
101G	Business Correspondence	3
142G	Psychology of Human Relations	4

SIXTH QUARTER

203T	Circuit Analysis and Alignment	5
227T	Principles of Analysis and Diagnosis III	5
229T	Fundamentals of Color Television	3
201X	Job Orientation	2

Recommended Electives

175D	Technical Drafting I	3
177D	Technical Drafting III	3
127R	Salesmanship	2–6
101S	Typewriting I	3
111G	Basic Physics I	4
116G	Principles of Speech	4
232G	Labor Management Relations Problems	4



Laboratory instruction in circuit analysis

Machine Drafting and Design Technology

This curriculum is designed to provide students with knowledge and abilities in drafting and design of a mechanical nature for employment in industries needing these services.

Emphasis is placed on product and tool design, engineering standards, manufacturers' standards, and the selection of methods for efficient and economical production. Also included are courses dealing with the properties and heat treatment of metals, applied mathematics, mechanisms, and human relations aspects of our American industrial life.

Graduates of this curriculum are prepared for positions in industry as laboratory technicians, research and development engineering assistants, technical supervisors, draftsmen, and jig and fixture designers. With additional experience, students may aspire to positions as industrial supervisors, machine and tool designers, tool buyers, production expeditors, and cost estimators.

SUGGESTED CURRICULUM

FIRST QUARTER

101D	Machine Drafting and Design I	7
125D	Machine Drafting and Design Theory I	3
176M	Manufacturing Processes I	3
104G	Mathematics Fundamentals	5

SECOND QUARTER

102D	Machine Drafting and Design II	7
126D	Machine Drafting and Design Theory II	3
177M	Manufacturing Processes II	3
107G	Technical Mathematics	5

THIRD QUARTER

103D	Machine Drafting and Design III	7
127D	Machine Drafting and Design Theory III	3
100G	English Fundamentals	3
110G	Trigonometry	3

FOURTH QUARTER

111G	Basic Physics I	4
201D	Machine Drafting and Design IV	7
225D	Machine Drafting and Design Theory IV	3
121G	Problems of American Democracy	5

FIFTH QUARTER

202D	Machine Drafting and Design V	7
226D	Machine Drafting and Design Theory V	3
112G	Basic Physics II	4
275M	Metallurgy I	3

SIXTH QUARTER

203D	Machine Drafting and Design VI	7
227D	Machine Drafting and Design Theory VI	3
277M	Metallurgy II	3
201X	Job Orientation	2
Elective		3

Recommended Electives

101M	Lathe and Bench Work Laboratory	2–7
102M	Shaper and Planer Laboratory	2–7
103M	Precision Measurement Techniques Laboratory	2–7
127M	Precision Measurements	3
201M	Milling Machine Laboratory	2–7
225M	Milling Machine Theory	3
226M	Precision Grinding Techniques	3
227M	Production Machines and Tooling	3
101W	Oxy-Acetylene Welding Shop	2–7
101G	Business Correspondence	3
116G	Principles of Speech	4

Machine Tool Technology

This curriculum is designed to provide knowledge and abilities which are required in industries for services of technical operators of machines and equipment.

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 in-

cluded are courses dealing with the properties and heat treatment of metals, applied mathematics, technical drafting, and human relations aspects of our American industrial life.

Graduates of this curriculum accept jobs as inspectors, test technicians, tool and die makers, planners, operators of mechanical equipment, tool inspectors, and tool room technicians. With additional experience graduates may advance to positions of tool room supervisors, tooling foremen, expediters, and tool and machine salesmen.

A minimum of 104 hours must be completed for graduation.

SUGGESTED CURRICULUM

FIRST QUARTER

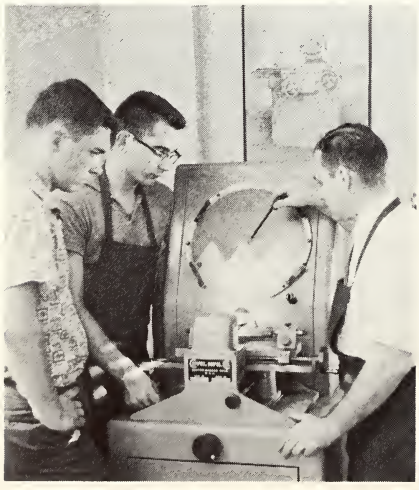
101M	Lathe and Bench Work Laboratory	7
125M	Lathe and Bench Theory	5
175D	Technical Drafting I	3
104G	Mathematics Fundamentals	5

SECOND QUARTER

102M	Shaper and Planer Laboratory	7
126M	Shaper and Planer Theory	3
100G	English Fundamentals	3
107G	Technical Mathematics	5

THIRD QUARTER

103M	Precision Measurement Techniques Laboratory	7
127M	Precision Measurements	3
176D	Technical Drafting II	3
110G	Trigonometry	3



Visual inspection of a thread with a fifty-to-one optical comparator

FOURTH QUARTER

201M	Milling Machine Laboratory	7
225M	Milling Machine Theory	3
177D	Technical Drafting III	3
111G	Basic Physics I	4

FIFTH QUARTER

202M	Precision Grinding Laboratory	7
226M	Precision Grinding Techniques	3
275M	Metallurgy I	3
112G	Basic Physics II	4

SIXTH QUARTER

203M	Production Machine Laboratory	7
227M	Production Machines and Tooling	3
277M	Metallurgy II	3
121G	Problems of American Democracy	5

Recommended Electives

101D	Machine Drafting and Design I	7
102D	Machine Drafting and Design II	7
103D	Machine Drafting and Design III	7
201D	Machine Drafting and Design IV	7
202D	Machine Drafting and Design V	7
101G	Business Correspondence	3
116G	Principles of Speech	4
142G	Psychology of Human Relations	4
101W	Oxy-Acetylene Welding Shop	7
175W	Oxy-Acetylene and Electric Arc Welding	3
201X	Job Orientation	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 curriculum prepares students to enter printing trades after completing work in hand and machine composition, presswork, and bindery processes and fundamental work in offset duplicator operation. Courses in proofreading, layout and design, and estimating are included to broaden the student's background.

A minimum of 108 hours must be completed for graduation.

SUGGESTED CURRICULUM

FIRST QUARTER

101J	Print Shop I	7
125J	Print Shop Theory I	5
100G	English Fundamentals	3
121G	Problems of American Democracy	5

SECOND QUARTER

102J	Print Shop II	7
126J	Print Shop Theory II	3
104G	Mathematics Fundamentals	5
	or	
105G	Algebra Fundamentals	(2)
116G	Principles of Speech	4

Operating a line-casting machine

THIRD QUARTER

103J	Print Shop III	7
127J	Print Shop Theory III	3
152J	Proofreading	3
153J	Printing Layout and Design	3

FOURTH QUARTER

201J	Print Shop IV	7
225J	Print Shop Theory IV	3
101G	Business Correspondence	3
142G	Psychology of Human Relations	4

FIFTH QUARTER

202J	Print Shop V	7
226J	Print Shop Theory V	3
130N	Lettering and Layout I	3
Elective		5

SIXTH QUARTER

203J	Print Shop VI	7
227J	Print Shop Theory VI	3
251J	Estimating and Costs in Printing	3
201X	Job Orientation	2
Elective		3

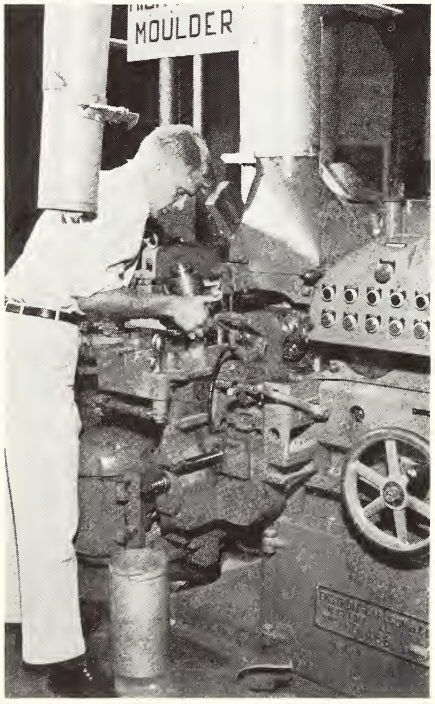
Recommended Electives

127B	Business Law I	4
177G	Economics of Distribution	2
116G	Principles of Speech	4
140N	Advertising Illustration	3
201N	Technical Illustration I	3–12
127R	Salesmanship	2–6

Woodworking Technology

This curriculum provides 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 102 hours must be completed for graduation.



Adjusting side cutterhead of moulding machine

SUGGESTED CURRICULUM

	FIRST QUARTER	
101F	Introductory Woodworking	8
128F	Wood Technology	2
178D	Basic Woodworking Drafting	3
100G	English Fundamentals	3
	SECOND QUARTER	
102F	Cabinet and Millwork	8
130F	Lumber Seasoning	2
131F	Lumber Grading	2
104G	Mathematics Fundamentals	5
	or	
179R	Retail Mathematics	(5)
	THIRD QUARTER	
103F	Furniture Construction	8
229F	Wood Finishing	2
111G	Basic Physics I	4
179D	Furniture Drafting and Design	3
	FOURTH QUARTER	
201F	Light Frame Construction	8
151D	Materials and Methods of Construction I	3
132F	Wood Preservation	2
Elective		4
	FIFTH QUARTER	
202F	Pre-Fabricated Frame Structures	8
142G	Psychology of Human Relations	4
121G	Problems of American Democracy	5
	SIXTH QUARTER	
203F	Wood Production Manufacturing	8
300F	Plant Organization and Operation	3
127G	Economic Principles	5
201X	Job Orientation	2

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.

The curriculum in cosmetology offered by the institute meets State of Illinois standards as to the total time, teaching staff, equipment, facilities, library, and course content. The curriculum requires three quarters and one summer session.

SUGGESTED CURRICULUM

FIRST QUARTER		
101C	Cosmetology Laboratory I	10
125C	Cosmetology Theory I	5
100G	English Fundamentals	3
SECOND QUARTER		
102C	Cosmetology Laboratory II	10
126C	Cosmetology Theory II	5
127R	Specialized Selling	3
THIRD QUARTER		
103C	Cosmetology Laboratory III	10
127C	Cosmetology Theory III	5
116G	Principles of Speech	4
FOURTH QUARTER		
104C	Cosmetology Laboratory IV	10
229B	Record Keeping	2

Knowledge of the Wall Plate is important to the cosmetologist.

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

This curriculum includes seventeen weeks of class work and thirty-one weeks of hospital training in actual care of patients in affiliated hospitals. During the clinical period, a minimum amount of earnings is possible. Graduates of this program must pass the state examination in order to be licensed.

SUGGESTED CURRICULUM

FIRST QUARTER

101P	Nursing Practice and Theory I	7
130P	Homemaking	2
131P	Foods	4
132P	Health I	4

SECOND QUARTER

102P	Nursing Practice and Theory II	3
103P	Clinical Theory and Practice I	4
133P	Health II	1

THIRD QUARTER

104P	Clinical Theory and Practice II	8

FOURTH QUARTER

105P	Clinical Theory and Practice III	8

Welding

This curriculum provides training in the 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.

