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Chicago Undergraduate Division

Chicago Professional Colleges

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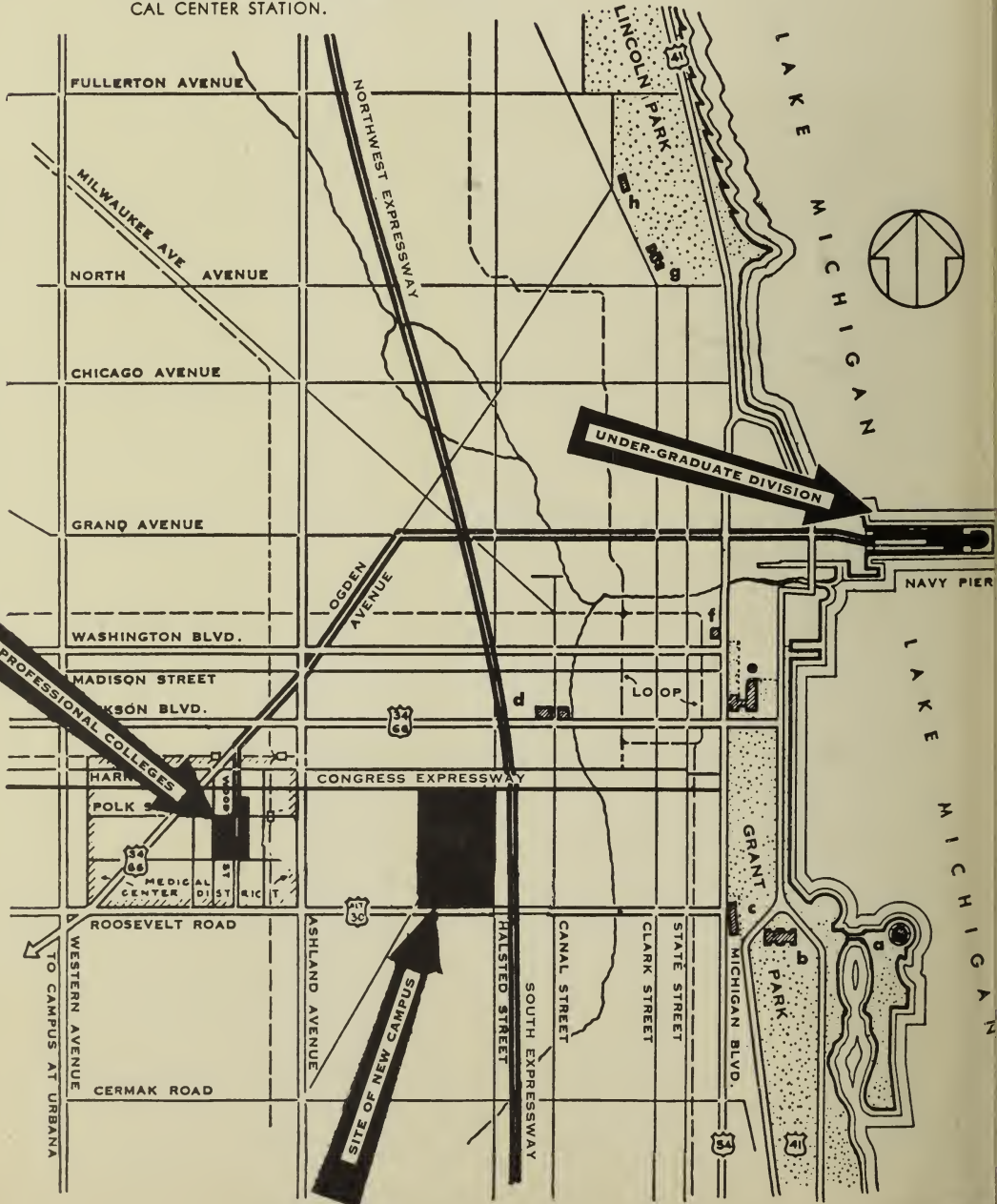
- TO CHICAGO UNDERGRADUATE DIVISION**
1. NORTH-SOUTH SUBWAY, TRANSFER AT GRAND AVENUE.
  2. ANY NORTH-SOUTH BUS LINE, TRANSFER AT GRAND AVENUE.
  3. GRAND AVENUE BUS.
  4. CANAL-WACKER BUS (FROM LOOP).

**TO PROFESSIONAL COLLEGES**

1. N. OGDEN AVENUE BUS TO POLK-WOOD STREETS.
2. DOUGLAS PARK "L"-SUBWAY TO POLK STREET.
3. GARFIELD PARK "L"-SUBWAY TO MEDICAL CENTER STATION.

**LEGEND**

- a ADLER PLANETARIUM
- b CHICAGO NATURAL HISTORY MUSEUM
- c ILLINOIS CENTRAL R.R. STATION
- d UNION R.R. STATION
- e ART INSTITUTE
- f CRERAR LIBRARY
- g CHICAGO HISTORICAL SOCIETY
- h CHICAGO ACADEMY OF SCIENCES





*University of Illinois*

*Chicago Undergraduate Division*

*Chicago*



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# *Your University*

The Chicago Undergraduate Division of the University of Illinois is entering its eighteenth school year. Since 1946 this campus of the University has offered a well-rounded educational program to thousands of students who have found it to their advantage to live in the Chicago metropolitan area while attending college. The campus is located on Chicago's Navy Pier, at the foot of Grand Avenue at Lake Michigan. This Division offers work in four colleges and two divisions—Architecture and Art, Business Administration, Engineering, Liberal Arts and Sciences; Education, and Physical Education.

In addition, preprofessional curricula necessary for admission to the professional colleges of medicine, dentistry, pharmacy, veterinary medicine, journalism, law, medical technology nursing, and occupational therapy are available.

The courses, held during the daytime hours only, are exactly like those offered in the same fields of study on the University of Illinois campus at Urbana-Champaign. The tuition and the admission requirements are the same on both campuses.

Excellent instructional facilities are provided in the school's eighty classrooms and thirty-five modern, fully-equipped laboratories. A 110,000-volume library, recreational facilities, the Illini Union and lounges, and food service supplement the academic program. A large gymnasium adjacent to the main building houses the athletic program. The basic courses in Army ROTC are available on a voluntary basis for men students.

The academic life of the student is supervised by the dean and the staff of the college in which the student enrolls. For most matters of student welfare and activities, the student is advised by the Dean of Students and his staff. Professional counseling and scientific testing services are available to students and prospective students through the Student Counseling Service.

The Chicago Undergraduate Division, through its educational, social, and cultural program, provides its student body with the same high degree of service which has been so long a part of the tradition of the University of Illinois.

## SOME QUESTIONS AND ANSWERS

The University of Illinois welcomes the interest you show by reading this catalogue. The offerings of the Chicago Undergraduate Division are presented in considerable detail in this publication. However, our experience has taught us that there are some questions that are asked more frequently than others.

You will find outlined below some of the items of information most often sought.

### • CAN I EARN A DEGREE AT THE CHICAGO UNDERGRADUATE DIVISION?

No, not yet. At the present time this Division offers generally the first two years' work in:

Architecture (three years); Art; Business Administration; Engineering; Liberal Arts and Sciences; Teacher Education; Physical Education (professional courses for both men and women). Look on page 9 for a complete listing of the curricula offered.

### • EXCEPTIONS:

The complete *three-year premedical* and *prelegal* programs are offered at this Division. Students apply directly to the professional colleges after completing the preparatory program.

### • NIGHT CLASSES?

Day classes only are offered as part of the program of this Division; however,

### • EXTRAMURAL COURSES:

The facilities of this Division are used at night for extramural courses offered under the auspices of the Division of Extension. Call the Illini Center, RAndolph 6-7750, for further information.

### • SCHOOL OF SOCIAL WORK:

Complete graduate degree program is offered in Chicago. Call 663-7000, Ext. 7096, or write to Room 176, 833 S. Wood Street, Chicago 12, Illinois.

### • OTHER UNIVERSITY OF ILLINOIS FACILITIES IN CHICAGO, on the Professional Campus, are

Medicine	Occupational Therapy	Dentistry
Pharmacy	Social Work	Nursing

Graduate School (Health Sciences)

For information: write to University of Illinois, 1853 W. Polk Street, Chicago 12, Illinois, or call 663-7000.

- **WHERE IS THE CHICAGO UNDERGRADUATE DIVISION?**

At the foot of Grand Avenue at Lake Michigan.

- **WHERE IS THE MAIN CAMPUS OF THE UNIVERSITY OF ILLINOIS?**

In Urbana, about 130 miles south of Chicago.

- **ARE THE COURSES TAUGHT AT THE CHICAGO UNDERGRADUATE DIVISION THE SAME AS THOSE IN URBANA?**

Yes. One can think of this Division as a section of the Urbana campus transplanted to Chicago.

- **TUITION AND FEES:**

For residents of Illinois, \$120 per semester.

For nonresidents of Illinois, \$295 per semester.

All NEW students pay an additional \$5 general deposit.

Payment in full on the day you register; or deferred fee plan.

For information about the deferred fee plan, consult the Business Office.

- **FINANCIAL AIDS:**

Scholarships, loans, part-time employment. See pages 56 to 62.

- **HOUSING:**

Since almost all our students live at home, no housing is provided.

However, students in need of housing as well as students transferring to Urbana from the Chicago Undergraduate Division, may obtain information from the Dean of Women, Room 313.

- **STUDENT ACTIVITIES:**

Over sixty different student organizations are active on this campus. See page 70.

- **CORRESPONDENCE COURSES:**

Correspondence courses are not offered through the facilities of this campus.

For information write to

Division of University Extension

University of Illinois

Urbana, Illinois

- **FOREIGN STUDENTS:**

Foreign students from many countries throughout the world are now attending on this campus. Special courses in rhetoric and speech are offered for those who do not have proficiency in the English language because of their foreign background. These classes are designed to take care of the individual needs of the student. The Coordinator of Foreign Student Affairs, together



with special advisors, assists foreign-born students to evaluate their abilities, plan their programs and interpret regulations applicable to foreign students. This service includes assistance on problems of extension of stay, permission to accept employment, border-crossing, and the details of maintaining legal status.

• **FACILITIES:**

75 classrooms

35 modern, fully-equipped science laboratories

110,000-volume library

Recreational facilities and lounges

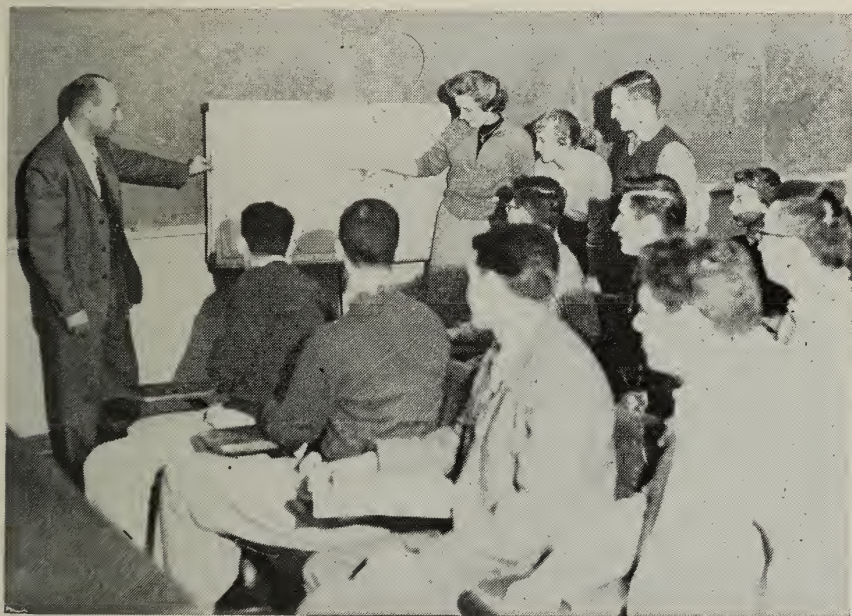
Food service

Gymnasium facilities for men and women

Auditorium facilities for educational, social and special events

Student union

Language Laboratory



*A typical class.*

Dramatic arts and play production

Recording equipment

Bookstore

Student newspaper and photography facilities

Musical instruments for loan

Record library and listening facilities

Health Service

• **ATHLETICS:**

1. Varsity competition in  
Basketball  
Baseball  
Cross Country  
Football  
Golf  
Gymnastics  
Soccer  
Swimming  
Tennis  
Track and Field  
Wrestling
2. Intramural sports program serves over 2000 students each semester.
3. Women's Athletic Association and Orchesis  
Sports Activities  
Dance Activities

• **STUDENT COUNSELING SERVICES:**

Educational and vocational guidance counseling. See pages 63-65.

• **CURRICULA IN MUSIC ARE NOT OFFERED ON THIS CAMPUS.**

But certain courses in music are. See page 148.