Completing a section of structural steel welding

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 fifty hours must be completed for graduation.

SUGGESTED CURRICULUM

FIRST QUARTER

101W	Oxy-Acetylene Welding Shop	7
125W	Theory of Oxy-Acetylene Welding	3
100G	English Fundamentals	3
104G	Mathematics Fundamentals	5

SECOND QUARTER

102W	Arc Welding Shop I	7
127W	Theory of Arc Welding	3
175D	Technical Drafting I	3
275M	Metallurgy I	3

THIRD QUARTER

103W	Arc Welding Shop II	7
277M	Metallurgy II	3
201X	Job Orientation	2
Elective		4

Recommended Electives

107G	Technical Mathematics	5
111G	Basic Physics I	4
110G	Trigonometry	3
121G	Problems of American Democracy	5
116G	Principles of Speech	4
142G	Psychology of Human Relations	4
101G	Business Correspondence	3
229B	Record Keeping	2

COURSE DESCRIPTIONS

101A–2 to 7. AUTOMOTIVE ENGINES. The student disassembles and assembles laboratory units according to approved trade procedures. He learns to develop manipulative skills, use of measuring tools, proper shop practices, and the importance of manufacturers' service manuals for reference use.

102A–2 to 7. BRAKE AND STEERING. Principles learned in 126A are practiced and applied to laboratory units. When adequate skills and abilities are acquired, the student is permitted to effect repairs and corrections on live units.

103A–2 to 7. IGNITION AND CARBURETION. Students learn to repair and test those units having to do with fuel and electrical systems; emphasis is on the proper use of diagnostic equipment.

125A–5. INTERNAL COMBUSTION ENGINES.This course encompasses construction, repair, and operation of the automobile engine with accent on the principles of operation.

126A–5. CHASSIS AND BRAKE SYSTEMS. A survey of the bushing and ball joint types of suspension with emphasis on the theory of wheel balancing, factors of steering geometry, power steering, and power brakes.

127A–5. THEORY OF IGNITION AND CARBURETION. A study of the principles of operation of carburetors, storage batteries, electrical generators

and regulators, starting motors, ignition systems, lighting and signaling devices.

128A–3. TRANSMISSIONS AND DRIVE TRAINS. Theory of operation of differentials, overdrives, and the several two-speed automatic transmissions.

201A–2 to 7. DRIVE TRAIN. Laboratory units are used to familiarize the student with drive train components. When sufficient progress has been made he is permitted to diagnose and repair live differentials and hydraulic transmissions.

202A–2 to 7. MULTIPLE GEAR–SET TRANSMISSIONS. Multiple gear automatic transmissions are accepted for diagnosis and repair in this course. Prerequisite: 201A.

203A–2 to 7. ENGINE REBUILDING. The student learns to grind valves and seats, hone bushings, replace valve seats, rebore cylinders, knurl pistons, and grind crankshafts, i.e., skills that require working to minute tolerances. Prerequisite: 201A.

220A–5. AUTOMATIC TRANSMISSIONS. An advanced study of automatic transmissions used on late model automobiles. Special effort is made to offer general information which will be applicable to transmissions that may be produced in the future. Prerequisite: 128A.

227A–3. ENGINE REBUILDING. Follows the same logical order that the mechanic-machinist would follow in rebuilding an engine. The theory of operation and repair of the engine parts is discussed with accent on the machining operations and tolerances. Prerequisite: 125A.

101B–2 to 7. ACCOUNTING I. A study of the balance sheet, profit and loss statements, trial balance, journalizing and posting, sales, purchases, adjusting and closing entries, and periodic summaries.

102B–5. ACCOUNTING II. Accounting principles in the preceding course are applied to partnerships and corporations. Notes and interest, valuation of assets, the voucher system, payroll and tax accounting, and prepaid items are studied in this course. Prerequisite: 101B.

103B–5. ACCOUNTING III. Corporate organization and records, stocks and bonds, surplus and dividends, departmental and branch accounting, accounting for manufacturing analysis, and interpretation of financial statements. Prerequisite: 102B.

104B–2 to 5. SECRETARIAL ACCOUNTING. Basic principles of accounting are presented from the viewpoint of the secretary. The accounts of private individuals, professional men, institutions, and small business firms of various types are studied.

109B–2 to 7. DEPARTMENTAL ACCOUNTING. Accounting principles are applied to special departments such as sales, purchasing, payroll, real-estate holdings, insurance and equipment. Prerequisite: 203B.

126B–3. FUNDAMENTALS OF BUSINESS. A survey of business services intended to give the student a general knowledge of the modern business world and a basis for determining occupational possibilities and requirements.

127B–4. BUSINESS LAW I. Introduction of torts, contracts, sales, liens, negotiable instruments, law of insurance agency, master and servant, real property and landlord and tenant.

201B–4. ACCOUNTING IV. An advanced study of accounting records, merchandising and manufacturing accounts, end of year procedures, cor-

rections of profits of prior periods, accounting statements, analysis of working capital, analytical and comparative per cents, analytical ratios. Prerequisite: 103B.

202B–4. COST ACCOUNTING I. The relation of cost accounting to management for control; general principles involved in constructing a cost system; distribution of cost-materials, labor and burden; cost record; operating reports; joint and by-product cost and budgetary control. Prerequisite: 103A.

203B–4. ACCOUNTING V. An advanced study of current assets, investments, tangible fixed assets, intangible fixed assets, liabilities, reserves, and the statement or application of funds. Prerequisite: 201B.

204B–4. COST ACCOUNTING II. Process cost accounting; costing by-products and joint products; budgeting; estimated cost system; standard cost; cost control and analysis. Prerequisite: 202B.

226B–4. BUSINESS LAW II. Legal problems in normal business relationships, including the law of contracts, agency, sales, bailments, negotiable instruments, insurance, private property, and business organization. Prerequisite: 127B.

227B–2 to 5. OFFICE ADMINISTRATION AND SUPERVISION. Principles of management as applied to office work. Emphasis on the role of the office in business management; office organization; physical facilities of the office; office services, procedures, standards, and controls; and records management.

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

230B–5. AUDITING. The preparation of the audit program, working papers, and reports are considered. In addition, selected problems dealing with various asset, liability, and capital accounts are worked and discussed. Prerequisite: 204B.

233B–5. FEDERAL TAXES. Problem material in income, estates, and gift taxes as they affect individuals and various forms of business organization. Prerequisite: 103B.

234B–3. REAL–ESTATE PRINCIPLES. Real-estate economics, terminology and definitions, real-estate law, real-estate investment.

235B–4. BUSINESS STATISTICS. Collection, tabulation, and graphic presentation of data, averages and index numbers, economic trends, cycles, correlation, and application.

236B–5. INSURANCE PRINCIPLES I. History, ethics, and economics of insurance; types of insurance; Illinois state laws relating to transactions of insurance; agency and brokerage contracts; types of casualty and property insurance.

237B–3. REAL ESTATE APPRAISAL. The practical approach to solving appraisal problems of residential, rural, urban, and commercial properties. Includes on-the-site analysis of properties.

238B–5. LIFE INSURANCE I. Principles underlying the structure of life insurance and its various operations, ways life insurance can be applied to the needs for personal estate, property estate, and business.

239B–3. FIRE AND INLAND MARINE INSURANCE. General principles of insurance, with emphasis upon fire insurance and inland marine insurance.

240B–4. PROPERTY AND CASUALTY INSURANCE I. Principles of insurance as applied to illness, injury, and property damage claims.

241B–4. PROPERTY AND CASUALTY INSURANCE II. First party claims, third party claims, policy coverages, damage appraisals, law of torts, legal doctrines, and injury evaluations.

250B–3. REAL ESTATE FOR HOME BUILDERS. A survey of the real-estate field with emphasis on the essentials that concern the consumer. The purpose is to develop a full understanding of realty as a commodity and to equip the student with the fundamentals essential to a successful building operation.

251B–3. RECORD KEEPING FOR HOME BUILDERS. Fundamental training in business practice and record keeping. A study of business records and papers; recording transactions; classification and interpretation of cost data; special problems; preparation of financial statements and reports.

275B–5. CREDITS AND COLLECTIONS. Organization and operation of the credit department including sources and analysis of credit information, collection methods, and correspondence. Credit management emphasized.

101C–6 to 12, 102C–6 to 12, 103C–6 to 12, 104C–6 to 12. COSMETOLOGY LABORATORY I, II, III, IV. Laboratory practice in the skills involved in giving a permanent wave, pin curl and finger wave, scalp treatment, haircut, facial massage, hand and arm mold, hair tint and bleach, and manicure.

125C–5. COSMETOLOGY THEORY I. Study of the skin and hair and how each is affected by massage and treatment. Elementary chemistry of the various materials used in the treatment of the scalp, hair, and skin. Disorders of hair, scalp, and skin. Sanitation and sterilization as applied to cosmetology. That part of Illinois law pertaining to cosmetology is introduced.

126C–5. COSMETOLOGY THEORY II. Further study of Illinois law affecting cosmetology; circulation of blood and lymph. Hair tints and bleaches; neurology, including the effect of massage upon the nerves; use of electricity in the treatment of hair, scalp, and skin.

127C–5. COSMETOLOGY THEORY III. Salon management including location, equipment, ventilation, sanitation, supplies, inventories, purchasing, and personnel problems. Salesmanship with special emphasis on the selling of personal service.

101D–2 to 7. MACHINE DRAFTING AND DESIGN I. Supervised practice in vertical lettering and in applying the principles of technical drawing to a variety of problems.

102D–2 to 7. MACHINE DRAFTING AND DESIGN II. Supervised practice in pictorial drawing, inking, using American Standard welding symbols, and applying the principles of descriptive geometry to a variety of problems.

103D–2 to 7. MACHINE DRAFTING AND DESIGN III. Supervised practice in the making of sets of drawings for both unit and mass production of small machines and products involving machine tool operations. Use of many handbooks, manuals, and catalogs ordinarily found in the libraries of engineering departments.

110D–2 to 7. ARCHITECTURAL PROJECTIONS. Use of the instruments; lettering; projections; intersections; developments; oblique; isometric; shades and shadows; perspectives. Laboratory and lecture.

115D–2 to 7. RESIDENTIAL ARCHITECTURE I. Lettering; use of the instruments; projections; isometric drawings; perspective and presentation drawings; study and development of basic floor plans of a residential nature. Laboratory and lecture.

116D–3. RESIDENTIAL ARCHITECTURE II. Study and development of projects in contemporary residential design; basic influence which environment, materials, and psychological and physical functions exert on man's development of shelter. Laboratory and lecture. Prerequisite: 115D or consent of adviser.

117D–3. RESIDENTIAL ARCHITECTURE III. Study and development of projects in contemporary residential design of a complex nature; emphasis on proper orientation, materials, environment, and psychological and physical functions as the solution to the problem. Laboratory and lecture. Prerequisite: 116D or consent of adviser.

121D–4. ARCHITECTURAL DESIGN I. Beginning study of architectural planning, design, composition, and presentation. Laboratory and lecture. Prerequisite: 110D or consent of adviser.