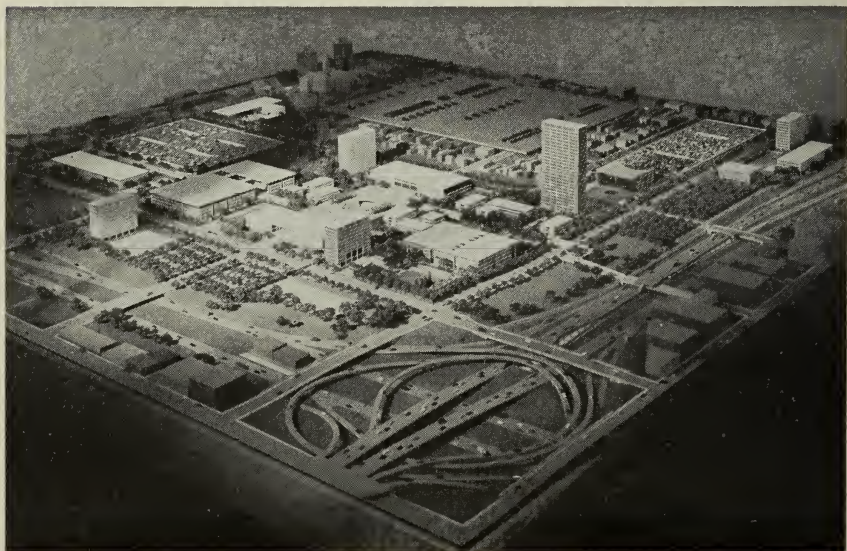
• **IS ROTC REQUIRED?**

Participation is urged, but not required. If started, it must be completed. See pages 124-126.

• **PHYSICAL EDUCATION:**

Generally, all students must earn four semesters credit in physical education for the bachelor's degree. See page 121.

Registration in ROTC does not exempt students from the requirements in physical education.



*Congress Circle—soon.*

## • COLLEGES AND CURRICULA OFFERED

### ARCHITECTURE AND ART

Architecture—General Option  
Architecture—Engineering Option

Art Education  
Arts and Crafts  
Industrial Design  
History of Art

Advertising Design  
Painting  
Sculpture  
General

### BUSINESS ADMINISTRATION

Common program for all  
Commerce Students  
Commercial Teaching

Prejournalism  
Prelaw

### ENGINEERING

Aeronautical  
Agricultural  
Ceramic  
Civil  
Electrical  
Engineering Mechanics  
Engineering Physics

General  
Industrial  
Mechanical  
Metallurgical  
Mining  
Sanitary  
Combined Liberal Arts-Engineering

### LIBERAL ARTS AND SCIENCES

Chemical Engineering  
Chemistry  
Combined Engineering-Liberal Arts  
Forestry (one year only)  
General  
Home Economics (one year only)  
Occupational Therapy  
Physics  
Speech Correction  
Preprofessional curricula:  
Pre dentistry  
Prejournalism  
Prelaw  
Premedicine  
Prenursing  
Prepharmacy  
Preveterinary Medicine  
Medical Technology  
Medical Record Administration

Teacher Education Curricula:  
Biology  
Chemistry  
Deaf and Hard of Hearing Children  
Elementary Education  
English  
French  
Geography  
German  
Industrial Education  
Mathematics  
Mentally Handicapped Children  
Music Education  
Physics  
Social Studies  
Spanish  
Speech

### PHYSICAL EDUCATION

Physical Education for Men  
Physical Education for Women

Dance  
Health Education  
Recreation

# Board of Trustees

## UNIVERSITY OF ILLINOIS

### Members Ex-Officio

OTTO KERNER, Governor of Illinois .....Springfield  
RAY PAGE, Superintendent of Public Instruction .....Springfield

### Elected Members

#### Term 1959-1965

HOWARD W. CLEMENT .....38 S. Dearborn St., Chicago 3  
HAROLD POGUE .....705 N. Oakland Ave., Decatur

#### Term 1961-1967

IRVING DILLIARD .....505 E. Church St., Collinsville  
MRS. FRANCES B. WATKINS .....5454 Cornell Ave., Chicago 15  
KENNEY E. WILLIAMSON .....Sixth Floor, Lehmann Building, Peoria 2

#### Term 1963-1969

WAYNE A. JOHNSTON .....135 E. Eleventh Place, Chicago 5  
EARL M. HUGHES .....Hughes Farms, Route 1, Woodstock  
TIMOTHY W. SWAIN .....912 Central National Bank Building, Peoria 2

### Officers of the Board

HOWARD W. CLEMENT, President .....Chicago  
ANTHONY J. JANATA, Secretary .....Urbana  
ROBERT MANCHESTER, Treasurer .....Chicago  
HERBERT O. FARBER, Comptroller .....Urbana

### Committee on the Chicago Departments

MRS. FRANCES B. WATKINS, Chairman, WAYNE A. JOHNSTON,  
HAROLD POGUE

# Administrative Officers

1963-1964

## Urbana

DAVID DODDS HENRY .....President  
CHARLES WILSON SANFORD .....Dean of Admissions

## Chicago Undergraduate Division

NORMAN A. PARKER .....Vice President  
HAROLD W. BAILEY .....Assistant Vice President  
JOHN L. DILLINGER .....Assistant to the Vice President  
ORA L. RAILSBACK .....Assistant to the Vice President  
PAUL C. GREENE ....Administrative Assistant, Office of the Vice President  
HAROLD N. COOLEY .....Assistant Dean  
PAUL CAHILL .....Manager, Public Information  
JOSEPH D. CHAVEZ, Major, USA .....Commandant, Army ROTC Unit  
ARNOLD J. HARTOCH .....Director of Publications  
EDWARD M. HEILIGER .....Librarian  
HAROLD KLEHR .....Assistant Director in charge of the  
Student Counseling Service  
JAMES J. OVERLOCK .....Director, Illini Union  
HARRY W. PEARCE .....Associate Director, Physical Plant  
Project Director, Congress Circle Campus  
ARTHUR D. PICKETT .....Associate Director, University Honors Programs  
ROBERT E. PORTER .....Assistant Business Manager  
H. GORDON REID, M.D. ....Director, Health Service  
LEE J. VOTAVA .....Associate Director, Nonacademic Personnel  
ROBERT L. ZANDER .....Superintendent of Buildings and Grounds

## Admissions and Records

HAROLD E. TEMMER .....Associate Dean  
KIRKER SMITH .....Assistant Dean

## Dean of Students

WARREN O. BROWN .....Associate Dean  
MERTON S. ZAHRT .....Assistant Dean  
AGNES G. TANDBERG .....Dean of Women  
CAROL L. SMITH .....Assistant to the Dean of Women  
LAURETTE A. KIRSTEIN .....Coordinator of Foreign Student Affairs

## Architecture and Art

LEONARD J. CURRIE .....Dean  
HAROLD B. McELDOWNEY .....Assistant Dean

## Business Administration

RAYMOND W. COLEMAN .....Dean  
WILLIAM J. DUNNE .....Assistant Dean  
ALFONSE T. MALINOSKY .....Assistant to the Dean

**Education**

VICTOR E. RICKS ..... Director

**Engineering**

RUPERT M. PRICE ..... Acting Dean

H. DALE WALRAVEN ..... Assistant to the Dean

**Liberal Arts and Sciences**

GLENN TERRELL, JR. .... Dean

ELLIS B. LITTLE ..... Assistant Dean

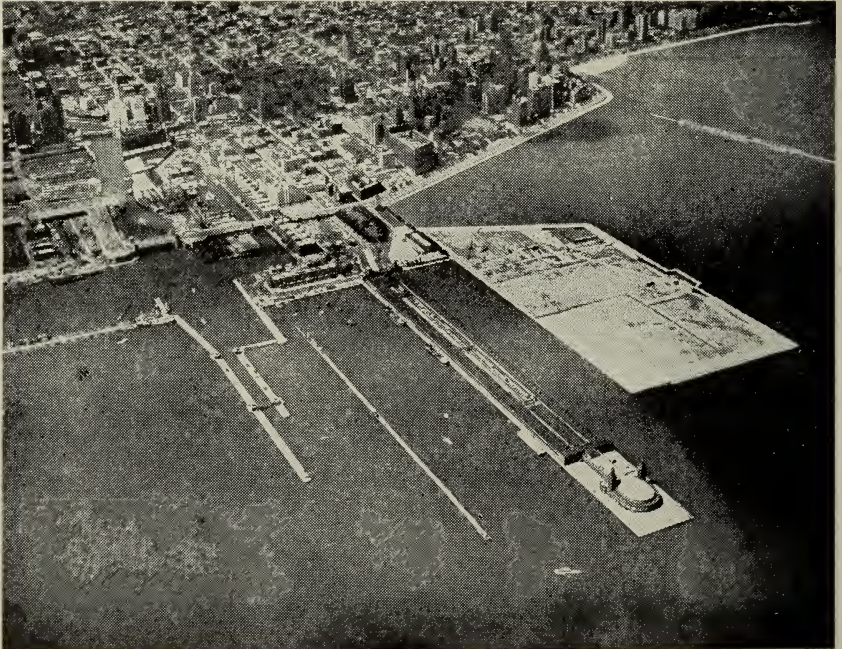
ROBERT L. MILLER ..... Assistant Dean

JOHN H. MACKIN ..... Assistant to the Dean

**Physical Education**

SHELDON L. FORDHAM ..... Director, Director of Athletics

WALTER G. VERSEN .... Assistant Director, Assistant Director of Athletics



*The Campus—now.*

# Academic Calendar

## Chicago Undergraduate Division

1963-64

### First Semester (Fall 1963)

Sept. 3, Tues.-Sept. 10, Tues.....Orientation Period  
Sept. 11, Wed.-Sept. 12, Thurs.-Sept. 13, Fri.....Registration  
Sept. 16, Mon.....Instruction Begins  
Oct. 21, Mon. Chicago Undergraduate Division opened, 1946 (not a holiday)  
Nov. 27, Wed., 6 p.m.....Thanksgiving Vacation Begins  
Dec. 2, Mon., 8 a.m.....Thanksgiving Vacation Ends  
Dec. 3, Tues. Illinois Day (State admitted to the Union, 1818; not a holiday)  
Dec. 13, Fri., 6 p.m.....Christmas Vacation Begins  
Jan. 2, Thurs., 8 a.m.....Christmas Vacation Ends  
Jan. 17, Fri.-Jan. 24, Fri.....Semester Examinations

### Second Semester (Spring 1964)

Jan. 28, Tues.-Feb. 4, Tues.....Orientation Period  
Feb. 5, Wed.-Feb. 6, Thurs.-Feb. 7, Fri.....Registration  
Feb. 10, Mon.....Instruction Begins  
Mar. 2, Mon....University Day (University opened, 1868; not a holiday)  
Mar. 26, Thurs., 6 p.m.....Easter Vacation Begins  
April 1, Wed., 8 a.m.....Easter Vacation Ends  
May 1, Fri.....Honors Day  
May 29, Fri.....Holiday-May 30, Sat., Memorial Day  
May 28, Thurs.-June 5, Fri.....Semester Examinations

### Summer Session 1964

June 19, Fri.....Registration  
June 22, Mon.....Instruction Begins  
July 3, Fri.....Holiday-July 4, Sat., Independence Day  
Aug. 14, Fri.....Summer Session Examinations

# Academic Calendar

Urbana

1963-64

## First Semester, 1963-64

Sept. 5, Thurs.-Sept. 6, Fri.....Entrance Examinations  
Sept. 9, Mon.-Sept. 14, Sat.....Freshman Week and Registration  
Sept. 16, Mon., 7 a.m.....Instruction Begins  
Nov. 27, Wed., 1 p.m.....Thanksgiving Vacation Begins  
Dec. 2, Mon., 1 p.m.....Thanksgiving Vacation Ends  
Dec. 3, Tues.....Illinois Day (State admitted to the Union, 1818)  
Dec. 21, Sat., 12 noon.....Christmas Vacation Begins  
Jan. 2, Thurs., 1 p.m.....Christmas Vacation Ends  
Jan. 13, Mon.-Jan. 21, Tues.....Semester Examinations

## Second Semester, 1963-64

Jan. 24, Fri.-Jan. 25, Sat.....Entrance Examinations  
Jan. 29, Wed.-Feb. 1, Sat.....New Student Program and Registration  
Feb. 3, Mon. 7 a.m.....Instruction Begins  
March 2, Mon.....University Day (University opened, 1868)  
March 28, Sat., 12 noon.....Spring Vacation Begins  
April 6, Mon., 1 p.m.....Spring Vacation Ends  
May 1, Fri.....Honors Day (classes dismissed at noon)  
May 25, Mon.-June 3, Wed.....Semester Examinations  
May 30, Sat.....Memorial Day (holiday)  
June 13, Sat.....Commencement Exercises

## Eight-week Summer Session, 1964

June 4, Thurs.-June 5, Fri.....Entrance Examinations  
June 15, Mon.....Registration  
June 16, Tues., 7 a.m.....Instruction Begins  
July 4, Sat.....Independence Day (holiday)  
Aug. 7, Fri.-Aug. 8, Sat.....Summer Session Examinations



# Faculty

1962-1963

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## PROFESSORS

- Babler, Bernard J., Ph.D., Chemistry.
- Bailey, Harold W., Ph.D., Mathematics; Associate Dean, College of Liberal Arts and Sciences.
- Barber, Hollis W., Ph.D., Political Science; Acting Head, Division of Social Sciences.
- Barton, Helen M., Ed.D., Physical Education for Women; Head, Department of Physical Education for Women.
- Carlson, Clarence I., B.S., General Engineering; Head, Department of General Engineering.
- Cobb, Arnold C., M.S., Theoretical and Applied Mechanics; Acting Head, Department of Engineering Sciences.
- Coleman, Raymond W., Ph.D., Economics and Management; Dean, College of Business Administration.
- Crum, Ferris B., Ph.D., Chemistry, *emeritus*.
- Currie, Leonard J., M. Arch., Architecture; Dean, College of Architecture and Art.
- Cutshall, Alden D., Ph.D., Geography; Associate Member, Center for Advanced Study (First Semester 1962-63).
- Derrick, Lucile, Ph.D., Economics.
- Feinstein, Irwin K., Ph.D., Mathematics Education.
- Fox, Samuel J. D., Ph.D., Accountancy. (On leave 1962-63.)
- Frank Evelyn, Ph.D., Mathematics.
- Gillett, Clarence H., Ph.D., Management.
- Goppert, Harold R., M.S., General Engineering, *emeritus*.
- Grampp, William D., Ph.D., Economics.
- Greene, Paul C., Ph.D., Psychology; Administrative Assistant, Office of Vice-President.
- Hartley, Miles C., Ph.D., Mathematics, *emeritus*.
- Heiliger, Edward M., M.A., Library Administration; Librarian.
- Huitema, Roy, Ph.D., Chemistry.
- Jones, John O., M.S., Physical Education for Men; Associate Dean, College of Physical Education; Director of Athletics.
- Karpinski, Robert W., D. es Sc., Geology.
- Klassen, Peter P., Ph.D., Sociology.
- Kozacka, Joseph S., M.S., Mechanical Engineering, *emeritus*.
- Lipman, Eli A., Ph.D., Psychology.