125D–3. MACHINE DRAFTING AND DESIGN THEORY I. Essentials of the draftsman's language dealing with sketching, lettering, geometric constructions, instrumental drawing, multiview projection (including sections and single auxiliaries), dimensioning, threads, fasteners, springs, assembly, and detail drawings.

126D–3. MACHINE DRAFTING AND DESIGN THEORY II. Pictorial drawing principles and techniques; descriptive geometry principles involved in successive auxiliary views, true dihedral angle determination, revolutions, intersections, developments, and bent-part design; inking techniques; and welding specification.

127D–3. MACHINE DRAFTING AND DESIGN THEORY III. Principles and practices in precision dimensioning (especially for interchangeable manufacture), drawing of gears and piping, design of cams, and reproduction and changing of drawings.

146D–3. ARCHITECTURAL RENDERING I. Pencil drawing from still life and landscape; use of the elements of drawing. Laboratory and lecture.

147D–3. ARCHITECTURAL RENDERING II. Pencil drawing and watercolor from still life and landscape; study of theory of color. Laboratory and lecture. Prerequisite: 146D or consent of adviser.

148D–3. ARCHITECTURAL RENDERING III. Watercolor from still life and landscape. Laboratory and lecture. Prerequisite: 147D or consent of adviser.

150D–3. INTRODUCTION TO ARCHITECTURE. Illustration of basic forms and their organization; discussion of professional ethics; conduct of architectural practice; methods of making estimates; contracts and contract documents. Lecture.

151D–3. MATERIALS AND METHODS OF CONSTRUCTION I. 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. Laboratory and lecture. Prerequisite: 110D, 115D, or consent of adviser.

152D–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. Laboratory and lecture. Prerequisite: 110D or consent of adviser.

153D–3. SITE PLANNING AND CONSTRUCTION I. Elementary problems emphasizing physical development of specific sites involving population densities, architectural forms, grading, public utilities, traffic and parking, and functioning street patterns. Laboratory and lecture. Prerequisite: 110D or consent of adviser.

154D–3. INTRODUCTION TO RESIDENTIAL BUILDING. A survey of the home-building industry with emphasis on the common problems; economic outlook, design and construction trends, financing, special housing, labor, and legislation. Lecture.

175D–3. TECHNICAL DRAFTING I. Principles of orthographic projections, conventional representations and symbolism, dimensioning and other specifications, and practice in the reading and sketching of technical drawings, the language of industry.

176D–3. TECHNICAL DRAFTING II. Technical drawing with instruments. Working drawings including sectional and auxiliary views, threads and fasteners, details and assemblies, welding, and precision dimensioning for interchangeable and noninterchangeable manufacture.

177D–3. TECHNICAL DRAFTING III. The drawing of jigs, fixtures, and special tools.

178D–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.

179D–3. FURNITURE DRAFTING AND DESIGN. A study of furniture design and the development of working drawings and blueprints as applied to furniture construction.

201D–2 to 7. MACHINE DRAFTING AND DESIGN IV. Selected problems in mechanisms which include completed drawing ready for manufacture.

202D–2 to 7. MACHINE DRAFTING AND DESIGN V. Selected problems of machines which include completed drawing ready for manufacture.

203D–2 to 7. MACHINE DRAFTING AND DESIGN VI. Selected problems of jigs and fixtures. Actual manufactured parts are used as a basis to design the tooling necessary for producing these parts in a small lot, medium lot, and large lot. The operational procedure of production is also required.

210D–3. CONSTRUCTION I. A technical study of masonry, concrete, metal, and synthetics used in home construction. Time for the development of skills is limited to the very basic processes and tools. Laboratory and lecture. Prerequisite: 250D or consent of adviser.

211D–3. CONSTRUCTION II. A course in the fundamentals of bench woodworking, carpentry, and cabinetmaking with emphasis on the skills and knowledge common to home building construction. Laboratory and lecture. Prerequisite: 210D or consent of adviser.

212D–3. CONSTRUCTION III. Continuation of 211D with the addition of finishing and preservation. Laboratory and lecture. Prerequisite: 211D or consent of adviser.

220D–2 to 6. ARCHITECTURAL DESIGN II. Continuation of 121D with em-

phasis on small structures. Laboratory and lecture. Prerequisite: 121D or consent of adviser.

221D–2 to 6. ARCHITECTURAL DESIGN III. Continuation of 220D with emphasis on more complex structures and building groups. Laboratory and lecture. Prerequisite: 220D or consent of adviser.

222D–2 to 6. ARCHITECTURAL DESIGN IV. Continuation of 221D with emphasis on more complex low rise structures and building groups. Laboratory and lecture. Prerequisite: 221D or consent of adviser.

225D–3. MACHINE DRAFTING AND DESIGN THEORY IV. Analysis of mechanical movements selected from automatic machines and various other forms of mechanical apparatus embodying ideas or principles applicable in designing machines or devices requiring automatic features or mechanical control.

226D–3. MACHINE DRAFTING AND DESIGN THEORY V. Stress, strain, elasticity, ultimate strength, safety factor. Shear, tensile, and torsional stresses. Beam strength, loading deflection, bending moment, shear strength. Torsion in shafts.

227D–3. MACHINE DRAFTING AND DESIGN THEORY VI. The principles of production machine tooling involving machine tools such as turret lathes, production mills, drill presses, and grinding machines with the use of jigs and fixtures.

246D–3. ARCHITECTURAL RENDERING IV. Water color from still life and landscape. Laboratory and lecture. Prerequisite: 148D or consent of adviser.

247D–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. Lecture. Prerequisite: 110G or consent of adviser.

250D–3. MATERIALS AND METHODS OF CONSTRUCTION II. Semi-fireproof construction, framing systems and foundations, manufacture and performance characteristics of materials, finish materials, development of construction details and drawings. Laboratory and lecture. Prerequisite: 151D or consent of adviser.

251D–3. MATERIALS AND METHODS OF CONSTRUCTION III. Fireproof construction; long span systems; industrial and commercial structures; finish materials, preparation and interpretation of construction detail working drawings, and shop drawings. Laboratory and lecture. Prerequisite: 250D or consent of adviser.

252D–2 to 6. MATERIALS AND METHODS OF CONSTRUCTION IV. Selected problems in architectural construction with emphasis on working drawings; detailing, schedules and specifications; quantity surveys. Report of individual investigations and study required. Laboratory and lecture. Prerequisite: 251D or consent of adviser.

254D–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. Lecture. Prerequisite: Fourth-quarter status or consent of adviser.

258D–4. STRUCTURAL ELEMENTS. Structural design as a correlated part of the design and planning. Analysis of building loads; action of forces,

strength of materials; theories of shear, flexure, and deflection; design of wood, steel, and concrete structural members. Lecture. Prerequisite: 110D or consent of adviser.

259D–2 to 6. ARCHITECTURAL DESIGN V. Selected problems in architectural design of high rise buildings and building groups. Laboratory and lecture. Prerequisite: 222D or consent of adviser.

260D–2 to 6. MATERIALS AND METHODS OF CONSTRUCTION V. Selected problems in building construction with emphasis on working drawings; detailings; construction equipment; contract documents; construction costs and estimates. Report of individual investigations and study required. Laboratory and lecture. Prerequisite: 252D or consent of adviser.

265D–2. SANITARY SERVICES FOR RESIDENTIAL BUILDINGS. Study of design and installation of sewage and water-supply systems; plumbing estimates and costs; rough layouts; code requirements and trade practices affecting electrical installations. Lecture. Prerequisite: consent of adviser.

266D–2. ELECTRICAL SERVICES FOR RESIDENTIAL BUILDINGS. Study of design and installation of electrical wiring, illumination and special electrical services; electrical estimates and quantity surveys; code requirements and trade practices affecting electrical installations. Lecture. Prerequisite: consent of adviser.

267D–2. HEATING AND AIR–CONDITIONING FOR RESIDENTIAL BUILDINGS. Study of design and installation of modern heating, ventilating and air-conditioning equipment; estimates and costs; selection of equipment; code requirements and trade practices affecting installations. Lecture. Prerequisite: consent of adviser.

280D–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. Lecture.

282D–3. INTERIOR DESIGN I. Selected individual or group projects in the design of interior spaces and furnishings. Prerequisite: consent of adviser.

283D–3. ARCHITECTURAL CONSTRUCTION ANALYSIS I. Selected individual or group projects in materials and methods of architectural construction as applied to the selection and use of contemporary architecture.

284D–3. STRENGTH OF MATERIALS. Beam analysis; shear, moment, and deflection diagrams; relationship of external forces and stresses produced; centroids; moments of inertia; theory of bending. Prerequisite: 247D or consent of adviser.

285D–3. ARCHITECTURAL DESIGN ANALYSIS I. Selected individual or group projects in architectural design. Laboratory and lecture. Prerequisite: consent of adviser.

301D–3. THEORY OF STRUCTURES I. Principles of steel and timber construction, theory of design of structural elements, and uses of the handbooks. Prerequisite: 284D or consent of adviser.

302D–3. THEORY OF STRUCTURES II. Principles of reinforced concrete construction, theory of design of structural elements and use of handbooks. Prerequisite: 284D or consent of adviser.

101F–2 to 8. INTRODUCTORY WOODWORKING. Includes construction principles and procedures in sizing and shaping wood with modern hand and power tools. Individual project work is planned and completed.

102F–2 to 8. CABINET AND MILLWORK. Includes principles and procedure planning, development of skills and knowledge in fabrication of cabinet and millwork characteristic of that used in home construction.

103F–2 to 8. FURNITURE CONSTRUCTION. The construction principles, procedures, skills, and knowledge required in the construction of high grade furniture.

128F–2 to 4. WOOD TECHNOLOGY. Study of the structure, identification and physical properties of wood.

130F–2 to 4. LUMBER SEASONING. Advanced work in air drying and kiln drying for the student who desires to specialize in lumber seasoning. Kiln operation, tune up, maintenance, and design. A full size kiln at the Wood Products Pilot Plant is available for practical seasoning work.

131F–2. LUMBER GRADING. Study of and practice with the National Hardwood Rules, Southern Pines Rules, and West Coast Rules. Tally methods and grading for special products.

132F–2. WOOD PRESERVATION. Wood preservatives: their use, limitations, and methods of application.

201F–2 to 8. LIGHT FRAME CONSTRUCTION. Development of carpentry, joinery, and building construction techniques and skills common to light frame construction. Conventional methods of construction are emphasized.

202F–2 to 8. PRE–FABRICATED FRAME STRUCTURES. Development of skills and related technical information common to the manufacture, erection, and completion of pre-fabricated and pre-cut types of light frame structures.

203F–2 to 8. WOOD PRODUCTION MANUFACTURING. Industrial production methods in the manufacture of wood products, including the study and application of quality and quantity controls, production scheduling and routing of safety, plant layout, and equipment and supply problems.

229F–2 to 6. WOOD FINISHING. Principles of wood finishing and the characteristics of finishing materials. Development of skills and knowledge in the uses and applications of various types of wood finishes.

300F–3. PLANT ORGANIZATION AND OPERATION. The 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.

100G–3. ENGLISH FUNDAMENTALS. Writing practice, mostly expository. Student uses chiefly his own ideas and materials and aims at the development of skill in organizing and arranging these ideas and materials; emphasis on unity and coherence in the whole composition. An acquaintance with the library, an amount of directed reading, studies of the structure of the sentence, and conferences on the work.