Madison, Kenneth M., Ph.D., Biological Sciences.  
McEldowney, Harold B., B.S., Assistant Dean, College of Architecture and Art; Head, Departments of Architecture and Art.  
McNee, John D., A.M., Art.  
McNeil, Edward B., Ph.D., Physics; Acting Head, Physics Department.  
Meloy, Carl R., Ph.D., Chemistry; Head, Division of Physical Sciences.  
Mikolajczyk, Henry L., M.A., Architecture.  
Morris, Daniel J., Ph.D., Philosophy.  
Parker, Norman A., M.S., Mechanical Engineering; Vice President, Chicago Undergraduate Division.  
Pickett, Arthur D., Ph.D., Biological Sciences; Associate Director, University Honors Programs.  
Radice, Canio, A.M., Art.  
Railsback, Ora L., Ph.D., Physics; Assistant to the Vice President.  
Richardson, John F., M.A., Art.  
Ricks, Victor E., Ph.D., Education.  
Riddle, Donald W., Ph.D., History, *emeritus*.  
Rouffa, Albert S., Ph.D., Biological Sciences; Acting Chairman, Division of Biological Sciences.  
Sanchez, Jose, Ph.D., Foreign Languages.  
Sangster, William, Ph.D., Biological Sciences.  
Schuyler, William M., Ph.D., Foreign Languages.  
Shank, Max C., Ph.D., Biological Sciences.  
Shapiro, Samuel E., B.S., General Engineering.  
Shopen, Kenneth, B.A., Art.  
Thompson, Wayne N., Ph.D., Speech.  
Trezise, Fred W., C.E., M.S., Engineering, *emeritus*.  
Vardaman, Hazel C., Ph.D., Foreign Languages.  
Vest, Eugene B., Ph.D., English; Head, Division of Humanities.  
Walraven, H. Dale, M.A., General Engineering; Assistant to the Dean, College of Engineering.  
Winsberg, Lester, Ph.D., Physics.

#### ASSOCIATE PROFESSORS

Anderson, William R., M.S., Physics.  
Bachrach, Joseph, Ph.D., Chemistry.  
Barker, Twiley W., Jr., Ph.D., Political Science.  
Berrafato, Peter R., M.S., Physical Education for Men; Director of Intramural Sports.  
Bill, Shirley A., Ph.D., History.  
Blum, Irving D., Ph.D., English.  
Burr, Edward E., B.F.A., Art.  
Chandler, Louis, Ph.D., Physics.

Chandler, Margaret K., Ph.D., Sociology.  
 Coe, Edward H., C.E., Civil Engineering.  
 Corley, Robert E., Ph.D., Sociology.  
 Crumpacker, Daniel L., B.S., Lt. Col., U.S.A., Military Science; Com-  
 mandant, Army ROTC Unit.  
 Curtis, Herbert J., Ph.D., Mathematics; Head, Division of Mathe-  
 matics.  
 Deam, Edward L., M.A. Arch., Architecture.  
 De Filippis, Anthony J., B.S., Architecture.  
 Dinkines, Flora, Ph.D., Mathematics.  
 Fordham, Sheldon L., M.S., Physical Education for Men; Assistant  
 Dean, Physical Education; Assistant Director of Athletics.  
 Gedvilas, Leo L., M.S., Physical Education for Men; Assistant Direc-  
 tor of Intramural Sports.  
 Glassman, Sidney F., Ph.D., Biological Sciences.  
 Holladay, Dee M., A.B., B.S.A.E., General Engineering.  
 Hartoch, Arnold J., Ph.D., Foreign Languages; Director of Publica-  
 tions.  
 Howard, Allen H., Ph.D., Psychology.  
 Hunt, Charles K., Ph.D., Chemistry.  
 Johnson, Falk S., Ph.D., English.  
 Johnson, Herman J., M.S., Physics.  
 Jones, Stanley L., Ph.D., History.  
 Jordan, Moreen C., Ph.D., English.  
 Kabbes, S. Madonna, M.B.A., C.P.A., Accountancy.  
 Karanikas, Alexander, Ph.D., English.  
 Kauf, Robert, Ph.D., Foreign Languages.  
 Klehr, Harold, Ph.D., Psychology; Assistant Director in charge of  
 Student Counseling Service.  
 Kogan, Bernard R., Ph.D., English.  
 Kohler, Richard C., D.Ed., General Engineering.  
 Kostka, Helen M., M.D., Hygiene, *emerita*.  
 Lein, Marie E., Ph.D., Foreign Languages.  
 Leonhard, Zelma B., Ph.D., English.  
 Little, Ellis B., Ed.D., Biological Sciences; Assistant Dean, College  
 of Liberal Arts and Sciences.  
 Malinosky, Alfonse T., M.B.A., C.P.A., Accounting; Assistant to the  
 Dean, College of Business Administration.  
 Mansfield, Eldon I., B.A., Captain, U.S.A., Military Science.  
 Mansfield, J. Victor, Ph.D., Chemistry.  
 Marsh, John O., Ph.D., Foreign Languages.  
 Mueller, Hans J., Ph.D., Chemistry.  
 Nicholas, Constance, Ph.D., English.

Nicholson, Robert L., Ph.D., History.  
 Pennisi, Louis L., Ph.D., Mathematics.  
 Perkins, Roy B., M.S., Mechanical Engineering; Head, Engineering Shop Laboratories.  
 Pitt, Carl A., Ph.D., Speech.  
 Price, Rupert M., M.A., Physics; Assistant Dean, College of Engineering.  
 Rathburn, Rowland, M.S., Architecture.  
 Reid, H. Gordon, M.D., Hygiene; Director, Health Service.  
 Runyan, Harry J., Ph.D., English.  
 Schiller, Andrew, Ph.D., English.  
 Schneider, Albert J., M.B.A., C.P.A., Accountancy.  
 Schrage, Samuel, Ph.D., Chemistry. (On leave 1962-63.)  
 Schroeder, Roy W., Foundry and Pattern Design.  
 Schultheiss, Louis A., M.A., Library Administration; Head, Technical Services Division, Library.  
 Shaw, Fayette B., Ph.D., Finance.  
 Skadeland, Harold M., M.A., Physics; Acting Associate Head, Physics Department.  
 Stronks, James B., Ph.D., English.  
 Unfer, Louis, Ph.D., History, *emeritus*.  
 Walley, John E., Art; Acting Head, Department of Art.  
 Weiss, Samuel A., Ph.D., English.  
 Weissman, Herman B., Ph.D., Physics; Acting Director, Computer Center.  
 Wiesinger, Frederick P., Ph.D., Civil Engineering.  
 Willner, Ernest S., Ph.D., Foreign Languages. (On leave second semester 1962-63.)  
 Wright, Elizabeth V., Ph.D., English.  
 Zaccaria, Lucy C., Ph.D., Psychology; Supervisor, Test Research and Services, Student Counseling Service.

#### ASSISTANT PROFESSORS

Alberti, Furio, Ph.D., Mathematics. (On leave, second semester 1962-63.)  
 Andrews, Daniel K., Ph.D., Finance.  
 Asch, Walter B., Ph.D., History.  
 Baer, Jean H., Ph.D., Education; Administrative Assistant, Student Counseling Service.  
 Ballard, Ruth M., Ph.D., Mathematics.  
 Berman, Louis A., Ph.D., Psychology; Counselor, Student Counseling Service.  
 Bess, Leon, Ph.D., Physics.

Blair, Leon N., B.S., General Engineering.

Blount, Stanley F., Ph.D., Geography.

Bond, James A., Ph.D., Biological Sciences.

Burch, Irenaes A., Ph.D., Psychology; Counselor, Student Counseling Service.

Buss, Truman C., Jr., B.S., General Engineering.

Colby, Mary M., Ph.D., Geography. (On leave second semester 1962-63.)

Culbertson, Don S., M.A., Library Administration; Chief, Data Processing.

DeMar, Robert E., Ph.D., Geology.

Dembski, Marion V. J., M.A., General Engineering.

Dunne, William J., M.B.A., Management; Assistant Dean, College of Business Administration.

Eddie, Carolyn A., Ph.D., History.

Elting, Winston, A.B., Architecture.

Ferguson, Marie A., Ph.D., Psychology; Counselor, Student Counseling Service.

Finney, Mildred I., Ph.D., Geography.

Fissinger, Edwin R., M.Mus., Music.

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Gallagher, Robert E., Ph.D., English.

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Ginzel, Roland F., M.F.A., Art.

Goodman, Gordon L., Ph.D., History (On leave 1962-63.)

Gottlieb, Anatol, T.Sc.D., Chemistry.

Graf, William, Jr., B.S., Theoretical and Applied Mechanics.

Griest, Guinevere L., Ph.D., English. (On leave second semester 1962-63.)

Gum, Wanda, Ed.D., Social Sciences, *emerita*.

Hadder, John C., Ph.D., Biological Sciences.

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 Masterton, Don A., M.S., Art.  
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 Miller, Lester H., M.A., Physical Education for Men; Baseball Coach.  
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 Miller, Sonia, Ph.D., English.  
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 nastics Coach.  
 Moraine, Fishel E., Dipl. Ing., Physics.  
 Mosillo, Francis A., M.S., General Engineering.  
 Murphy, Kenneth H., M.S., Mathematics.  
 Newell, John T., Ph.D., Biological Sciences; Assistant Director, Uni-  
 versity Honors Programs.  
 Nickle, Robert W., B.D., Art.  
 Pabarcus, Algis, M.S., Theoretical and Applied Mechanics.  
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 Pesavento, Wilma J., M.A., Physical Education for Women.  
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 Service.  
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 Rietz, Edward G., Ph.D., Chemistry.

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 Setton, Henry A., B.S. in E.E., M.Ed., General Engineering.  
 Shalabi, Madelaine T., Ph.D., Education.  
 Shomay, David, Ph.D., Biological Sciences.  
 Silkett, Albert F., A.B., Physics.  
 Spirakis, Charles N., Ph.D., Biological Sciences.  
 Stableford, Nancy R., M.F.A., Art.  
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 Teichmann, Elizabeth, Ph.D., Foreign Languages.  
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 Weldon, John W., Ph.D., Chemistry.  
 Willett, Maurita, Ph.D., English.  
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Adams, Robert K., M.S. Arch., Architecture.  
 Adelsperger, Robert J., M.S., Library Administration; Assistant Reference Librarian.  
 Alexopoulos, George G., B.S., Physics.  
 Andrews, James A., B.S., Accountancy.  
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 Charkovsky, Willis, M.Mus., Music.

Chillag, Joan C., M.A., English.  
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 de Gryse, Ruby V., M.A., Speech; Head of Speech Improvement Laboratory.  
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 Gurolnick, Carol S., M.A., English.  
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\*First Semester Only



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 Kornacker, Mildred, M.A., Sociology.  
 Kundrat, Theodore V., M.S., A.M., Speech.  
 Kurs, Louis N., M.S., Geology.  
 Kuzmanic, Betty W., M.Ed., Mathematics.  
 Lariviere, Rose, M.A., Mathematics, *emerita*.  
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 Linn, Julia B., M.S., Mathematics.  
 Lumley, Jeannette S., M.A., Mathematics.  
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 Matlon, Ronald J., M.A., Speech.  
 McFate, Patricia A., M.A., English.  
 Merten, Horace C., M.A., English, *emeritus*.  
 Miller, Irving M., M.A., English.  
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 Naikelis, V. Stanley, M.S., Mathematics.  
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 Oleksy, Margaret H., M.A., English.  
 Olsen, Charles E., B.S., Mathematics.  
 Olsen, Irving S., M.A., Foreign Languages; In charge, Language Laboratory.  
 Ondrak, Thomas B., M.S., Mathematics.  
 Ossman, Edward T., M.B.A., Accountancy.  
 Page, Robert R., A.M., Philosophy.  
 Pancner, Robert, B.S., General Engineering.  
 Pare, Eileen M., M.S., Chemistry.  
 Patlogan, Sylvia, M.A., Foreign Languages.  
 Perelmuter, Samuel, M.S., Biological Sciences.  
 Perry, Clarence J., M.Ed., Chemistry.  
 Phillips, Anne, M.S., English.

Potempa, Sylvester J., M.S., Chemistry.  
 \*Rees, Candida K., M.S., Mathematics.  
 Rife, Harold E., M.A., Economics.  
 Rudin, Cecilia M., M.A., English. (On leave 1962-63.)  
 Rummel, Marion L., M.A., Mathematics.  
 Russell, Henry B., M.A., Foreign Languages.  
 Sackheim, George I., M.S., Chemistry.  
 Salomon, Lawrence, B.A., Art.  
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 Savoy, Michael G., M.S., Chemistry.  
 Seabright, Frances K., M.S., Chemistry.  
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 Seltzer, Arthur O., A.M., Economics.  
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 \*Siskind, Caroline C., M.F.A., English.  
 Sjoblom, Laurence R., B.S., Mathematics.  
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 Smith, George H., Jr., M.A., Sociology.  
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 Spies, Harold W., M.D., Hygiene.  
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 Terrell, Edward E., S. Sgt., U.S.A., Military Science.  
 Terrill, Robert E., M.A., English.  
 Timmis, Beatrice S., M.A., English, *emerita*.  
 Tomasek, Nancy A., M.A., Foreign Languages.  
 Tort, Ferdina J., M.A., Foreign Languages.  
 Vedral, Rose L., M.A., Mathematics.  
 Warren, Charles P., M.A., Anthropology.  
 Wilbur, James W., M.A., Physics.  
 Wiley, Rosemary F., A.M., Mathematics.  
 Wilkins, James L., M.A., Sociology.  
 Zehme, Donald F., M.A., Foreign Languages.  
 Ziomek, Leo F., M.S., Mathematics.  
 Zygmund, Irena, M.A., Mathematics.

#### ASSISTANTS

Beck, Robert J., B.S., Physical Education for Men; Assistant Coach,  
 Football and Tennis.

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\*First Semester Only

Calkins, Kenneth R., M.A., History.  
 Ciplijauskaite, Danute L., M.A., Foreign Languages.  
 Claypoole, Donna J., B.A., Physical Education for Women.  
 \*Dawson, Robert E., M.S., Psychology.  
 Descourouez, James C., B.S., Physical Education for Men.  
 Drower, Sara R., M.S., Biological Sciences.  
 Durant, John B., M.A., History.  
 Fashing, Edward M., B.S., Chemistry.  
 Gericke, Wolfgang, B.S., Chemistry.  
 \*\*Goldman, Elaine D., M.S., Mathematics.  
 Hagenberger, Cheryl M., M.A., English.  
 Hill, Enid, M.A., Political Science.  
 Houck, Russell L., B.S., Biological Sciences.  
 \*\*Hunt, Rogene S., M.A., History.  
 \*\*Jorgensen, Lawrence, A.M., History.  
 Jurinek, George D., B.S., Physical Education for Men; Wrestling  
 Coach.  
 \*Keranen, Dolores L., M.A., English.  
 Kozlowski, Helen S., B.A., Psychology; Counselor, Student Counseling  
 Service.  
 LaGoudes, Basil E., B.A., English.  
 Land, Vera F. C., M.A., Foreign Languages.  
 Liddle, Larry B., M.S., Biological Sciences.  
 Lothian, Thomas A., B.S., Chemistry.  
 Lukas, Ruta O., A.M., Foreign Languages.  
 Lynn, Patricia, A.B., Physical Education for Women.  
 Mackh, Ralph W., B.S., Physical Education for Men; Assistant Swim-  
 ming Coach.  
 Malter, Richard F., B.A., Psychology; Counselor, Student Counseling  
 Service.  
 McCaig, Ronald J., M.A., English.  
 Neill, David M., B.S., E.E., Electrical Engineering.  
 Nolan, Robert L., B.S., Physical Education for Men; Cross Country  
 and Track and Field Coach.  
 Perry, Marla J., B.S., Physical Education for Women.  
 \*Reed, Mary V., M.A., English.  
 Roseman, Frank, M.A., Economics.  
 Roth, Cynthia M., B.S., Chemistry.  
 Rozen, Zelda S., B.A., Physical Education for Women.  
 Russo, Thomas F., B.A., Physical Education for Men; Assistant Basket-  
 ball and Assistant Baseball Coach.

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\*First Semester Only

\*\*Second Semester Only

Sabel, Charles L., M.A., Psychology.  
Spaeth, Virginia A., M.S., Biology.  
Spargo, Gladys R., M.A., Library Administration; Serials and Acquisitions.  
\*\*Starbuck, James, A.M., History.  
Szepe, Helena K., M.A., History.  
\*Vission, Richard S., M.A., English.  
von Hentig, Roland T., B.S., Biological Sciences.  
Watson, Edward A., M.A., English.  
\*\*Winkelmann, Marvin B., A.B., Foreign Languages.  
Wright, Charles A., A.B., Foreign Languages.

#### VISITING LECTURERS

Estin, Robert W., M.S., Physics.  
Krupp, Robert H., M.S., Physics.  
Partridge, Robert W., E.E., Electrical Engineering.  
\*\*Smith, Helen, Ph.D., Geography.

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\*\*Second Semester Only

## *The New Campus*

The Board of Trustees of the University of Illinois has selected as the site of the new four-year, degree-granting Chicago campus of the University of Illinois a plot of land bounded roughly by the Congress Expressway, the South Expressway (Halsted Street), Roosevelt Road, and Racine-Morgan-Blue Island (see map inside front cover). Plans call for occupancy of the new facilities and admission of the first full junior class in 1965, the admission of the first full senior class in 1966, and awarding of the first degrees in 1967. The initial cost will be financed by revenues from the Universities Bond Issue of 1960. This location has also been approved by the City Council of the City of Chicago, The Chicago Land Clearance Commission, and the Illinois State Housing Board. The new facility will be known as the University of Illinois at Congress Circle.



*Congress Circle—soon.*

# *Admission and Registration*

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## **ADMISSION PROCEDURES**

### **SECURE AN APPLICATION FOR ADMISSION**

The Office of Admissions and Records of the Chicago Undergraduate Division will provide application blanks for admission in response to requests received by mail, by telephone, or in person. Students may apply either after graduation from high school or during their final semester in high school. In the latter instance, admission will be based upon credit and grades earned during the first seven semesters in high school, scholastic rank in class at the end of the seventh semester, courses in progress the eighth semester and the probable date of graduation, subject, of course, to confirmation after graduation. Students in the top quarter of their high school class may apply on completion of their sixth semester in high school. (For admission by examination in lieu of high school graduation, please see pages 44-46.)

## PROVIDE OFFICIAL TRANSCRIPTS

Each applicant must arrange with the registrar of his high school and with the registrar of each college or university he may have attended to have a transcript of his record forwarded to the Office of Admissions and Records, University of Illinois, Chicago Undergraduate Division, Navy Pier, Chicago 11, Illinois. This should be done as soon as possible to facilitate early evaluation of credentials.

In addition, an applicant who has been on active duty in the Armed Forces of the United States of America must submit a photocopy of his service separation papers.

## PROVIDE SCORES ON ACT AND STRONG TESTS

The American College Test and the Strong Vocational Interest Blank are required of all new freshmen. (Beginning June, 1964, the Strong Vocational Interest Blank will no longer be required.) Applicants who have not yet taken these examinations may secure information about where and when to take them by writing to: ACT, Central Registration Unit, 519 West Sheridan Road, McHenry, Illinois. (For information about substitution of the Scholastic Aptitude Test of the College Entrance Examination Board, see page 33.)

## DECIDE ON THE COLLEGE AND CURRICULUM IN WHICH TO ENROLL

Applicants who have any question as to the course of study to pursue in the University are strongly urged to participate in our guidance program. Several months in advance of each New Student Orientation Week, our Student Counseling Service offers educational and vocational aptitude examinations to students considering attendance here. Those who complete these examinations and submit their ACT scores and Strong Vocational Interest Blank are given appointments for professional counseling on test results. More detailed information about this guidance program appears on pages 63-65. Appointments for the aptitude examinations may be secured from the Office of Admissions and Records.

## COMPLETE AND RETURN THE APPLICATION BLANK

When the applicant's file is complete, (that is, after his application blank and all necessary supporting records, transcripts, and test scores have been received) the application will be processed. If



additional records are needed (e.g., academic dean's recommendation, Illinois residence clarification, etc.) the applicant will be notified. If, for some reason, the admission application cannot be approved, the Office of Admissions and Records will send the student a letter which will both explain why he is not eligible for admission and provide suggestions as to how he may remove his deficiencies and qualify for admission to a future session. **Send no money with application blank.**

If the application is approved and vacancies still exist, the applicant will receive a tuition and fee deposit request. In the Fall Semester the deposit request may be preceded by a notice from the Admissions Office of the applicant's priority group under the Progressive Admissions Plan. (See pages 42-43.)

Applicants are urged to have completed applications on file by the following dates to assure processing in ample time for registration:

For the Spring Semester	January 20
For the Summer Session	June 10
For the Fall Semester	September 1



## **PAY THE TUITION AND FEE DEPOSIT**

The purpose of this deposit is to reserve a place in the entering class for the applicant. When the tuition and fee deposit is paid, the applicant will receive a permit to enter. Enclosed with that permit will be:

A copy of the New Student Week Official Program containing complete information about the activities of New Student Week, schedules for those activities, and for registration.

An envelope containing detailed instructions about the required medical examination.

## **COMPLETE THE MEDICAL EXAMINATION**

Prior to their first registration in the University, new students are required to complete a medical examination as prescribed by the University Health Officer. Until the period beginning 15 days before registration (see calendar, page 13), this examination will be administered by the University Health Officer at no expense to the student, or it may be administered by the student's own physician, at his option. Beginning 15 days before registration, the University Health Officer will cease to offer the examination.

## **REPORT FOR ORIENTATION AND REGISTRATION**

Using the New Student Week Official Program as his guide, the applicant should report to this campus for orientation and registration. Following this he will pay the balance of his tuition and fees and begin classes.

# ADMISSION REQUIREMENTS

Each student must meet two sets of admission requirements: General University Admission Requirements (below) and Specific College Admission Requirements. (See page 35.)

## GENERAL UNIVERSITY ADMISSION REQUIREMENTS

These requirements must be met by all applicants. (For definitions of the terms used and a description of the subjects acceptable in satisfaction of the requirements, refer to page 33.)

### AGE

Sixteen or older. This requirement may be waived for a student fifteen years of age on recommendation of the Dean of the College which the student plans to enter, provided the student will reside with his parents or guardian or someone selected by them while attending the University.

### GRADUATION FROM AN ACCREDITED HIGH SCHOOL

Applicants who are not graduated from accredited high schools may be considered for admission by examination. (See pages 44-45.)

### SCHOLASTIC RANK

A detailed statement of the scholastic requirements for admission appears on pages 38 through 43. In general, new freshmen must rank in the upper half of their class. For the admission of new freshmen who are residents of Illinois on the basis of test scores in place of high school rank, see pages 43-44. Transfer students must have at least a "C" average.

### FIFTEEN UNITS OF CREDIT

The fifteen required units of acceptable secondary school work must be distributed as follows:

1. A minimum of nine units of work in the academic fields (English,

foreign languages, history and social studies, mathematics, sciences) including:

- a. At least three units of English (see page 34), plus
  - b. An additional three-unit sequence and a two-unit sequence in different academic fields selected from the list of acceptable majors (three units) and minors (two units) described on pages 33-35. (This requirement is waived for an applicant who ranks scholastically in the upper half of his high school graduating class.)
2. Six units in any high school subjects accepted by an accredited school toward its diploma.

### COMPLETION OF THE AMERICAN COLLEGE TESTING PROGRAM EXAMINATIONS AND THE STRONG VOCATIONAL INTEREST BLANK

The American College Test and the Strong Vocational Interest Blank are required of all new freshmen. Applicants who have not completed the ACT examination may be considered for provisional admission on the basis of the Scholastic Aptitude Test of the College Entrance Examination Board, subject to the receipt after registration of their ACT scores. If the tests are taken more than once, the highest score earned is used.

The results of the Strong Vocational Interest Blank, while required during the admission process, will be used for counseling only and not as an admission determinant. Beginning June, 1964, it will no longer be required.

### DEFINITION OF UNIT, MAJOR AND MINOR

#### Unit

A unit is the equivalent of two high school credits, i. e., the value given to a course of study covering two semesters and including not less than the equivalent of 120 sixty-minute periods of classroom work. Two hours of work requiring little or no preparation outside the classroom are considered as equivalent to one hour of prepared classroom work. Fractional credits of the value of less than one-half unit will not be accepted. Not less than one unit of work will be accepted in a foreign language, elementary algebra, geometry, physics, chemistry, or biology. The University's definition of a major and a minor may not be the same as that in use in your high school.

## Major

A major consists of a three-unit sequence in one academic field.

## Minor

A minor consists of a two-unit sequence in one academic field.

## ACCEPTABLE MAJORS AND MINORS

The required majors and minors (see pages 32-33) must be selected from the following:

### English

All students must present a major in English. Only courses in history and appreciation of literature, and in composition (including oral composition when given as a part of a basic English course) and grammar, will count toward this major. Four units in English, while not required for any curriculum, are strongly recommended.