101G–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: 100G or equivalent.

102G–3. ENGLISH PROBLEMS ANALSIS. For the student who will specialize in stenographic and secretarial occupations. Individual problems

in punctuation, spelling, and grammatical construction are analyzed for the purpose of development of skill in word usage.

104G–5. MATHEMATICS FUNDAMENTALS. A refresher on the mathematical tools needed by the student in his work and in his later courses. Includes a review of arithmetic and some basic topics of elementary algebra.

105G–2. ALGEBRA FUNDAMENTALS. A briefer refresher than 104G. Most of the time is devoted to algebra.

107G–5. TECHNICAL MATHEMATICS. The study of algebra with specific orientation of the vocational needs of the students: Separate sections for the various curricula as designated in the Schedule of Classes.

110G–3. TRIGONOMETRY. Usual topics of trigonometry.

111G–4. BASIC PHYSICS I. A study of mechanics, mechanical vibrations, sound, wave motion, and light, to give a basic understanding of these phases of physics.

112G–4. BASIC PHYSICS II. A study of the basic laws of heat measurements and transfers, fundamentals of magnetism, electrical charges and currents, electrical measurement, and fundamentals of acoustics.

114G–2. ELEMENTS OF HUMAN BIOLOGY. Lectures and demonstrations presenting a basic concept of the human body. A background for courses in dental anatomy.

115G–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.

116G–4. PRINCIPLES OF SPEECH. Development of an understanding of basic principles and proficiency in the skills involved in everyday communication.

121G–5. PROBLEMS OF AMERICAN DEMOCRACY. Problems pertaining to civil liberties, pressure groups and propaganda, the electoral system, and general governmental organization and procedures.

127G–5. ECONOMIC PRINCIPLES. The economic system, markets, production, value, price distribution, the cycle, comparative system.

136G–5. INTRODUCTORY SOCIOLOGY. Survey of Sociology. Interrelationships of personality, social organization and culture, major social processes; structure and organization of social groups.

141G–5. INTRODUCTION TO PHYSIOLOGY. A survey of the functions of the human body. Designed for students in various fields desiring a basic but comprehensive knowledge of human physiology.

142G–4. PSYCHOLOGY OF HUMAN RELATIONS. Training in development of personality, ability to analyze problems involving human relations, and good foundations for personnel relations. Actual cases of human-relations problems in business and industry are studied with a view toward developing the technique of working with superiors, associates, and subordinates.

177G–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.

200G–2. ECONOMICS FOR HOME BUILDERS. An introduction to the science of economics; examinations of fundamental principles; understanding of value, price, cost, rent, interest, wages, profit, and business cycles.

201G–2. ETHICS FOR HOME BUILDERS. Ethical standards and theories of right and justice underlying business relations. Stress on problems involving social morality, the profit motive, prices, and unfair competition.

232G–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.

279G–3. PUBLIC RELATIONS–COMMUNITY PROBLEMS. A study of how a retail business can execute its responsibilites in the community and develop good will for the store and the trading area in general.

112H–3. JURY CHARGE. Material is dictated from actual jury charges from official records. Because this form is different from ordinary dictation, it is necessary for the prospective court reporter to have this practice.

120H–2 to 7. STENOGRAPH THEORY. A study of the principles of stenograph 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 sixty words per minute for five minutes.

121H–2 to 7. STENOGRAPH DICTATION I. Primarily for stenograph majors. 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 are provided. Students are gradually introduced to sustained writing situations. Emphasis on speeds from sixty to eighty words per minute. Prerequisite: 120H.

122H–2 to 7. STENOGRAPH DICTATION II. Speeds up to 100 words per minute. Emphasis on brief forms, word families, and special forms. Students are gradually introduced to sustained writing situations with emphasis on mailable transcripts. Prerequisite: 121H or equivalent.

123H–2. STENOGRAPH TRANSCRIPTION I. Introduction to the principles of transcription, placement of letters, spelling, vocabulary building, and application of grammar. Transcription of business letters and reports according to business standards. Prerequisite: 120H.

124H–2. STENOGRAPH TRANSCRIPTION II. Practice on 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 in transcription. Prerequisite: 123H.

210H–4. TWO–VOICE TESTIMONY. Two people dictate, alternating their questions and answers, to give the student practice in taking dictation under these conditions, which occur in court procedure. Prerequisite: 124H.

101J–2 to 7. PRINT SHOP I. Introduction to printing involving hand composition of type and problems encountered by the compositor. Practice in setting type by hand, spacing, punctuating, and making-up simple forms.

102J–2 to 7. PRINT SHOP II. Advanced hand composition, involving the use of Mono-Tabular Broach with Linotype-set type. Preparation of two-color work, book signatures and other advanced hand composition.

103J–2 to 7. PRINT SHOP III. Linotype and Intertype operation, with emphasis on learning correct touch system, and practice in many types of Linotype composition.

125J–5. PRINT SHOP THEORY I. A study of the point system, printers' measure, spacing, and justification.

126J–3. PRINT SHOP THEORY II. A study of rule and tabular composition, correct method of setting rules, borders, and ornaments.

127J–3. PRINT SHOP THEORY III. A study of the correct keyboard system for the slug-casting machine, word division, etc.

152J–3. PROOFREADING. A study of word division, spelling, punctuation, and how they apply to printing.

153J–3. PRINTING LAYOUT AND DESIGN. Training in making layouts for advertisements, direct mail pieces, etc. A study of type faces, use of white space, etc.

201J–2 to 7. PRINT SHOP IV. Technical knowledge of line-casting machine maintenance. Machines are studied by units, and the quarter culminates in a group project of dismantling and erecting a Linotype machine.

202J–2 to 7. PRINT SHOP V. Elementary presswork, with emphasis on hand-fed presses. Study of ink, paper, and other materials used in presswork.

203J–2 to 7. PRINT SHOP VI. Presswork and bindery problems, with emphasis on automatic platen and cylinder presses. Use of stitcher, paper cutter, paper drill, and other simple bindery tools and machines.

225J–3. PRINT SHOP THEORY IV. A study of the problems of Linotype and Intertype maintenance, adjustments, and advanced keyboard problems.

226J–3. PRINT SHOP THEORY V. A study of the correct ink to use with different papers, problems of the different presses, make-ready, etc.

227J–3. PRINT SHOP THEORY VI. A study of bindery problems such as folding, stitching, and paper-cutting.

251J–3. ESTIMATING AND COSTS IN PRINTING. A study of correct methods of pricing jobs. The Porte catalog is used as a basic text.

101K–3. CALCULATING MACHINES I. Introduction to office machines such as calculators, comptometers, adding-listing machines, and bookkeeping machines used in business establishments.

102K–3. CALCULATING MACHINES II. Emphasis on building skill in the operation of key-stroke and rotary-type calculators. Prerequisite: 101K.

103K–3. CALCULATING MACHINES III. High speed drills to develop occupational competency in the operation of the comptometer, the Burroughs Calculator, and the other key-driven business machines. Prerequisite: 102K.

111L–5. CLERICAL PROCEDURES. Non-stenographic skills in record-keeping are practiced. Preparing stock records, perpetual inventories, invoices, bills of lading, checks, receipts, and statements; auditing invoices and proving petty cash.

101M–2 to 7. LATHE AND BENCH WORK LABORATORY. Supervised practice of operations with hand tools and the engine lathe. Exercises and projects.

102M–2 to 7. SHAPER AND PLANER LABORATORY. Procedure and practice in operations using the shaper and planer. Measuring instruments and the various set-ups which are incorporated with these machines are also used.

103M–2 to 7. PRECISION MEASUREMENT TECHNIQUES LABORATORY. Practice by using gauges, indicators, comparators, gauge block set-ups measuring machines, and optical measurement on actual piece parts as they are being machined in the laboratory.

125M–5. LATHE AND BENCH THEORY. Provides the technical knowledge required for the proper performance of hand tools and engine lathe, the geometry of tools for engine lathes, and orientation of other machine tools used in industry.

126M–3. SHAPER AND PLANER THEORY. Various types of shapers, slotters, planers, and set-ups are analyzed; also, types of tools used for different kinds of metals.

127M–3. PRECISION MEASUREMENTS. The history and principles of measurement. Study of fixed gauges, thread gauges, thread systems, dial gauges, test indicators, gauge blocks, optical measurement, angular measurement, measuring machines, surface roughness, and lapping compounds.

175M–3. BASIC MACHINE SHOP PRACTICE. Machine shop for the allied trades stressing the use of hand tools, drilling, and basic lathe work.

176M–3. MANUFACTURING PROCESSES I. Chip machining. Understanding machine shop practice, fundamental processes, hand tools, machine tool, and precision equipment. For students of machine drafting.

177M–3. MANUFACTURING PROCESSES II. Chipless machining. Understanding production-line machines, sand castings, hot and cold forging, plastic processes, die casting, presswork, and mass production processes. For students of machine drafting.

201M–2 to 7. MILLING MACHINE LABORATORY. Emphasizes making jigs, fixtures, dies, and cutting tools with the use of machine tools and other essential accessories described in course 225M.

202M–2 to 7. PRECISION GRINDING LABORATORY. Practice on actual manufactured parts. Includes set-ups on the surface, cylindrical, and cutter grinders. Industry's standards of finish are used as a basis for performance and completion of the piece part.

203M–2 to 7. PRODUCTION MACHINE LABORATORY. Emphasizes the set-up of tooling for a production machine such as the turret lathe, production mill, and drill press with the use of jigs and fixtures. Complete set-ups and machining of a quantity of parts for time study, with tolerances within manufacturers' standards.

225M–3. MILLING MACHINE THEORY. Study of various types, sizes, and manufacturers of milling machines; the shape, sizes and types of milling cutters; the holding devices, calculations of speed and feed, calculations of spur, bevel, helical and spiral gearing with the use of the index head; use of coolants; indicators and end standards for co-ordinate method of hole location.

226M–3. PRECISION GRINDING TECHNIQUES. Emphasizes grinding principles as applied to both tool room and production grinding. Analysis of grinding wheel shape, size, abrasives, and structure. Types of grinding machines such as surface, cylindrical, off-hand, tool and cutter, disc, and centerless grinding.

227M–3. PRODUCTION MACHINES AND TOOLING. Historical review of the machine tool industry. The principles of tooling as applied to semi-automatic and automatic machine tools with the use of jigs, fixtures, and special tooling. Cost and routing of materials as applied to the operational procedure of producing small, medium, and large lots of parts.

275M–3. METALLURGY I. Properties of steel, effects of carbon, surface treatments, tool steels, high alloy and stainless steel, classification of steels, selection, and practical heat treatment of steel.

276M–3. METALLURGY—PRECIOUS METALS. Study of precious metals and their alloys; the constitution of alloys and their heat treatment; the dimensional changes through working and heating; the casting of gold alloys, their preparation for investment castings; microstructures.

277M–3. METALLURGY II. General characteristics of the metallic elements, theory of alloys, constitutional and phase diagrams, ferrous metals and the seven important non-ferrous metals and their principal alloys, standard hardness testing, tensile testing, microstructures, corrosion and work hardening, SAE and AISI classification of steels, and the selection and use of medium alloy and tool-and-die steels.