### Foreign Language

Three units in one language constitute a major. Two units in one language constitute a minor. The University will accept credit in any foreign language earned in an accredited high school. However, if language credit is earned, instead, by passing a University entrance examination, that examination must be in a foreign language which is regularly taught by the University.

### Mathematics

Only courses in algebra, plane geometry, solid geometry, and trigonometry will be accepted toward a major or a minor in this subject. (General mathematics may be accepted in lieu of algebra and geometry in cases in which the content of the course is essentially the same as that ordinarily included in algebra and geometry. However, essentials of mathematics, business or shop mathematics, and commercial arithmetic are not acceptable toward a major or minor in mathematics.)

In the College of Architecture and Art, the College of Engineering and in the chemistry, chemical engineering, and physics curricula of

the College of Liberal Arts and Sciences, where advanced high school mathematics is required, a student who has only one unit in algebra and one unit in geometry, and who meets all other entrance requirements, may be admitted on condition that the deficiencies in advanced mathematics be removed during his first year of residence. Credit earned in the removal of such deficiencies will *not be* counted toward the degree. This will probably extend the time required for a degree. A student who does not present the advanced mathematics specified may be admitted to full standing by passing at the University a mathematics proficiency examination which indicates that his preparation is adequate for entrance into analytic geometry.

### Science

Acceptable courses include: physics, chemistry, biology, botany, zoology, general science, physiology, physiography, astronomy, geology. The three units required for a major must include at least a total of two units chosen from one or more of the following subjects: physics, chemistry, botany, zoology. Biology may be offered in place of botany or zoology.

### Social Studies

This field is divided into two subject areas:

1. History, e.g., United States, modern, ancient, medieval, etc. The three units required for a major must include at least two units in history. The two units required for a minor must include at least one unit in history.
2. General Social Studies, e.g., civics, economics, psychology, sociology, and economic geography.

## SPECIFIC COLLEGE ADMISSION REQUIREMENTS

These vary depending upon the college and curriculum in the University of Illinois which the student plans to enter. They apply only to students entering that college and curriculum. See chart on pages 36-37 for list of required subjects.

## Required Subjects for Specific Colleges and Curricula

(IN ADDITION to the General University Admission Requirements, page 32)

Colleges & Curricula	Present Requirements	Required Subjects
<b>COLLEGE OF ARCHITECTURE AND ART</b>		Changes effective beginning dates indicated
Curricula in Architecture Construction Option (for B.S. degree in Architectural Engineering); Design Option (for B.S. degree in Architecture)	Algebra, 2 units Geometry, 1 unit Trigonometry, ½ unit <sup>4</sup> Science, 2 units <sup>3</sup> Social Studies, 2 units Foreign Language, 2 units <sup>2</sup>	No changes planned
Curricula in Art (Advertising Design, Art Education, Arts and Crafts, General, History of Art, Industrial Design, Painting, Sculpture)	Language, 2 units <sup>1</sup> (See Page 34)	No changes planned
<b>COLLEGE OF BUSINESS ADMINISTRATION</b>		
All Fields	Algebra, 1 unit Geometry, 1 unit	Beginning June, 1964: Algebra, 2 units <sup>4</sup> Geometry, 1 unit Laboratory Science, 2 units <sup>5</sup> Foreign Language, 2 units <sup>2</sup> Social Studies, 2 units
<b>COLLEGE OF ENGINEERING</b>		
(Aeronautical, Agricultural, Ceramic, Civil, Electrical, Engineering Mechanics, Engineering Physics, General, Industrial, Mechanical, Metallurgical, Mining, Sanitary) For combined Engineering-Liberal Arts curriculum, see under Liberal Arts.	Algebra, 2 units Geometry, 1 unit Trigonometry, ½ unit <sup>4</sup> Science, 2 units <sup>3</sup> Social Studies, 2 units Foreign Language, 2 units <sup>2</sup>	No changes planned
<b>COLLEGE OF LIBERAL ARTS AND SCIENCES</b>		
General Curriculum; Curricula preparatory to Dentistry, Medicine, Veterinary Medicine (See Also Paragraphs 1 & 2, Page 42); Curricula preparatory to Journalism and Law; Occupational Therapy	Language, 2 units <sup>1</sup> (See Page 34) Algebra, 1 unit Geometry, 1 unit	Beginning June, 1965: Algebra, 1 unit Geometry, 1 unit Science, 2 units <sup>5,6</sup>

Curriculum (See Also Paragraphs 1 & 2, Page 42, and Paragraph 1, Page 38); Prepharmacy; Home Economics; Prenursing (See Also Paragraphs 1 & 2, Page 42); Teacher Education Curricula (except those listed below)	Foreign Language, 2 units <sup>6</sup> History, 2 units <sup>6,7</sup> One additional unit in any of the above subjects or in Social Studies.
Curriculum in Chemistry	Beginning June, 1965: Same as for general curriculum that date.
Curricula in Chemical Engineering, Combined Engineering-Liberal Arts, Physics (See Also Paragraph 1, Pages 41-42)	Language, 2 units <sup>1</sup> Algebra, 1½ units <sup>4</sup> Geometry, 1 unit  Language, 2 units <sup>1</sup> Algebra, 2 units Geometry, 1 unit Trigonometry, ½ unit <sup>4</sup>
Curriculum in Elementary Education	None
Teacher Education, Industrial Education, Curricula Preparatory to Teaching Mentally Handicapped Children and Deaf and Hard of Hearing Children (See Also Paragraph 3, Page 38, and Paragraphs 1 & 2, Page 42) Forestry	Algebra, 1 unit Geometry, 1 unit  None No changes planned
<b>DIVISION OF PHYSICAL EDUCATION</b> All curricula (Physical Education for Men, Physical Education for Women, Dance, Health Education, Recreation)	Written Approval of the Director of Physical Education  No changes planned

<sup>1</sup>Foreign language requirement is waived for students who rank in the upper half of their high school graduating classes.

<sup>2</sup>Students with a deficiency in foreign language may be admitted on condition that the deficiency is removed during the first two years. No credit toward graduation is allowed for language courses taken to remove a deficiency in entrance requirements.

<sup>3</sup>Two units of science required. One unit must be in physics or chemistry. The second unit of science may be in either a physical or a biological science. General science may not be used in satisfaction of this requirement.

<sup>4</sup>A student may be admitted with one year of algebra and one year of geometry, but must remove the deficiency in advanced mathematics during his first year. Courses taken to remove the deficiency may not be counted toward the degree.

<sup>5</sup>General Science is not acceptable.

<sup>6</sup>This requirement (or the history, or the science) may be waived for a student in the top quarter of his class, provided he presents a compensatory amount of additional credit in the other subjects required.

<sup>7</sup>Social Studies are not acceptable as history.

## SPECIAL ADDITIONAL REQUIREMENTS FOR CERTAIN PROGRAMS

1. Occupational Therapy:
  - a. Age: Under thirty
  - b. Ability to pass a special health examination given by the University Health Service
  - c. Favorable recommendation from the Director of Occupational Therapy. (The Office of the Director is located in Room W-421, Research and Educational Hospitals, 840 South Wood Street, Chicago 12, Illinois; telephone, 663-7000, extension 7096.)
  - d. Special scholastic requirements (see pages 39-40, 42.)
2. Physical Education:

Admission to all programs offered in the Division of Physical Education requires a recommendation from the Director of that Division (for men), or from the Head of the Department of Physical Education for Women. Arrangements for this required personal interview may be made by telephoning Whitehall 4-3800, extension 162 (men), or extension 72 (women).
3. Curricula Preparatory to Teaching Mentally Handicapped Children and Deaf and Hard of Hearing Children:

For admission to each of these curricula (in addition to a special scholastic requirement, see page 42) a favorable recommendation from the Director of the Division of Education is required.

## SCHOLASTIC ADMISSION REQUIREMENTS

### GENERAL UNIVERSITY SCHOLASTIC REQUIREMENTS

(For special requirements under the Progressive Admissions Plan and for special college and curriculum requirements see pages 42-43.)

### BEGINNING FRESHMEN

#### Residents of Illinois

The scholastic requirement for admission of beginning freshmen is rank in the upper half of his high school class. However, a graduate of an accredited high school who is a resident of Illinois, who ranks scholastically in the lower half of his graduating class and who is



otherwise qualified for admission will be admitted to the University upon presentation of any of the following evidences of ability to do satisfactory work at the University:

1. A passing score on the ACT (American College Testing Program Examination). The passing score is one which indicates that the student admitted to the University by this means has approximately one out of four chances or better of being in good scholastic standing at the end of his first semester of college work.

OR

2. Evidence of having completed twelve or more semester hours of work at another college or university of recognized standing, with a scholastic record which meets the University requirements for admission as a transfer student.

OR

3. An application for admission to a session which begins at least twelve months after the applicant's graduation from high school, provided that (a) in this twelve-month period he has not attempted as much as twelve semester hours of work at another college or university of recognized standing, and (b) that he meets all other University requirements for admission that are applicable to him, except that he shall not be required to pass the test prescribed in "1" above.

The student's rank is to be based on work completed in grades nine, ten, eleven, and the first half of twelve in the case of four-year high schools; on work completed in grades ten, eleven, and the first half of twelve in the case of three-year senior high schools. Exceptions: If a student who ranks above the lower half prior to graduation from high school drops into the lower half on graduation, his scholastic rank on graduation will govern. Similarly, if a student applies for admission after having been graduated from high school, his rank on graduation will govern.

## Nonresidents of Illinois

Beginning freshmen who are not legal residents of the State of Illinois may be admitted to all colleges and divisions except the College of Architecture and Art, if vacancies exist after all qualified resident applicants have been accommodated, provided they meet all requirements listed on pages 32-37 and rank scholastically in the upper half of their class on graduation from high school. For admission to the College of Architecture and Art, nonresidents must rank in the top third of their class. The provisions described above for lower half students who are residents of Illinois DO NOT apply to nonresidents.

## TRANSFER STUDENTS

### Residents of Illinois

A person who has attended another college or university of recognized standing is considered for admission to the University of Illinois on presentation of a transcript of his record in each such college or university attended, and a transcript of his secondary school work. To be eligible for admission the student must meet the following requirements (in addition to all requirements listed on pages 32-37):

1. Students who have completed (with passing or failing grades) forty or fewer semester hours of work in a recognized college or university must have a cumulative average of at least 3.0 (C) in terms of the University of Illinois grading system. (See "Grading System," page 76.)
2. Students who have completed (with passing or failing grades) more than forty semester hours of work in a recognized college or university must have:
  - a. A cumulative average of at least 3.0 (C) in all college work, in terms of the University of Illinois grading system, plus
  - b. An average of at least 3.0 (C) in the last term.
3. In addition, all transfer students must present evidence of honorable dismissal from each college or university attended.
4. Exceptions:
  - a. To the General University Requirements on page 32: An applicant who is transferring from an institution rated as Class "A" by the University and who is deficient in the General University Admission Requirements listed on page 32, may be admitted if he presents at least thirty semester hours of credit in transfer with at least a 3.0 (C) average. However, such applicants who desire to enter the College of Architecture and Art, College of Business Administration or the College of Engineering must present credit in the minimum mathematics required for these colleges.
  - b. To the Scholastic Requirements: Students who do not meet the scholastic requirements listed in paragraphs 1 and 2 above, may petition for admission on scholastic probation provided they meet the following minimum requirements:
    - (1) Students with forty or fewer hours of college work: (a) Less than a 3.0 (C) average but more than a 2.50 average. This exception does not apply to nonresidents of the State of Illinois or to applicants for the College of Architecture and Art, or for the College of Engineering.

(2) Students with more than forty semester hours of college work:

(a) Cumulative scholastic average of at least 3.0,

(b) But less than a 3.0 average in the last term.

Transfer students whose scholastic record is lower than that described in paragraph 4b (1) and (2), are not eligible for admission.

- c. To the Conduct Requirement: A student on conduct probation at another accredited college or university or one who has been dropped from such an institution for disciplinary reasons may be considered for admission on petition to the Committee on Student Discipline of the Senate of the University of Illinois. Such petitions should be filed with the Office of Admissions and Records.

## **Nonresidents of Illinois**

Transfer students with forty or fewer semester hours of credit who are not legal residents of Illinois must present a collegiate scholastic average of at least 3.0 (C) in terms of the University of Illinois grading system. Those with less than a "C" average will not be admitted.

Transfer students with more than forty semester hours must meet the special provisions in paragraph 2, page 40.

## **SPECIAL COLLEGE OR CURRICULUM SCHOLASTIC REQUIREMENTS**

### **COLLEGE OF ARCHITECTURE AND ART**

New freshmen who are residents of Illinois must rank in the upper half of their class. New freshmen who are nonresidents must rank in the top third. Transfer students must present a collegiate scholastic average of at least 3.25 (C+).

### **COLLEGE OF ENGINEERING**

Transfer students must present a collegiate scholastic average of at least 3.0 (C). Transfer students with less than a 3.0 average will not be admitted.

### **COLLEGE OF LIBERAL ARTS AND SCIENCES**

For admission to certain curricula in this college, special scholastic requirements exist as described below.