101N–3, 102N–3, 103N–3. DRAWING COMPOSITION I, II, and III. Drawing any object in any position through a study of perspective and other form concepts; bringing objects together in relationships that are both dynamic and balanced through a study of line, form, value, color, and texture as elements of design. Studio problems and field sketching.

125N–3, 126N–3, 127N–3, 225N–3, 226N–3, 227N–3. FIGURE DRAWING I, II, III, IV, V, and VI. Study of the human figure for action proportions and construction. Sketches from life and from costumed models reveal the relationships of the body to clothing. Interpretation of the figure and apparel are studied in relation to advertising and fashion illustration.

130N–3, 131N–3, 132N–3. LETTERING AND LAYOUT I, II, III. Development of professional skill in lettering techniques from showcard brush lettering through finshed hand-lettering, paste-up lettering, and the selection of type for use in advertising. Preparation of rough-ideas sketches and finished layouts for newspaper advertising, catalogs, brochures, posters, displays, and television art.

140N–3, 141N–3, 142N–3. ADVERTISING ILLUSTRATION I, II, III. Practical problems of advertising design and illustration. Students develop skill in using pen, brush, ink, and wash. They gain experience in modern techniques for preparing art for reproduction in black and white and in color. Training in using color and screen-tint overlays, masking, photo retouching, airbrush, paste-up, and mark-up of art of engraving and printing.

150N–3. ART APPRECIATION. Development of understanding of art through a survey of fine arts with emphasis upon relationship to daily environment and the field of commercial art.

201N–3 to 12, 202N–3 to 12, 203N–3 to 12. ADVERTISING LAYOUT AND PRODUCTION I, II, III. The student develops skill in detailed planning and production of advertising. This includes preparation of layouts, planning of copy and typography, and much of the finished art work. Ways of providing instructions to those who work with the advertising and production man in the preparation of advertising.

210N–3 to 12, 211N–3 to 12, 212N–3 to 12. ADVERTISING AND STORY ILLUSTRATION I, II, III. Development of skill in the rendering of illustrations of merchandise for advertising as well as decorative illustrations and stylized cartoons for advertising story illustration, greeting cards, children's books and television art.

220N–3 to 12, 221N–3 to 12, 222N–3 to 12. FASHION ILLUSTRATION I, II, III. Development of style and taste in the illustration of fashion apparel and accessories in mediums appropriate to newspaper, magazine, and catalog advertising.

230N–3 to 12, 231N–3 to 12, 232N–3 to 12. TECHNICAL ILLUSTRATION I, II, III. Preparing technical illustrations at a professional level for the aircraft, automotive, and industrial fields with special emphasis on rendering and reproduction suitability.

101P–2 to 7, 102P–3. NURSING PRACTICE AND THEORY I, II. Supervised practice of nursing techniques for practical nurses. Includes theory applied to practice in nursing procedures, conditions of illness, care of well child, care of mothers and newborn, diversional and rehabilitation activities, personal and vocational relations.

103P–4, 104P–8, 105P–8. CLINICAL THEORY AND PRACTICE I, II, III. Clinical practice in selected hospitals. Includes applied related nursing subjects.

130P–2. HOMEMAKING. (24 clock hours) Basic home-making skills and related instruction as applied to the practical nurse.

131P–4. FOODS. (50 clock hours) Meal planning, marketing, preparation, table service, and normal dietary needs.

132P–3. HEALTH I. (52 clock hours)

1. *Personal Health.* (13 clock hours) The scope of scientific knowledge which enables man to maintain vigorous health and guard against disease. Principles of hygiene.

2. *Community Health.* (16 clock hours) Health of people as a group; social and governmental activities responsible for environmental control and health promotion.

3. *Body Structure and Function.* (23 clock hours) Study of specific systems of the body. Development of the concept of interlocking dependence of one system on another and the contributions of each system to the well-being of the entire body.

133P–1. HEALTH II. (10 clock hours) Continuation of categories one and three of 132P.

124R–4. INTRODUCTION TO RETAILING. This course is introductory to all retail programs. It deals with the distribution functions, modern store organization, history and background of modern retailing, and the basic responsibilities of the beginning co-operative retail student.

127R–2 to 6. SALESMANSHIP. Principles and techniques of selling, primarily in retail stores. Outside selling included.

176R–3. PRODUCT ANALYSIS. Basic theories and principles used in analyzing merchandise. A background course which will later aid in collecting and interpreting pertinent data on specific types of merchandise.

177R–2 to 15. PRODUCT INFORMATION LABORATORY. Student will acquire information concerning a wide variety of products or study intensely concerning a particular line of merchandise, e.g. groceries, hardlines, sundries, or apparel. Use, quality, appropriateness, handling, care, design, value, and demand. Prerequisite: 176R or consent of instructor.

179R–5. RETAIL MATHEMATICS. Analysis and calculations encountered daily in merchandising. Mark-up, mark-down, stock records, profits, expense, discount, budgeting.

201R–4 to 20. CO–OPERATIVE WORK EXPERIENCE. Full-time training in a University-approved merchandising establishment. Each student receives some instruction and supervision by a retailing faculty member. The employer is the immediate supervisor during this period and the student abides by his regulations. Assigned study projects are completed. Training experience is discussed in frequent meetings.

205R–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.

206R–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 205R. Prerequisite: 179R.

207R–2 to 6. SALES PROMOTION. Fundamentals of sales promotion and its relationship to advertising and display. The principles of composition, color, and design, the evaluation of media and agents, and the procedures involved in the planning and preparation of advertising and display to promote sales. The appraisal of the total effectiveness of a sales promotion program and its application to sound public relations.

208R–2 to 6. 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.

224R–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.

227R–3. PERSONNEL MANAGEMENT. Retail personnel management, employee relations, policies and techniques. Methods of recruitment, selection, placement, and training.

280R–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.

101S–3. TYPEWRITING I. An introductory course in touch typewriting. Developing a net typing rate of at least 30 words per minute and the ability to type simple business correspondence, tables, and manuscripts. Students who demonstrate competence may be excused from this course.

102S–3. TYPEWRITING II. Development of basic typing skill. Emphasis on the mechanics of typewriting in preparation for transcription. Business letters and their various styles. A rate of forty words per minute is required. Prerequisite: 101S or equivalent.

103S–3. TYPEWRITING III. Advanced letter writing problems of the usual business forms, manuscripts, and report typing. A rate of fifty words per minute is required. Prerequisite: 102S or equivalent.

104S–2 to 7. SHORTHAND THEORY. An introductory course in Gregg Shorthand. Chalkboard demonstrations, drills on word lists, practice in reading materials, intensive drill on brief forms, phrases, and word families. Students who demonstrate competence may be excused from this course.

107S–2. FILING. Basic principles of modern filing systems; alphabetic, subject, numeric, and geographic. Student work with practice filing equipment,

learning the rules of indexing, cross referencing, coding, charge-outs, color devices, and setting up a modern system.

125S–2. PERSONALITY DEVELOPMENT I. To help students improve their personalities. Social usage, personal appearance, and good grooming; living and working with others; emotional and social maturity; and the effect of good nutrition and health on personality.

126S–2. PERSONALITY DEVELOPMENT II. Continuation of 125S. Adapting one's self to office regimen, with emphasis on voice modulation, diction, correct posture, poise, effective attitudes, social amenities, and correct grammar.

204S–2 to 5. SHORTHAND DICTATION I. Builds the student's shorthand vocabulary of brief forms, special forms, and word families. English fundamentals, punctuation rules, and spelling aids. A rate of eighty words per minute is required. Prerequisite: 104S or equivalent.

205S–3. TYPEWRITING IV. Intermediate speed drills combined with rapid straight typing for the building of competent business typing skill. Major emphasis on accuracy and speed building with review of office production typing. Prerequisite: 103S or equivalent.

206S–2 to 5. SHORTHAND DICTATION II. Speed building in dictation with emphasis on mailable transcripts. Sustained writing practice, building speed to one hundred words per minute. Prerequisite: 204S.

207S–2. TRANSCRIPTION I. Instruction in the principles of transcription, placement of letters, punctuation, spelling, vocabulary building, and application of grammar; transcription of business letters and reports according to business standards. Prerequisite: 104S.

208S–2. TYPEWRITING V. Intensive drills and exercises to build accuracy and speed. One day each week is given to office production typing under timed conditions. Prerequisite: 205S or equivalent.

209S–2 to 5. SHORTHAND DICTATION III. Drills build speed to one hundred ten words per minute. Emphasis on dictation for transcription under timed conditions. Attention given to most-used business phrases, common business words and terms, spelling, English fundamentals, and shorthand theory. Prerequisite: 204S.

210S–2. TYPEWRITING VI. High-speed typing drill is employed using speed sentences, phrases, continuity paragraphs. One day per week is given to timed production office typewriting problems. Prerequisite: 208S or equivalent.

214S–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, non-stenographic, 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.

215S–5. WORK STUDY PROBLEMS. The student spends half days in a seminar with the co-ordinator of the work-study plan to improve techniques as used in the co-operative part-time position; to study problems and activities as they are met in the work-study plan. Remedial work where necessary on an individual basis, depending on the type of work and problems in the part-time placement under the co-operative plan.

218S–4. CO–OPERATIVE MEDICAL SECRETARY EXPERIENCE. The stu-

dent 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.

220S–2. TRANSCRIPTION II. Building speed and accuracy in transcription. Practice in transcribing from cold notes, office style dictation, and other types of dictation. Builds speed to twenty-five words per minute. Emphasis on spelling, punctuation, and English usage. Prerequisite: 207S.

221S–2. TRANSCRIPTION III. Emphasis on office situations, such as checking information and dictated material, taking dictation at the typewriter, and transcription from cold notes. Builds speed to thirty words per minute. Prerequisite: 220S.

223S–2 to 5. SECRETARIAL OFFICE PROCEDURES. Lectures and laboratory practice in handling office work in a detailed manner. The student assumes the responsibility of 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. Prerequisite: 209S.

224S–2 to 5. LEGAL–DICTATION SHORTCUTS. Special dictation, involving special legal terms, vocabulary building, shortcuts in writing legal terms in Gregg shorthand, or in machine shorthand. Special forms involving phrasing, advanced brief forms, and technical terms needed in legal secretarial work. Prerequisite: 209S or equivalent.

225S–2 to 5. MEDICAL DICTATION I. 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 meaning, spelling, and shorthand writing of medical prefixes and suffixes. Prerequisite: 206S.

226S–2, 228S–2. MEDICAL TRANSCRIPTION I AND II. Conducted on the laboratory basis, the student transcribes from dictated notes, using terminology from general medicine, and specialized related areas. Attention is given to the preparation of medical case histories, X-ray reports, post-operative diagnosis, etc.

227S–2 to 5. MEDICAL DICTATION II. Increasing speed and proficiency. Advanced medical terms, special types of case histories, medical phrases, and special forms. Special medical-secretarial techniques stressed. Prerequisite: 225S.

230S–2. LEGAL TRANSCRIPTION I. Transcription from dictation notes with content 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.

231S–2. COURTROOM ORIENTATION. Designed particularly for the legal secretary who may spend time in the courtroom. Particular attention to court attitude, courtesies, behavior, and correct procedures demanded by the presiding judge.

232S–5. WORK EXPERIENCE. The student spends half-days on the job to gain actual experience in the special field. Co-ordinated by a staff member.

233S–2 to 5. DICTATION IV. Considerable drill and instruction in the use of shortcuts in Gregg shorthand dictation to attain rates up to 140 words per minute. Prerequisite: 209S.

234S–2. TRANSCRIPTION IV. Transcription from high-speed dictation notes, using business, commercial, and industrial vocabulary. Attention to word usage, sentence structure, punctuation, and spelling. Prerequisite: 221S.

101T–2 to 7. AUDIO SYSTEMS. Construction, installation, and testing of audio systems and general application of electronic principles.

102T–2 to 7. ELECTRICAL TESTS AND MEASUREMENTS. Testing, measuring, and circuit tracing of intercommunication systems, recording equipment, oscillators, amplifiers, and receiving equipment. Laboratory.

103T–2 to 7. CIRCUIT ANALYSIS I. Analysis and diagnosis applied to receiving equipment, amplifiers and test equipment. Laboratory.

125T–2 to 5. PRINCIPLES OF ELECTRONICS. AC and DC theory of resistance, capacitance, inductance, and vacuum tubes.

126T–2 to 5. FUNDAMENTALS OF ELECTRONIC CIRCUITRY. Theory of power supplies, amplifiers, oscillators, photo-electric circuitry, and radio circuitry.

127T–2 to 5. PRINCIPLES OF ANALYSIS AND DIAGNOSIS I. Theory of analysis and diagnosis as applied to power supplies, radio receivers, audio systems, and test equipment.

201T–2 to 5. CIRCUIT ANALYSIS II. Analysis and diagnosis applied to oscilloscopes, electronic test equipment, transistor circuitry, and amplifying equipment. Laboratory.

202T–2 to 5. HIGH FREQUENCY TESTS AND MEASUREMENTS. Tests and measurements as applied to antenna systems and television circuitry. Laboratory.

203T–2 to 5. CIRCUIT ANALYSIS AND ALIGNMENT. Analysis and alignment applied to monochrome television circuitry, color television circuitry, and test equipment. Laboratory.

225T–2 to 5. PRINCIPLES OF ANALYSIS AND DIAGNOSIS II. Theory applied to electronic test equipment, transistor circuitry and wave form interpretation.

226T–2 to 5. FUNDAMENTALS OF ANTENNAS AND TELEVISION CIRCUITRY. Theory.

227T–2 to 5. PRINCIPLES OF ANALYSIS AND DIAGNOSIS III. Theory applied to television circuits.

228T–3. FEDERAL COMMUNICATIONS COMMISSION LICENSE. Fundamentals of transmitting circuitry, FCC laws, and rules. Test by authorized FCC officer must be taken before final grade is awarded.

229T–3. FUNDAMENTALS OF COLOR TELEVISION. Theory of colorimetry and color television circuitry.

101W–2 to 7. OXY–ACETYLENE WELDING SHOP. Shop experience in oxy-acetylene welding. The welding of steel in all positions and the welding repair of such metals as aluminum and cast iron. Correct use of the oxy-acetylene cutting blow pipe with experience in both manual and machine cutting.

102W–2 to 7. ARC WELDING SHOP I. Introduction to metallic arc welding on heavy gauge steel. The use of AC and DC machines. Introduction to the various positions.

103W–2 to 7. ARC WELDING SHOP II. Metallic arc welding on heavy and light gauge steel, in all positions. Special emphasis on special application electrodes, inert arc welding (Heliare), and its applications.

125W–3. THEORY OF OXY–ACETYLENE WELDING. The proper use of oxy-acetylene equipment such as, welding blowpipes, generators, oxygen and acetylene cylinders and regulators. The weldability and techniques of welding non-ferrous and ferrous metals and their alloys. Discussion and demonstration.

127W–3. THEORY OF ARC WELDING. The study of metallic arc, and inert arc welding. The types of welding machines, the kinds of electrodes, their uses, their identifications, and welding inspection.

175W–3. OXY-ACETYLENE AND ELECTRIC ARC WELDING. Provides the machinist or other tradesman with enough welding experience to make simple repairs.

201X–2. JOB ORIENTATION. Each student prepares 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.

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

101Y–2 to 9. TOOTH ANATOMY AND NOMENCLATURE. Individual teeth are drawn to scale three times the natural size. Plaster blocks are made, and each tooth is carved in anatomic detail to the same scale.

102Y–2 to 9. REMOVABLE PARTIAL DENTURES. Elementary wire bending and soldering, acrylic partials, waxing, investing, casting and finishing of chrome-cobalt metal (Ticonium). Some casting of gold partials.

103Y–2 to 9. COMPLETE DENTURE CONSTRUCTION. Bite blocks, jaw movements, and Hanau's Laws of Articulation. Setting up full dentures in bilaterals balance, carving and festooning, and tooth form and selection.

113Y–3. CHEMICAL AND PHYSICAL PRINCIPLES. An introduction to the basic principles of physical science with some emphasis on the materials used in dentistry, their structure and behavior.

128Y–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.

201Y–2 to 9. BEGINNING CROWN AND BRIDGE WORK. A laboratory study of gold inlays, crowns, veneers, pontics, and small bridges; carving, casting, polishing, and soldering.

202Y–2 to 9. ADVANCED CROWN AND BRIDGE WORK. A study of advanced crown and bridge work and mouth rehabilitation.

203Y–2 to 9. CERAMICS, PRECISION ATTACHMENTS. Working with ceramics, precision attachments, jacket crowns, stains, and glazing.

Adult Education

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 non-credit 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 farms owners and workers help them improve their operation and ownership. The following are courses which meet once each week for from two to six weeks:

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

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

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

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

Clothing Construction
Home Work Simplification
Party Foods
Tailoring
Parenthood in a Free Nation
Nutrition Weight Control

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

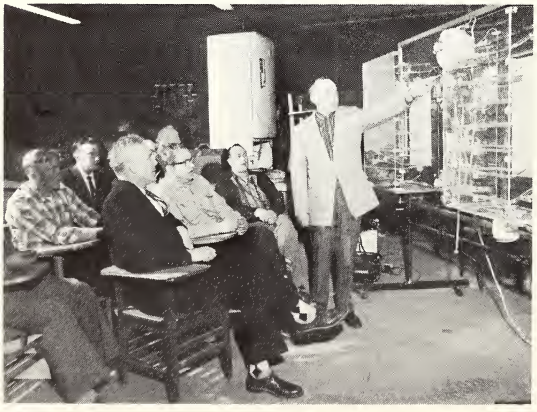
Bookkeeping-Accounting
Calculating Machines
Cost Control
Filing
Insurance
Medical Clinic Office Procedure
Real Estate Law, Appraisal, and Sales
Retail Management
Small Retail Store Problems
Shorthand
Stocks, Bonds, Investments

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

Conversational Spanish
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:

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



Refrigeration theory class

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

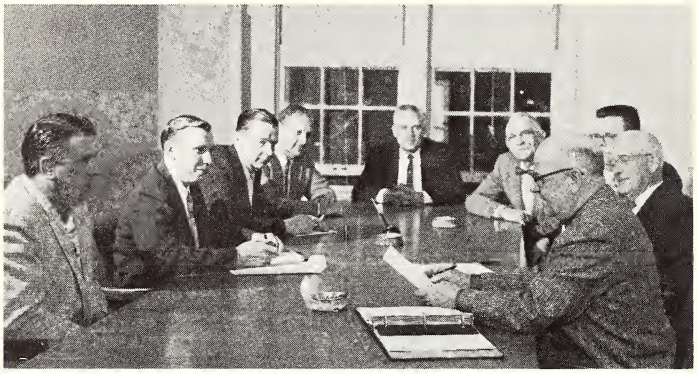
Demonstrations form a large part of adult education special short courses.

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

Illinois Bankers School for Development of Junior Executives
Hospital Managers and Accountants Short Course
Restaurant Manager Short Course
Rural Electric Co-operatives Short Course
School of Advanced Cosmetology

Other non-credit 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.

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.



Representatives from labor, business, and industry serve on advisory committees to keep programs geared to changing needs.

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.

MAX ABRAM, B.S.Ed. (Southwest Missouri), 1958–59 *Reading Improvement*
Department of Personnel, Scott Air Force Base
HELEN ALLEN, B.S.Ed. (Eastern Illinois), 1959–60 *Typewriting*
Business Teacher, Salem High School
RICHARD ATON, Associate in Technology (Southern Illinois), 1958–60
Owner, Carterville Motors *Automotive Courses*
CAROL AUMAN, B.S. (Eastern Illinois), 1958–59 *Physical Fitness for Women*
Physical Education Teacher, Staunton High School
HENRIK AUNE, Ph.D. (Minnesota), 1958 *Farm Credits; Farm Records*
Assistant Professor, Department of Agricultural Industries,
Southern Illinois University
OLIVER BAECHLE, B.S. (Missouri), 1957–58 *Quality Control*
Quality Control Engineer, Dow Chemical Company
MARGUERITE BARRA, Ph.D. (Texas State College for Women), 1958 *Tailoring;*
Assistant Professor, Department of Clothing and *Interior Decoration*
Textiles, Southern Illinois University

EMILIO BASSY, M.Ed. (Springfield College), 1958–59 *Industrial Chemistry*
Science Teacher, Columbia High School
ROBERT BAYSINGER, 1958–59 *Basic Radio I and II*
Electronic Designer, Sangamo Electric Company
CROOM BEATTY, Ph.D., (Yale), 1958–60 *Commercial*
Owner, Beatty Flying Service *and Private Ground School*
WINNIE BELL, B.S. (Murray State), 1958–60 *Typewriting; Shorthand*
Business Teacher, Cairo High School
JAY BENDER, Ph.D. (Illinois), 1957 *Physical Fitness*
Professor, Department of Physical Education for Men,
Southern Illinois University
ROBERT BEST, B.S.Ed. (Southern Illinois), 1958–60 *Woodworking*
Industrial Arts Teacher, Waterloo High School *for Householders*
GLORIA BIZNEK, B.S. Voc. H.E. (Southeast Missouri), 1958–59 *Beginning Sewing;*
Home Economics Teacher, Staunton High School *Intermediate Sewing*
JACK BIZZELL, M.A. (Southern Illinois), 1958 *Typewriting*
Instructor, Vocational-Technical Institute, Southern Illinois University
JAMES BLEYER, LL.B. (University of Notre Dame), 1958–59 *Everyday Law*
Attorney at Law *for the Layman*
BURTON BOND, 1958–59 *Welding for Plumber Apprentices*
President, Plumber Apprenticeship Committee
ALFRED BORKOWSKI, B.B.A. (Massachusetts), 1958–59 *Accounting*
Chief Accountant, Sangamo Electric Company
HARRY BOTT, B.S. (Washington University), 1957–58 *Effective Management*
Superintendent of Personnel, Granite City Steel Co.
DAVID BROWNING, M.A. (Missouri), 1957 *Forage Products*
Research Assistant, Agronomy Experimental Station,
Southern Illinois University
VAN BUBOLTZ, M.A. (Northwestern) 1937 *Stocks, Bonds, Investments*
Assistant Professor, School of Business, Southern Illinois University
JOSEPH BURNSIDE, Ph.D. (Wisconsin), 1955 *Swine Production*
Associate Professor, Department of Animal Industries,
Southern Illinois University
ROBERT L. BUTLER, LL.B., 1955–60 *C.P.C.U. Law; Real Estate Law*
Assistant State's Attorney
KENNETH CARAWAY, B.S. (Southern Illinois), 1955–60 *Woodworking*
Industrial Arts Teacher, Nashville High School
ALFRED CASTER, Ph.D. (Arizona), 1957 *Plant Industries*
Professor, Department of Plant Industries, Southern Illinois University
FRANK CENEY, B.S.Ed. (Southern Illinois), 1958–59 *Basic Radio*
Physics Teacher, Hillsboro High School
HARRY CHAMBERS, 1959–60 *Carpenter Apprentice Related*
General Contractor
CLARENCE CHRISTENSEN, Welding Certificate (Southern Illinois), 1958–60 *Arc*
Welder and Machinist, Auto Machine Company *and Gas Welding*
JOHN CLAYTON, LL.B. (Illinois), 1959–60 *Everyday Law for the Layman*
Attorney at Law
ALVIN COHEN, Ph.D. (Southern Illinois), 1959–60 *Basic Psychology*
Psychologist, Southern Illinois Mental Health Clinic
JASON COLLINS, (Southern Illinois), 1955 *Radiological Detection*