## 1. For Beginning Freshmen:

### *Curriculum*

### *Scholastic Requirement*

Occupational Therapy, Physics, Pre-dentistry, Premedicine, Pre-nursing, Preveterinary medicine

Rank in upper half of high school class

Curricula Preparatory to Teaching Mentally Handicapped Children and Deaf and Hard of Hearing Children

Rank in the top quarter of high school class

## 2. For Transfers from other Colleges and Universities

### *Curriculum*

### *Scholastic Requirement*

Occupational Therapy, Pre-dentistry, Premedicine, Preveterinary medicine, Curricula Preparatory to Teaching Mentally Handicapped Children and Deaf and Hard of Hearing Children

Collegiate average of not less than 3.5 (Midway between "C" and "B")

Pre-nursing

Collegiate average of not less than 3.0 (C)

Teacher Education Curricula (except those above)

Collegiate average of not less than 3.3 (C+) with up to 45 hours of credit.

Average of 3.5 for transfers with more than 45 hours of credit.

## PROGRESSIVE ADMISSIONS PLAN

Because available facilities are insufficient to provide for all qualified applicants in the Fall Semester, admission priority is granted, on the basis of scholarship, for stipulated periods as described below.

### *PERIOD 1: THROUGH APRIL 14, 1964*

- a. New freshmen who are residents of Illinois and who rank in the top twenty-five percent of their high school class.
- b. New freshmen who are nonresidents of Illinois and who rank in the top fifteen percent of their high school class.
- c. Transfer students who are residents of Illinois with not less than a 3.75 average in their college work in terms of the grading system of the University of Illinois.

- d. Transfer students who are nonresidents of Illinois with not less than a 4.0 average in their college work in terms of the grading system of the University of Illinois.

#### **PERIOD 2: FROM APRIL 15, 1964 TO MAY 31, 1964**

- a. New freshmen who are residents of Illinois and who rank in the upper fifty percent of their high school class.
- b. New freshmen who are nonresidents of Illinois and who rank in the top twenty-five percent of their high school class.
- c. Transfer students who are residents of Illinois with not less than a 3.50 average in their college work in terms of the grading system of the University of Illinois.
- d. Transfer students who are nonresidents of Illinois with not less than a 3.75 average in their college work in terms of the grading system of the University of Illinois.

#### **PERIOD 3: JUNE 1, 1964 AND AFTER**

All applicants, new freshmen and transfers, who meet all requirements for admission to the University.

In determining the above priorities as they apply to new freshmen, simulated rank, based upon test scores, may be used in place of actual class rank. (See below.)

The University is now operating under the Progressive Admissions Plan only in the Fall Semester. However, operation under that Plan in the Spring Semester will be instituted if and when enrollment warrants.

## **PROVISIONS FOR ADMISSION BY EXAMINATION**

Applicants who do not meet the requirements for admission or the admission priorities listed on pages 32 through 43 above, may qualify for admission or for a higher priority by examination as outlined below. NOTE: This section does not apply to applicants who are deficient in the scholastic requirements stipulated for transfer students (paragraphs 1, 2, and 4, page 40). Poor college scholarship may NOT be offset by examination—only by an improved scholastic record.

### **USE OF TEST SCORES IN LIEU OF RANK IN CLASS**

Except as noted below, whenever rank in class in high school is referred to above as a basis for admission or for establishing priority of

admission, an applicant may offer evidence of scholastic ability in the form of test scores in lieu of rank in class. Acceptable test scores are those earned in the American College Testing Program examinations, or the College Entrance Examination Board Scholastic Aptitude Test.

Any student who submits scores attained through one of these testing programs which place him in a higher quarter than he would have been placed by his high school rank shall have all of the benefits pertaining to this higher classification, including priority of admission, waiver of requirements, and admission to curricula in accordance with his newly established status.

*Exceptions:* This provision for the use of test scores in lieu of high school rank does NOT apply to students who rank in the lower half of their class in high school or to nonresidents. Students ranking in the lower half of their high school class must meet the requirements described on pages 38-39, and nonresidents must actually rank in the upper half of their class on graduation from high school as specified on page 39.

## HIGH SCHOOL SUBJECT EXAMINATIONS

Applicants who may be classified in any of the following categories may qualify for admission by passing University of Illinois entrance examinations in high school subjects as indicated under each category. These entrance examinations are given three times a year, usually in September, January and June. Applications to take these tests must be filed in advance in the Office of Admissions and Records. However, only those students who are applying for admission to the Chicago Undergraduate Division are permitted to write the examinations given here.

### Graduates of Unaccredited High Schools:

1. Applicants who rank in the top twenty-five percent of their graduating class in an unaccredited secondary school which offers four years of instruction may qualify by passing an entrance examination in English composition and rhetoric and such other entrance examinations in high school subjects as may be necessary to complete admission requirements.
2. Applicants who are graduates of unaccredited secondary schools and rank below the top twenty-five percent of their graduating class may qualify by passing entrance examinations for a minimum of fifteen units of secondary credit, including all courses necessary to meet General University and Specific College Admission Requirements.

## **Non-Graduates of Accredited High Schools**

Applicants who have attended an accredited high school but who have not been graduated, may qualify by passing an entrance examination in English composition and rhetoric and additional entrance examinations for a total of *at least* four units of work in subjects to be designated by the University.

## **Applicants Who Have Not Completed Any Secondary School Work**

Such applicants may qualify by passing University of Illinois entrance examinations in all high school subjects necessary to meet General University and Specific College Admission Requirements.

## **Applicants Who Do Not Meet The Following Admission Requirements:**

Total units of credit, total academic units, majors and minors, or subjects required for admission to the college of the applicant's choice may qualify by passing University of Illinois entrance examinations in the subjects in which they are deficient.

## **GENERAL EDUCATIONAL DEVELOPMENT TEST**

Veterans of active duty with the United States Armed Forces or the United States Maritime Service and certain non-veterans who do not meet admission requirements may qualify for admission by passing the United States Armed Forces Institute high school level General Educational Development Test under the following conditions:

### **College of Liberal Arts and Sciences:**

Applicants may qualify if their GED Test scores are sufficiently high to entitle them to a scholastic rank equivalent to that of a student who has been graduated in the upper half of his class from an accredited secondary school and if they present credit from accredited sources in one unit of elementary algebra and one unit of geometry. Applicants whose GED scores are passing but below the minimum required for upper half classification scholastically may qualify if they present high school credit from accredited sources in two sequential years of an acceptable foreign language, in addition to the required mathematics.

### **College of Business Administration:**

Applicants may qualify by passing the GED Test and presenting credit from accredited sources in one unit of algebra and one unit of

geometry, until summer session, 1964. Beginning in June, 1964, the applicant will also have to present credit in the subjects specified on page 36.

### **College of Engineering**

Applicants may qualify by passing the GED Test and presenting credit from accredited sources in the subjects listed on page 36.

### **College of Architecture and Art**

1. Applicants for the curricula in architecture may qualify by passing the GED Tests and presenting credit from accredited sources in the subjects listed on page 36.
2. Applicants for the Fine Arts curricula may qualify by passing the GED Tests and presenting credit in two years of one foreign language.

### **Division of Physical Education**

Applicants may qualify by passing the GED Test and securing the approval of the Director of the Division (Men) or the Head of the Department's (Women) program as described on page 38.

### **General Provisions**

In addition to the above provisions, the GED Test may also be used in the following ways:

1. To establish the required entrance credit in English, in major or minor sequences, or in academic units.
2. In lieu of rank in class.

## **A STATEMENT OF THE BASIS FOR ADMISSION BY SPECIAL ACTION**

A student who is not eligible for admission on one of the plans described above may be admitted, with the approval of the Dean of Admissions and Records and the Dean of the College he wishes to enter, providing he submits evidence which clearly establishes his ability to do satisfactory work in the curriculum in which he wishes to enroll.



# SPECIAL PROGRAMS FOR GIFTED STUDENTS

## TALENTED STUDENT PROGRAM FOR HIGH SCHOOL SENIORS

### WHO MAY PARTICIPATE

Talented seniors of Illinois secondary schools.

### RECOMMENDATIONS REQUIRED

Candidates for this program shall be recommended to the Dean of Admissions by the high school principal. The Dean of Admissions, the Head of the Department concerned, and the Dean of the College concerned shall determine whether or not the student is capable of taking certain courses for University credit. Such students shall receive University credit upon the satisfactory completion of these courses. They shall be given advanced placement when they register in the University. They shall, prior to admission to the University as full-time students, be graduated from high school and meet the other University requirements.

### QUALIFICATIONS

The high school principal shall base his recommendations upon the merits of each individual case, taking into consideration the ability, grade point average, test results, and the available time of each individual so recommended.

### COURSES

The courses taken by such talented seniors at the University shall be over and above the regular secondary school curriculum.

### STUDY LOAD

The study load of each individual recommended for courses at the University of Illinois shall be determined by the local high school principal and the University.

### OBJECTIVE

Normally, such courses taken at the University of Illinois should not be used to accelerate a secondary school student's program at the high school level, but as a means of broadening and enriching that program.

## COST

Each student will be subject to tuition and fees for partial programs as outlined in the fee schedule on pages 51-53.

# ADVANCED PLACEMENT PROGRAM

## GENERAL POLICY

The Advanced Placement Program, administered by the College Entrance Examination Board, is designed for able high school students who are about to enter college and who wish to demonstrate their readiness for courses more advanced than those most frequently studied in the freshman year. Advanced classes are offered in many high schools in one or more of the following subjects: French, Latin, German, Spanish, English literature and English composition, American history, European history, biology, chemistry, mathematics, and physics. There is a national examination in each subject, administered by the Educational Testing Service, designed to measure the competence of the student in terms of the point at which he should begin his college study in that subject. The University encourages capable high school students to participate in the program.

The examinations are prepared by joint national committees of high school and college teachers. They are graded by other national committees on the following basis: 5, high honors; 4, honors; 3, creditable; 2, pass; 1, fail.

## CREDIT ALLOWED

The University of Illinois honors the advanced preparation defined, examined, and certified by the College Entrance Examination Board's Advanced Placement Program as follows:

### Humanities

#### 1. English Composition and Literature

- a. Scores of 5 and 4 receive credit for Rhetoric 101 (3 semester hours), and may receive credit for Rhetoric 101 and 102 (6 semester hours), based on the judgment of a departmental committee.
- b. Students making scores of 3 will be eligible to take the Rhetoric 101 proficiency examination which is offered at the beginning of the term.

- c. Scores of 5, 4, and 3 automatically entitle students to enroll in English courses which require sophomore standing as a prerequisite.
- 2. French
    - a. Scores of 5 or 4 receive credit for French 201 and 202 (6 semester hours).
    - b. Papers with scores of 3 are referred to the department.
    - c. Scores of 2 are not considered for advanced placement or credit.
  - 3. Intermediate German
    - a. Scores of 5 or 4 receive credit for German 101, 102, 103, and 104 (16 semester hours). However, any high school credit earned in German will be deducted from this total.
    - b. Papers with scores of 3 are referred to the department.
  - 4. Advanced German
    - a. Scores of 5 or 4 receive credit for German 210 (3 semester hours).
    - b. Papers with scores of 3 are referred to the department.
  - 5. Latin 4
    - a. Scores of 5 and 4 receive credit for Latin 105 (4 semester hours) and placement in Latin 201.
    - b. Papers with scores of 3 or 2 are referred to the department.
  - 6. Latin 5
    - a. Scores of 5 and 4 receive credit for Latin 201 and 202 (6 semester hours) and placement in Latin 391.
    - b. Papers with scores of 3 or 2 are referred to the department.
  - 7. Spanish
    - a. Scores of 5, 4, and 3 receive credit for Spanish 201 and 202 (6 semester hours).
    - b. A score of 2 is not considered for advanced placement or credit.

## Social Studies

- 1. American History
  - a. Scores of 5 and 4 receive credit for History 151 and 152 (8 semester hours).
  - b. Papers with scores of 3 or 2 are referred to the department.

## 2. European History

- a. Scores of 5 and 4 receive credit for History 111 and 112 (8 semester hours).
- b. Papers with scores of 3 or 2 are referred to the department.

## Mathematics and Natural Sciences

1. Biology: Credit or advanced placement in biology is not allowed except on recommendation of the Division of Biological Sciences after careful evaluation of the applicant's examination paper.
2. Chemistry
  - a. Scores of 5, 4, or 3 receive credit for the first semester of general chemistry (4 semester hours) and are permitted to enroll in the appropriate second semester course (Chemistry 104, 105, 106, 108, or 132).
  - b. Students who receive grades of 5 or 4 are advised to take a proficiency examination in Chemistry 104, 105, or 106, depending upon the requirement of their curricula, to determine if additional credit is to be allowed.
  - c. All papers with a score of 2 are referred to the department.
3. Mathematics
  - a. Scores of 5, 4, and 3 receive credit for Mathematics 123 (5 semester hours) and Mathematics 133 (3 semester hours). In addition, students are given advanced placement in Mathematics 143.
  - b. For a score of 2, students are granted 5 semester hours of credit in Mathematics 123 and advanced placement in Mathematics 132 or 133. These students will, for a time, be covering material in calculus which is familiar to them, but during this period of time they will be expected to cover, on their own, any topics in analytical geometry which were not covered in their high school courses.
4. Physics: All papers are referred to the department for consideration on an individual basis.