Assistant Professor, Vocational-Technical Institute, Southern Illinois University

WILLIAM CORNMAN, B.S. (Murray State), 1958–59 *Woodworking*
Shop Teacher, Litchfield High School

JANE CREMER, B.S. (Murray State), 1958–60 *Bookkeeping-Accounting*
Business Teacher, Harrisburg Township High School

JOYCE CROUSE, M.S. (Southern Illinois), 1958–60 *Beginning Sewing; Tailoring*
Lecturer, Department of Home and Family, Southern Illinois University

JOHN WILLIAM CUNDIFF, J.D. (Northwestern), 1958 *Accounting*
Assistant Professor, Vocational-Technical Institute, Southern Illinois University

MURNICE DALLMAN, M.S. (Stout), 1954 *Welding*
Instructor, Vocational-Technical Institute, Southern Illinois University

MILDRED DAY, B.A. (MacMurray), 1959–60 *Contemporary Prose*
English Teacher, Jerseyville High School

BRYON DODD, B.S.Ed. (Southern Illinois), 1958–59 *Radiological Detection*
Science Teacher, Anna-Jonesboro High School

ROBERT DONHAM, B.S. (Indiana State), 1959–60 *Bookkeeping; Typing*
Business Teacher, Mt. Carmel High School

ANNA DUCKWORTH, B.S. (Harding), 1959–60 *Art*
Art Teacher, Pana High School

BESSIE DUGGAN, B.S. (Kansas State Teachers), 1957–60 *Business and*
Debate Coach, Belleville Junior College *Professional Speaking*

DON EDWARDS, A.B. (Illinois), 1958–59 *Business and Professional Speaking*
Teacher, Litchfield High School

WALTER ELDER, M.S. (New York), 1954 *Merchandising; Sales*
Associate Professor, Vocational-Technical Institute, Southern Illinois University

CHARLES ELLIS, B.A. (Southern Illinois), 1958–59 *Blueprint Reading for*
Carpenter and Contractor *Carpenters*

GEORGE FERGUSON, B.S. (Washington University), 1957–58 *Material Handling*
Work Simplification, Dow Chemical Company

JESSE FLORER, (American Academy of Art), 1958–59 *Art*
Commercial Artist

MARILYN FLOWERS, B.S.Ed. (Eastern Illinois), 1959–60 *Bookkeeping-Accounting*
Business Teacher, Marshall High School

LENA JOANNE FORKER, B.S.Ed. (Southern Illinois), 1956 *Shorthand*
Lecturer, Vocational-Technical Institute, Southern Illinois University

RICHARD FRANKLIN, Ed.D. (Columbia), 1956 *Community Development*
Assistant Professor, Community Development Institute, *Leadership*
Southern Illinois University

ANNA CAROL FULTS, Ph.D. (Florida State), 1952 *Parent Leadership*
Professor, Department of Home Economics Education, Southern Illinois University

BEN GELMAN, (New York City), 1957–59 *Photography*
Photographer, *Southern Illinoisan*

LEWIS GOEKLER, B.S.Ed. (Eastern Illinois), 1959–60 *Woodworking*
Woodworking Teacher, Marshall High School

GENE GOFORTH, M.Ed. (Illinois), 1957–58 *First Aid*
Principal, Trico High School

BILLY GOODMAN, Ph.D. (Ohio State), 1958 *Animal Industries*
Assistant Professor, Department of Animal Industries, Southern Illinois University

BILL GREEN, LL.B. (Washington University), 1959–60 *Law*
Attorney at Law

CHARLES GREEN, M.S. (Illinois Normal), 1957 *Radio-Television*
Assistant Professor, Vocational-Technical Institute, Southern Illinois University

THOMAS GREGORY, 1952–60 *Accounting*
General Accountant, Electric Energy, Inc.

JOHN GRISWOLD, M.Ed. (Illinois), 1955 *Welding*
Instructor, Vocational-Technical Institute, Southern Illinois University

EDNA HAAKE, M.A. (Washington University), 1958–59 *Conversational German*

CHARLES HALDI, (Washington University), 1958–59 *Blueprint Reading*
Registered Architect, Illinois, Missouri, Iowa

JERRY HARDY, B.S.Ed. (Eastern Illinois), 1959–60 *Bookkeeping*
Business Teacher, Pana High School

ROBERT HARDY, B.S. (Carthage), 1958–59 *Driver Training*
Teacher, Murphysboro High School

JENNIE HARPER, Ph.D. (Cornell), 1958 *Institutional Foods*
Associate Professor, Department of Food and Nutrition, Southern Illinois University

CATHERINE HASENMEYER, M.S.H.Ed. (Illinois), 1958–59 *Sewing*
Homemaking Teacher, Mt. Carmel High School

JAMES HATFIELD, B.S.Ed. (Eastern Illinois), 1959–60 *Typing*
Business Teacher, Pittsfield High School

LAWRENCE HAZELIP, B.S. (Washington University), 1958–59 *Industrial Management*
Industrial Engineer, Laclede Steel Company

WILLIAM HEER, Ph.D. (Cornell), 1957 *Farm Records*
Associate Professor, School of Agriculture, Southern Illinois University

MAX HEINZMAN, B.Ed. (Illinois), 1956–57 *C.L.U.*
Life Insurance Representative

RAY HEINZMAN, M.A. (Illinois), 1957–60 *Bookkeeping-Accounting*
Business Teacher, Benton High School

WILLIAM HELD, 1957–60 *Refrigeration for Plumbers*
Licensed Master Plumber, Illinois and Kentucky

LEMUEL HENAGER, B.S. (Oakland City College), 1959–60 *Bookkeeping-Accounting*
Business Teacher, Mt. Carmel High School

HAROLD HERTENSTEIN, M.S. (Illinois), 1956–57 *Metallurgy*
Engineering Training, McDonnell Aircraft Company

RUSSELL HEWITT, M.Ed. (Illinois), 1957–60 *Welding*
Shop Teacher, Vandalia High School

JEAN HEYE, M.Ed. (Illinois), 1959–60 *Physical Fitness for Women*
Physical Education Teacher, Jerseyville High School

JAMES HIGGINS, M.B.A. (Harvard), 1957–58 *Industrial Management*
Assistant to Production Manager, Olin Mathieson Chemical Company

HENRIETTE HILL (University d'Aix-Marceille), 1959–60 *Conversational French*
Faculté de Droit d'Aix

MARY HINNERS, M.S. (Southern Illinois), 1959–60 *Sewing*

SCOTT HINNERS, Ph.D. (Illinois), 1951 *Egg Production*

Associate Professor, Department of Animal Industries, Southern Illinois University

ELIAS HOAGLAND, 1958–59 — *Auxiliary Police*
Fifty years with the St. Louis Police Department

ADELINE HOFFMAN, Ph.D. (Pennsylvania State), 1957 — *Clothing Construction*
Professor, Department of Clothing and Textiles, Southern Illinois University

MARGIE HOLIFIELD, B.S. (Southern Illinois), 1958–59 — *Typwriting*
Business Teacher, Mt. Carmel High School

EMERY HOOD, 1958–59 — *Plumber Apprentice Related*
Seventeen years of plumbing experience

WILLIAM HOOVER, M.A. (Washington University), 1957–58 — *Radiological Detection*
Science Teacher, Carbondale Community High School

QUENTIN HOPKINS, B.S. (James Millikin), 1957–58 — *Industrial Safety*
Safety Director, Laclede Steel Company

WILLIAM HORRELL, Ed.D. (Indiana), 1949 — *Photography*
Assistant Professor, Department of Printing and Photography, Southern Illinois University

LUCILLE HOWELL, M.S. (Southern Illinois), 1957–58 — *Business and Professional Speaking*
Speech teacher, Anna-Jonesboro High school

HUGH HUDGENS, 1959–60 — *Carpenter Apprentice Related*
Twenty years' experience as a Carpenter Foreman and Superintendent

BERDIE HUGHES, B.S. (Southern Illinois), 1958–60 — *Clothing Construction*
Home Economics Teacher, Carmi High School

ROBERT HUSMANN, B.S. (Illinois), 1957–59 — *Supervisor and His Job*
Training Director, Laclede Steel Company

MILDRED HUTCHENS, M.A. (Indiana State), 1959–60 — *Typing*
Business Teacher, Marshall High School

CHESTER JOHNSTON, M.A. (George Peabody), 1955 — *Typing; Calculating Machines*
Instructor, Vocational-Technical Institute, Southern Illinois University
Instructor, Vocational-Technical Institute, Southern Illinois University

WILLIAM KAMMLADE, Ph.D. (Illinois), 1954 — *Animal Industries*
Associate Professor, Department of Animal Industries, Southern Illinois University

ROBERT KERN, D.V.M. (Illinois), 1956–58 — *Animal Diseases*

WARREN KING, 1958–59 — *Cable Splicing*
Eleven years' experience in telephone and electrical work

OWEN KIRKENDALL, B.S. (St. Louis), 1956–58 — *Cost Control*
Cost Accountant, Dow Chemical Company

ROLLAND KLUGE, B.S.M.E., B.S.I.E. (Washington University), 1957–58 — *Industrial Management*
Industrial Engineer, Dow Chemical Company

VIRGINIA KORNYA, M.A. (Ohio State), 1959–60 — *Food Service Supervision*
Chief Dietician, Southern Illinois Hospital Association

EDWARD KOSKY, (Tennessee), 1958–59 — *Auxiliary Police*
Morse Twist Drill and Machine Company

CURTIS KURTZ, M.S. (Stanford), 1957–58 — *Quality Control*
Production Development, Norge Division

HOWARD LAMBERT, M.S. (Southern Illinois), 1956–60 — *Driver Training*
Driver Education Teacher, Carbondale Community High School