## EDMUND J. JAMES SCHOLARS

From each freshman class entering the University of Illinois, there is selected a group of superior students designated as the Edmund J. James Scholars in honor of one of the University's most distinguished presidents. The James Scholars will have available resources of the University not normally utilized by the average college student. Hon-

ors courses which are consistent with the student's superior ability and which challenge his intellectual development will be made available at an increasing rate. Thus the program offers unusual opportunities for able and industrious students and provides a good background for graduate and professional study. It is not mandatory that a James Scholar take a full schedule of honors courses. He may wish to restrict himself to those which he feels he is capable of handling. However, a James Scholar is expected to carry at least one honors course every semester when such courses are available to him. James Scholars may be dropped from the program at their own request or for poor scholarship.

Although no monetary award is presently given to James Scholars, most of them are eligible for one or more of the scholarships that are available through national, state, or University sources. Consequently, students who need financial assistance should apply also for monetary scholarships.

Seniors in Illinois high schools who stand in the top 10 per cent of their class are eligible to apply for admission to the James Scholars program. This does not mean, however, that applications of students from high schools in other states are not considered. Students who have already graduated are eligible as entering freshmen, and some students not initially chosen as freshmen may be added to the program as it expands.

The final selection of James Scholars takes into consideration high school grades, performance in aptitude and achievement tests, other test scores and the recommendation of high school principals and counselors.

Results of the ACT (American College Testing Program) are most important in determining eligibility for designation as a James Scholar. Further information about the James Scholar program and applications for designation as such may be obtained by addressing the Associate Director, University Honors Programs, Room 40B, Navy Pier, Chicago 11, Illinois.

## TUITION AND FEES

### GENERAL STATEMENT

Tuition and fees are due and payable in full when the student registers for classes at the close of New Student Week. The amount of tuition and fees assessed varies depending on the session in which the student registers and on the study load (number of credit hours) he carries. In addition, tuition (but *not* the special fees) varies, depend-

ing on whether or not the student is a legal resident of Illinois. Students entering the University for the first time are asked to make two special deposits: *First*, a tuition and fee deposit to assure reservation of space in the entering class; and *second*, a general deposit. More detailed information about these deposits and about the special fees appears immediately following the table of tuition and fees.

## TABLE OF TUITION AND FEES

### REGULAR SEMESTER (SIXTEEN WEEK SESSION)

#### For Full Programs (More than 10 semester hours)

	Range I	
	Illinois Resident	Nonresident
Tuition	\$85.00	\$260.00
Service Fee	16.00	16.00
Hospital-Medical-Surgical Insurance	9.00	9.00
Activities Fee	10.00	10.00
Total	<u>\$120.00</u>	<u>\$295.00</u>

#### For Partial Programs

	Range II		Range III	
	Above 5 up to and including 10 sem. hrs.		5 or fewer sem. hrs.	
	Ill. Res.	Nonres.	Ill. Res.	Nonres.
Tuition	\$60.00	\$180.00	\$35.00	\$105.00
Service Fee	11.00	11.00	9.00	9.00
Hospital-Medical-Surgical Insurance	9.00	9.00	9.00	9.00
Activities Fee	10.00	10.00	7.00	7.00
Total	<u>\$90.00</u>	<u>\$210.00</u>	<u>\$60.00</u>	<u>\$130.00</u>

### EIGHT-WEEK SUMMER SESSION

#### For Full Programs (More than 5 semester hours)

	Range I	
	Illinois Resident	Nonresident
Tuition	\$45.00	\$130.00
Service Fee	11.00	11.00
Hospital-Medical-Surgical Insurance	4.00	4.00
Activities Fee	5.00	5.00
Total	<u>\$65.00</u>	<u>\$150.00</u>

## For Partial Programs

	Range II		Range III	
	Above 2½ up to and including 5 sem. hrs.		2½ or fewer sem. hrs.	
	Ill. Res.	Nonres.	Ill. Res.	Nonres.
Tuition	\$30.00	\$90.00	\$20.00	\$55.00
Service Fee	6.00	6.00	4.00	4.00
Hospital-Medical-Surgical				
Insurance	4.00	4.00	4.00	4.00
Activities Fee	5.00	5.00	2.00	2.00
Total	<u>\$45.00</u>	<u>\$105.00</u>	<u>\$30.00</u>	<u>\$65.00</u>

## THE TUITION AND FEE DEPOSIT

This deposit is \$30.00 and must be paid by each new undergraduate student prior to receipt of a permit to enter. This is not an additional cost for attending the University, but is applied to the student's tuition and fees for the semester to which he is admitted. **The deposit should not be sent until requested by the University.** It is nonrefundable except in very special cases; for example: it will be refunded after registration to students holding scholarships covering *both* tuition and fees.

## THE GENERAL DEPOSIT

This deposit is \$5.00 and is paid by each student at the time of his first registration at the Chicago Undergraduate Division. Chargeable against this deposit are such items as unreturned towels and locks, lost library books, library fines, shortages in laboratory equipment, etc. All such charges incurred by a student during a specific semester or session will be assessed the next registration in order that a student will have \$5.00 in his general deposit account at the beginning of each semester in which he registers. Any balance in the deposit is returned to the student if he officially withdraws from the University. This refund is made after the close of registration for the next semester following the student's withdrawal.

## HOSPITAL-MEDICAL-SURGICAL INSURANCE FEE

This fee is assessed all students. However, a student who presents evidence of participation in a group insurance plan providing benefits equivalent to those covered by the University fee may petition through the Office of the Dean of Students, during the first ten days

of instruction (first five days in the summer session), for a refund of this fee. Refunds are not given on *any* other basis, including withdrawal from the University, although in this latter instance the student remains insured for the balance of the semester. For the exact termination date, the student should refer to the insurance certificate given to him at registration or call the office of the Dean of Students.

## ACTIVITIES FEE

This fee is used to finance the Student Activities Program. It is paid by all students attending the Undergraduate Division and entitles them to attend all Undergraduate Division plays, concerts, cinema series, forum series and varsity games admission free.

## SERVICE FEE

All students attending the University pay a service fee which, at this Division, covers operating expenses for the Student Union and financing for the Union building.

## MISCELLANEOUS FEES

### Identification Card

Each student, on payment of tuition and fees each semester, receives an identification card for use in obtaining library books, locks, towels, and other equipment. A fifty cent fee is charged for the replacement of lost or destroyed identification cards.

### Deferred Fee Charge

Arrangements for deferred fees are made directly with the Business Office. A charge of \$2.00 is assessed for the privilege of deferring fees. This charge is not refundable and must be paid on the day of registration.

### Change Fee

For every change of program slip issued at the request of the student, the fee is.....\$1.00

### Transcript Fee

Each student who has paid all his University fees is entitled to receive, without charge, one transcript of his record. For each additional transcript the fee is.....\$1.00



**Late Registration Fine**

All students who complete registration after classes begin must pay a late registration fine of.....\$15.00

**Special Examination Fee**

For any special examination given in a course which has been failed, the fee is.....\$10.00

**Fee To Visit Courses**

The privilege of attending classes as a visitor is granted only by permission of the instructor of the class with the approval of the dean of the college concerned. Visitors may never write examinations for credit in courses they have visited, nor may they visit laboratory courses. No visitor's fee is charged a registered student on a full-fee schedule. Visitor's fee for each course.....\$15.00

**Military Deposit .....\$10.00**

Each student receiving military equipment must make this deposit at the time of issuance. The deposit is returned to the student upon the return of the military equipment at the end of each school year.

**Non-Credit Course Fee**

For students whose study load places them in Range I of the tuition and fee schedule, there is no charge for non-credit courses taken in addition to their regular program. Students whose study program places them in Range II or Range III of the tuition and fee schedule pay \$15.00 for each non-credit course taken in addition to their regular program. Persons registering in non-credit courses only will be assessed Range III tuition and fees.

**REFUNDS OF TUITION AND FEES**

Students who withdraw from the University are authorized a rebate of a portion of the tuition and fees paid. The amount rebated is determined by the date of withdrawal.

During the first ten days of instruction in a regular semester the full amount of tuition and fees assessed, except for a \$30.00 non-refundable charge, is rebated. If the total assessment was less than \$30.00 (e.g. a student on a tuition waiver scholarship) the full amount of the assessment, if any, is non-refundable. After the tenth day of instruction and before the middle of the semester, half the tuition and

fees assessed, less the non-refundable charge, is rebated. After the middle of the semester, no rebate is made.

In the Summer Session a similar rebate schedule exists, adjusted for the length of the session. During the first five days of instruction in the Summer Session the full amount of tuition and fees assessed, except for a \$15.00 non-refundable charge, is rebated. If the total assessment was less than \$15.00 (e.g. a student on a tuition waiver scholarship) the full amount of the assessment, if any, is non-refundable. After the fifth day of instruction and before the middle of the Summer Session, half the tuition and fees assessed, less the non-refundable charge, is rebated. After the middle of the Summer Session no rebate is made.

Persons visiting courses who withdraw within ten days after paying their fees may receive a full rebate of the visitor's fee. No rebate is allowed after this date.

A student who withdraws from one or more courses and thereby reduces his registration to a lower range receives a rebate of the full amount of the difference in tuition and fees specified for such schedules provided the changes are made during the full rebate period. One-half the above difference is rebated if the changes are made during the period for half rebate. Thereafter, no rebate is allowed.

## SCHOLARSHIPS

College scholarships at the University of Illinois, as elsewhere, are limited in number and are awarded to the best qualified applicants. While each scholarship may specify certain restrictions, nearly all of them involve the following considerations: (1) a good scholastic record, and (2) evidence of financial need. In this connection, the applicant is usually required to furnish information concerning his own financial status *and* that of his parents or guardian.

### APPLICATION FOR SCHOLARSHIPS

Most scholarships are awarded on an annual basis, in late spring or early summer for the following school year. Applications for fall semester awards should be made as soon as possible after January 1. For the limited number of awards granted for the Spring Semester, applications are accepted after October 1. A student currently enrolled in the University of Illinois may file an application at any time his scholastic average is 3.75 or higher.

Questions concerning scholarships may be referred to the Office of Admissions and Records (Room 15), the Dean of Students, or the Dean of Women (Room 313).

## KINDS OF SCHOLARSHIPS

Several types of scholarships are available. With the exception of the Military Scholarships, most awards are based upon both need and academic accomplishment. (See page 59.)

**University Scholarships.** Since the University of Illinois is a state supported institution, most of its scholarships are restricted to Illinois residents. Even so, the University does have some funds that can be used for out-of-state scholarships.

Some grants are made in cash, while others simply exempt the recipient from the payment of tuition and/or certain other fees. Nearly all scholarships are granted on an annual basis and many are subject to renewal provided the student maintains the required scholastic average.

Entering freshmen applying for these scholarships must rank in the top quarter of their high school class and be in need of financial assistance. Students already enrolled in college must have an average of 3.75 ("B" minus) or better in college-level courses.

**Work Scholarships for Superior Students.** The Committee on Undergraduate Scholarships, under authority from the Board of Trustees, selects worthy entering freshmen each year for the Work Scholarship Program.

The Work Scholarship exempts the student from the tuition charge each semester, and requires an average of ten to twelve hours of work per week, which makes it possible for the individual to earn money for most of his other college expenses.

Because the number of available scholarships is definitely limited, and many worthy students are unable to qualify for those available, other forms of financial aid are provided at the University of Illinois. For further information, refer to LOANS, pages 61-62, and EMPLOYMENT, page 62.

## WITHDRAWAL AND TRANSFER

### WITHDRAWAL FROM THE UNIVERSITY

Students leaving the University before the end of a semester or session must obtain withdrawal papers at the office of the dean of their college. Failure to do so will result in the student being dropped

for poor scholarship at the end of the semester. Students who withdraw within the last three weeks of instruction in the regular semester, or the last seven days of instruction in the eight-week Summer Session are required to petition for readmission.

## **TRANSFER TO URBANA**

Students at this Division who intend to transfer to Urbana may do so by securing a release from the dean of their college on this campus. This release form is then taken to the Recorder, Room 15.

Students transferring to Urbana for the FALL semester of any academic year must comply with the Urbana application headline. All male students under twenty-two years of age transferring to Urbana before completing sixty semester hours of college credit are required to earn four semesters of credit in Military Science unless specifically exempted, or unless they have prior to transfer earned such credit through the voluntary ROTC program on this campus. (See page 124.)

## **SPECIAL INFORMATION FOR VETERANS**

The Chicago Undergraduate Division has been approved to offer training under Public Law 894 (Vocational Rehabilitation), Public Law 550 (Korean GI Bill) and Public Law 634 (Benefits for Children of Deceased Veterans). Questions concerning benefits under these laws should be referred to the Veterans Section, Office of Admissions and Records.

## **CREDIT FOR MILITARY SERVICE**

The University, under general provisions administered by the All-University Committee on Admissions, recognizes for college credit certain training and experience in the Armed Forces. The completion of military service in the Air Force, Army, Marine Corps or Navy of the United States, including basic or recruit training of six months or more is accepted in lieu of the general University requirements of four semester hours of credit in Military Science and four semester hours of credit in Physical Education. Credit for work taken in college training programs, in technical schools, and in other courses pursued while the veteran was in service may be transferred upon the basis of evaluation by the Office of Admissions and Records. No

credit is allowed for the college level General Educational Development Tests.