BERNARD LANCE, M.S.Ed. (Illinois), 1959–60 *Woodworking*
Industrial Arts Teacher, Salem, Illinois
LIONEL LEBEAU, B.S.C. (St. Louis), 1959–60 *Conversational French*
French Teacher, Vandalia High School
CHARLES LERNER, LL.B. (Harvard), 1959–60 *Stocks, Bonds, Investments*
Investment Counselor
ROBERT LINDERS, D.V.M. (Kansas State), 1958–59 *Animal Diseases*
BILL LOVIN, A.B. (Washington University), 1956–58 *Industrial Management*
Assistant to Superintendent, Industrial Relations, Granite City Steel Company
MARILYN MAHAN, M.A. (Murray State), 1959–60 *Typing*
Business Teacher, Metropolis High School
FRANK MANSFIELD, LL.B. (Washington University), 1956–59 *Industrial*
General Superintendent, Dow Chemical Company *Report Writing*
FRANK MARTINI, M.A. (Washington University), 1956–59 *Industrial Psychology*
Training Program, Dow Chemical Company
CHARLES MASON, B.S.M.E. (A. & M. College of Texas), 1958–59 *Industrial*
Job Evaluation, Olin Mathieson Chemical Company *Economics*
MYLES MCCAHILL, A.B. (Georgetown University), 1958–59 *Quality Control*
Quality Control Engineer, Dow Chemical Company
JOHN MCDERMOTT, M.S. (Southern Illinois), 1956 *Industrial Economics;*
Assistant Professor, Labor Institute, Southern Illinois University *Labor Law*
HERMAN MCDONALD, M.A. (Illinois), 1956–60 *Welding*
Agriculture Shop Teacher, Fairfield High School
EVALEE MCGEE (Kentucky), 1957–59 *Sales; Waitress Training*
Lecturer, Adult Education, Southern Illinois University
JOHN METZGER, LL.B. (Illinois), 1958–59 *Everyday Law for the Layman*
Attorney at Law
RALPH MICKEN, Ph.D. (Northwestern), 1957 *Effective Speaking*
Professor, Department of Speech, Southern Illinois University
ROBERT MINSKER, B.S. (Illinois), 1957–59 *Labor-Management Relations*
Industrial Relations Director, Owens, Illinois, Glass Company
MAX MITCHELL, J.D. (Loyola University), 1958–59 *Insurance Law*
Attorney at Law
LOLAND MOCABEE, 1959–60 *Rates and Tariffs*
President, Mo-Ill. Traffic Service, Inc.
HAROLD MOORE, M.S. (Kansas State Teachers), 1955 *Retail Selling*
Professor, Vocational-Technical Institute, Southern Illinois University
WILLIS MOORE, Ph.D. (California), 1955 *Logic; Philosophy*
Chairman, Department of Philosophy, Southern Illinois University
JOSEPH MROSKO, 1958–59 *Photography*
Commercial Photographer
FRANK MUHICH, M.S.Ed., (Southern Illinois), 1952 *Machine Tool*
Assistant Professor, Vocational-Technical Institute,
Southern Illinois University
JOHN MURPHY, 1957–60 *Radio-Television*
Twenty-four years, radio-television service
ANNA NEUFELD, M.A. (Kansas), 1945 *Russian*
Assistant Professor, Department of Foreign Language,
Southern Illinois University
CLARENCE NEUMEYER, B.S. (Illinois), 1958–60 *Typing*

Business Teacher, Waterloo High School
MERNA O'BRIEN, B.S.Ed. (Southern Illinois), 1958–59 *Office Practice*
Business Teacher, Cobden High School
JAMES OGG, 1957–58 *Cost Control*
Electrical Engineer, Shell Oil Company
OTTO OHMERT, B.S.Ed. (Southeast Missouri), 1958–59 *Radiological Detection*
Science Teacher, Anna-Jonesboro High School
RICHARD OLMSTEAD, M.S.Ed. (Eastern Illinois), 1958–59 *Advanced Bookkeeping*
Business Manager, Pana High School
HOWARD OLSON, Ph.D. (Minnesota), 1954 *Dairy Products*
Associate Professor, Department of Animal Industries, Southern Illinois University
DELORES OSBORN, B.S.Ed. (Eastern Illinois), 1957–58 *Business Machines*
Business Teacher, Trenton High School
HAROLD OSBORN, B.S. (Stout), 1955 *Woodworking*
Instructor, Vocational-Technical Institute, Southern Illinois University
BARBARA OSKINS, B.A. (Evansville), 1959–60 *Typing*
Business Teacher, Mt. Carmel High School
JOANNE PEPPARD, M.S. (MacMurray), 1958–59 *Physical Fitness for Women*
Physical Education Teacher, Carlinville High School
HOWARD N. PEPPLE, M.S. (Southern Illinois), 1955 *Printing Inks; Photolithography*
Manager, Printing Service, Southern Illinois University
HAROLD PERKINS, M.A. (Southern Illinois), 1957–58 *Radiological Detection*
Science Teacher, Carbondale Community High School
ESCHOL PERRY, M.A. (Illinois), 1959–60 *Stocks, Bonds, Investments*
Vice-President of Investment Brokerage
WALTER PIPPIN, B.S. (Eastern Illinois), 1959–60 *Woodworking*
Industrial Arts Teacher, Pittsfield High School
HERBERT PORTZ, Ph.D. (Illinois), 1954 *Crops and Soils; Crop Diseases*
Associate Professor, School of Agriculture, Southern Illinois University
GEORGE POTTS, 1957–58 *Apprentice Training*
Eleven years, Contractor
DONALD PYLE, B.S.Ed. (Eastern Illinois), 1959–60 *Typing*
Business Teacher, Pana High School
GILBERT RAGSDALE, M.Ed. (Illinois), 1959–60 *Psychology of Human Relations*
Testing, Vandalia High School
ALEX REED, Ph.D. (Illinois), 1946 *Dairy Products*
Professor, Department of Animal Industries, Southern Illinois University
OLIN REED, 1956–57 *Welding*
Fifteen years, Welder, Sohio Pipe Company
HAROLD ROBBINS, M.A. (University of Colorado), 1958–60 *Psychology of Human Relations*
Director of Guidance, Carmi High School
FRANKLIN ROGERS, M.S. (Washington University), 1956–58 *Metallurgy*
Metallurgist, Granite City Steel Company
WILLIAM ROGERS, B.S. (Missouri), 1958–59 *Practical Psychology for Supervisors*
Personnel Assistant, Dow Chemical Company
DONALD ROSS, M.F.A. (Southern Illinois), 1959–60 *Art*
Free-lance artist
RAYMOND ROSS, M.S. (Western State Teachers College), 1958–60 *Typing; Office Practice*
Business Teacher, Carlinville High School

JOHN ROSSETTI, M.S. (Illinois), 1958–60 *Typing*
Business Teacher, Carlinville High School

CHARLES RUSIEWSKI, B.S. (Southern Illinois), 1958–60 *Typing*
Business Teacher, Nashville High School

PATSY SACHSE, B.S. Voc. Home Ec., 1957–59 *Clothing Construction*
Home Economics Teacher, Cairo High School

CARL SCHROEDER, B.S. (Central Michigan), 1955–60 *Machine Tool*
Instructor, Vocational-Technical Institute, Southern Illinois University

FRANK SEEGER, M.S.I.E. (Washington University), 1956–57 *Industrial*
Industrial Engineer, Granite City Steel Company *Engineering*

CHARLES SEIBERT, B.S. (Park), 1955–60 *Private Pilot Ground School*
President, Midwestern Aero Service, Inc.

HARRIS SHETTEL, M.A. (Wayne), 1958–59 *Effective Management*

MILTON SHUTE, M.S. (Cornell), 1955 *Agricultural Engineering*
Assistant Professor, Department of Agricultural Industries,
Southern Illinois University

WILLIS SLAYTON, B.S. (Illinois), 1959–60 *Stocks, Bonds, Investment*
Thirty years of experience in securities business

DEAN SMITH, M.S. (Southern Illinois), 1952–60 *Accounting*
Business Teacher, Pinckneyville High School

EVELYN SMITH, B.Ed. (Southern Illinois), 1958–60 *Office Machines*
Business Teacher, Murphysboro High School

FLOYD SMITH, M.S.Ed. (Southern Illinois), 1957–58 *English Usage*
Principal, Flora Township High School

WALLACE SPRINGER, B.S. (Kansas), 1959–60 *Stocks, Bonds, Investments*
Stock Investment Counselor

HAZEL STANLEY, M.A. (Peabody College), 1959–60 *Writing Better*
English Teacher, Chester High School *Business Letters*

RAYMOND SURVEYOR, B.I.E. (Rensselaer, 1957–59 *Material Handling*
Industrial Engineer, Alton Box Board Company

JAMES TAXMAN, B.A. (Illinois), 1959–60 *Stocks, Bonds, Investments*
Investment Counselor

ADOLPH TENIKAT, M.S. (Illinois), 1958–60 *Woodworking*
Industrial Arts Teacher, Gillespie High School

GEORGE L. TRAYLOR, B.S. (Western Kentucky), 1957 *Machine Tool*
Instructor, Vocational-Technical Institute, Southern Illinois University

MARJORIE TRULOVE, M.S. (Southern Illinois), 1957–60 *Shorthand*
Business Teacher, Benton High School

LOWELL TUCKER, Ph.D. (Massachusetts), 1947 *Home Grounds Beautification*
Associate Professor, Department of Plant Industries,
Southern Illinois University

FRANK EUGENE VAUGHN, B.S. (Southern Illinois), 1952 *Accounting; Typing*
Lecturer, Vocational-Technical Institute, Southern Illinois University

JOSEPH VAVRA, Ph.D. (Purdue), 1951 *Crops and Soils*
Associate Professor, Department of Plant Industries,
Southern Illinois University

MARY WALKER, B.S.Ed. (Southern Illinois), 1956–59 *Medical Secretarial*
Secretary, Department of Psychology, *Procedure*
Southern Illinois University

ROBERT WALLACE, Ph.D. (Southern California), 1958–60 *Business and*

Speech Teacher, Marion Public Schools *Professional Speaking*

Robert Ward, 1959–60 *C.P.C.U. Accounting; Agency Management*
Insurance Underwriter for fifteen years

Louis Washauer, B.S. (Massachusetts Institute), 1957–58 *Industrial*
Industrial Engineer, Dow Chemical Company *Management*

Donald Wehrle, B.S.Ed. (Illinois Normal), 1958–59 *Driver Training*
Driver Education Teacher, Wesclin Sr. High School

John Welsh, B.S. (Indiana), 1959–60 *Stocks, Bonds, Investments*
President, M. W. Welsh and Company

William Westberg, Ph.D. (Pennsylvania State), 1952 *Industrial Psychology*
Professor, Department of Psychology, Southern Illinois University

Ritta Whitesel, M.A. (Columbia), 1955 *Tailoring*
Associate Professor, Department of Clothing and Textiles, Southern Illinois University

Walter Wills, Ph.D. (Illinois), 1956 *Beef Cattle Marketing*
Professor, Department of Agricultural Industries, Southern Illinois University

Harold Woehler, B.S.Ch.E. (Purdue), 1958–59 *Slide Rule*