## MILITARY SCHOLARSHIP

Any person who served in the Armed Forces during World War I or any person who served in the Armed Forces at any time after September 16, 1940, and received an honorable discharge may qualify for a four-year tuition scholarship if he was a resident of Illinois or a student in the University of Illinois at the time he entered service. No examination or minimum grade average is required. Information and application blanks are available from the Office of Admissions and Records, Room 15, Window E. The Illinois Military Scholarship may not be used during any period when the veteran is receiving financial aid for his education from the United States Government.

## SELECTIVE SERVICE DEFERMENT

The Office of Admissions and Records will supply the required certificates for students who wish to apply for educational deferment under the regulations of the Selective Service System. Information concerning educational deferments is available at Room 15, Window E.



*Future engineers.*

# *University Services*

The University's interest in the individual student extends beyond the classroom to include the personal adjustment of each student to college life. To this end, the University provides a broad program of educational, vocational, and personal counseling; extracurricular activities, social, professional and cultural; and advice and instruction in healthful living.

Aid in adjustment to college life begins before the student enrolls at the Chicago Undergraduate Division. Before registration, the student is encouraged to avail himself of the services of the Dean of Admissions, the Dean of Students, the Dean of Women, the Student Counseling Service, and the dean of his college for information and advice needed to insure wise planning for his college career.

At registration time, an advisor helps the student select and arrange his courses, and special meetings afford him the opportunity to meet the deans. The deans of the various colleges, the heads of departments and all members of the faculty devote a large part of their time to advising students concerning their classroom work and programs. Students are urged to discuss special educational problems with their instructors, who hold scheduled office hours for conferences with individual students. The areas of concern relating to student welfare outside the classroom are handled chiefly by the Dean of Admissions, the Dean of Students, the Dean of Men, the Dean of Women, the Student Counseling Service, and the Student Health Service.

## OFFICE OF THE DEAN OF STUDENTS

The Dean of Students is in charge of most matters of student welfare and extracurricular activities. As part of his organization, the Dean of Men, the Assistant Dean of Students, the Dean of Women, the Coordinator of Foreign Student Affairs, and their assistants are general advisers to whom students may turn for assistance. These administrators help with personal problems, part-time employment, scholarships and other financial aids, extracurricular activities, clubs and organizations, accident and health insurance, housing, special problems and regulations concerning foreign students, planning and organizing special events and all-University social functions, interpretation of University regulations and many other matters. Besides being available for daily counseling, these staff members advise stu-

dent groups, serve on committees and assist professional groups. The offices of these advisers are open to any student for individual conferences, as well as for inquiries from parents and guardians.

## LOANS

Funds for loans are available to assist students in the financing of their college education. Several plans are in operation at the University of Illinois.

Application blanks and detailed information regarding all loan funds may be obtained from the Dean of Students or the Dean of Women (Room 313).

### FEDERAL LOANS

The National Defense Education Act of 1958 makes available substantial federal funds for loans to superior students. Loan applications are processed by the same University officials who handle other University loans.

Applicants must be United States nationals. This includes citizens and all persons who are in the United States on a permanent resident status. Borrowers are required to sign a loyalty oath of allegiance to the United States Government. In approving these loans, preference is given to applicants who express a desire to teach in elementary or secondary schools and to applicants whose academic background indicates a superior capacity or preference in science, mathematics, engineering, or a modern foreign language. All applicants must present superior academic records. Need for financial assistance must be shown. Students currently enrolled in the University of Illinois and progressing satisfactorily toward a degree may be eligible.

Loans are limited to \$1000 each year (July 1 to June 30) with a maximum not to exceed \$5000. The signature of the borrower on a promissory note is required. These federal loans carry 3 per cent interest beginning one year after ceasing to be a full-time student, either by graduation or withdrawal. A postponement of payments on the note, not in excess of three years, may be arranged during the time the borrower is serving in the Armed Forces of the United States. Interest is not charged during this period. Those who teach full time in public elementary or secondary schools may have as much as 50 per cent of the debt cancelled at the rate of 10 per cent for each year of teaching. In case of death or permanent disability of the borrower, the loan and interest thereon may be cancelled.

## UNIVERSITY LOANS

The University of Illinois offers several types of loans to students. Both long and short-term loans are available.

**Long-term University Loans.** These loans are usually available to students who have completed a year or more at the University with a satisfactory record. For any one student the maximum amount of loan that may be outstanding at one time is \$2500.

Arrangements may be made to repay loans over a four-year period in installments beginning four months after the student leaves school or otherwise ceases to be enrolled on a full-time basis. Security in the form of a qualified endorser or collateral satisfactory to the Business Office is required for all long-term loans unless otherwise provided in the deed or gift of the fund or waived in meritorious cases, as determined by the Dean of Students and the Business Office.

**Short-term University Loans.** These loans may be requested by new students as well as by those who have been on campus a year or more. Loan amounts range to \$100.00, and must be repaid by the end of the semester in which the loan is granted.

**Emergency Aid.** Any worthy student in immediate need because of an emergency may apply for aid in any amount up to \$5.00. Repayment is arranged between the borrower and the Dean of Students.

## EMPLOYMENT

Considerably more than half of the students at the Undergraduate Division earn a part of their college expenses, and some are entirely self-supporting.

Students who need to work part time will find a variety of opportunities available, and while this office cannot guarantee a job, a sincere effort is made to place all deserving students. Job opportunities both on and off campus are listed with and handled by the Student Employment Office. Earnings depend on qualifications and experience.

The University recommends that each new student have a cash reserve or source of funds for the school year. Freshmen are advised not to work, particularly during their first semester in school, unless it is necessary to their attendance. Students on probation are given special counseling before job referrals are made.

Application forms and detailed information may be obtained from the Student Employment Manager in the Office of the Dean of Stu-



dents (Room 313). Job referrals are usually made only after the student has registered for academic courses, but a new student who has been admitted to the University and has a registration permit may file an application for employment.

## HOSPITAL-MEDICAL-SURGICAL INSURANCE

The University of Illinois requires all students to have accident and health insurance, and to pay the insurance fee at registration. If desired, a married student may elect to extend this coverage to include spouse and/or unmarried children under nineteen years of age. Application for dependent coverage must be made to the Cashier's Office (Room 12-A) within the first two weeks of instruction each semester (or the first week of summer session). An eligible new dependent may be insured on the date application is made and proper premium is paid to the University Cashier within ten days after the new dependent is acquired. Summer insurance is available to students not in attendance in the summer session, but application must be made and the required fee paid to the Cashier between May 15th and the fifth day of instruction in the summer session. For further information concerning the student insurance program, telephone WHitehall 4-3800, extension 103 or 104.

## STUDENT COUNSELING SERVICE

The services of counseling and clinical psychologists are available to students at the Student Counseling Service. Psychological testing and counseling services are available to help students make more effective use of their intellectual and personality resources. Appointments for interviews are made by the departmental receptionist.

Students bring a variety of problems and concerns for consideration with the aid of their counselors: planning their vocational future, improving their reading and study skills, learning to cope with personal or family problems, promoting their development as persons, and establishing better relations with others.

The following paragraphs describe specific programs of the Student Counseling Service.

- A. *Pre-Entry Counseling and Testing.* The Counseling Service offers a program of testing and counseling to all graduating high school seniors who have completed the American College Test which is required of students making application for admission to the University (see p. 33). This program attempts to assist the student in determining which college or curriculum of the University best meets his needs, in formulating his educational and vocational

goals, and in clarifying his thinking on how to make a good start on his college work. If so indicated, further testing, on an individual basis, may be arranged after consultation with a counselor.

The Freshman Guidance Examinations measure skill in reading comprehension, in reading speed, and in vocabulary usage, and attempt to identify areas of academic interest. In addition the results of the American College Test will be available for interpretation to the student. The latter test will be used to help the student assess his aptitude for college studies.

The various test profiles are evaluated in an individual interview with a counselor who will help the student use test information as one basis for making his own decisions about the kind of college work he should undertake or whether other types of post-high school educational and training facilities should be explored.

B. *Individual Educational Counseling.* During the months prior to his initial registration, or during Orientation Week, each entering freshman completes a battery of tests. Review of his test scores with a counselor may help the student toward a more realistic self-judgment of his academic strengths, handicaps, and goals. Opportunities for further testing are provided upon the recommendation of the counselor. Early recognition of deficiencies or of special talents may direct the student's efforts toward needed remedial work, or toward fuller use of his special abilities. A student may be concerned about how well his abilities and interests match the particular curriculum in which he is planning to enroll, or he may inquire into his fitness for some other program of studies. Counselors also make available information about other colleges and universities, professional schools, graduate education opportunities, and special training programs.

C. *Reading Improvement Groups.* A Reading Clinic is maintained for students wanting to increase their rate of reading or improve their vocabulary and comprehension skills. The Reading Clinic offers programs for the better-than-average student who wishes to read faster and more effectively, as well as for the student in need of remedial training.

Pre-tests are administered, and reading instruction is based on individual needs as indicated by test results. Periodic retests are given to measure progress, and work is terminated when the student has achieved his own goals.

D. *Academic Achievement Groups.* "How to Study" groups, which focus on helping students learn more effective approaches to their

academic work. This is done through group discussion, demonstration of sound techniques, and laboratory practice. The program includes attention to such techniques as analyzing and evaluating reading selections, improving concentration and memory, developing expanded vocabulary, outlining and notetaking, and preparing for examinations.

To meet the particular concerns of entering freshmen, special sections are offered which aim to help them clarify their new roles as commuter students in an urban University in the areas of academic adjustment, growth in personal adequacy, and development in social relationships.

- E. *Individual Vocational Counseling.* This service is offered students who have not yet formulated a decision concerning their future work, or who are considering a change in plans. The counselor seeks to help the student clarify his own vocational goals and the factors in his personal situation which need to be considered in choosing a vocation. Available guidance test scores are appraised, and additional tests may be assigned to meet the special needs of the student. In addition to test interpretation, the counselor can assist students in securing information about vocational trends and about educational and training requirements for various occupations.
- F. *Career Planning Groups.* Voluntary study groups for students who want to clarify their vocational goals. Discussions and individual testing focus on self-evaluation of abilities, interests, and personal needs as bearing on occupational choice.
- G. *Counseling Groups for Foreign Students.* Opportunity for foreign students to discuss in groups problems of mutual concern which are presented by their need to find a place in the intellectual and social life of the University and the United States.
- H. *Personal Counseling.* Clinically trained psychologists assist students in the solution of personal and emotional problems. Students who wish such help may make an appointment for personal counseling. The staff recognizes and protects the confidential nature of the counseling interview.

## THE SPEECH CLINIC

The services of the Speech Clinic are available to those students who want assistance in correcting speech difficulties. Students who

have foreign accents, hearing deficiencies, or vocal, rhythmic, or articulatory problems are aided by the Clinic. There are no fees for these services. The Speech Clinic is located in the Student Counseling Service area on the third floor. Appointments should be made in advance.

## UNIVERSITY LIBRARY

The University Library provides all the books, related materials, and professional services that meet the needs of students and faculty for information, research, recreation, and stimulation of the mind.

At present the book collection totals over 110,000 carefully chosen volumes. The Library is receiving yearly over 1400 periodicals and several indexing service publications. Back files for many of these titles have been bound and are available for permanent reference use on open shelves. An excellent collection of 8,000 general and special en-



*Library assignment.*

cyclopedias, atlases, bibliographies, dictionaries, handbooks, year-books, and directories has been assembled. Extensive collections of pamphlets, vocational guidance materials, and college catalogs are provided. A depository collection of U.S. Government publications from September, 1957, to date is available. More than 25,000 army, topographical, and state highway maps are also to be found. A comprehensive card catalog and modern microprint and microfilm reading machines are available. The Library also has the catalogs of the U.S. Library of Congress, Bibliothèque Nationale of France, and British Museum.

As an added service for students and faculty, the Library maintains a photo reproduction facility. A nominal fee per page is charged for this service.

The main emphasis of the Library is placed on individual, personal service to faculty and students through general reference and reader's advisory assistance plus the library staff liaison with the teaching program and student activities. Informal instruction in the use of library resources and facilities is offered to all undergraduates. Displays of new and outstanding books of special and unusual interest are maintained in the reading rooms and on the bulletin boards in the lounges and corridors.

The Library has several service areas. (1) The open-shelf Main Reading Room handles the basic collection and is located on the second floor at the east end of the Pier. It offers liberal reference and circulation facilities in addition to study space for several hundred readers. It also contains the foreign language collection and the circulating collection of phonograph recordings. (2) The Fine Arts Reading Room is at the far east end of the Pier on the second level. It contains the collection of art, architecture and music books and offers special facilities for listening to musical and nonmusical recordings via ear-phone as well as in the soundproof Library Listening Room. A free lending service of reproductions of famous paintings is available from the Circulation Department.

While classes are in session, the Main Reading Room is open Monday through Friday from 8 a.m. to 4:30 p.m., and the Fine Arts Reading Room is open Monday through Friday from 8:30 a.m. to 4:30 p.m. During intersession and vacation periods, the Main Reading Room and the Fine Arts Reading Room operate on an 8:30 a.m. to 4:30 p.m. schedule.



*Time for a snack.*

## FOOD SERVICE

The University operates nonprofit food service facilities for the convenience of students, faculty, and staff. The student cafeteria serves well-balanced, low-cost lunches and breakfasts. The cafeteria is located at the east end of the building. A soda fountain, serving sandwiches and beverages, is operated in connection with the cafeteria.

A popular student spot between classes is the snack bar located at the entrance to the building, adjacent to the reception lounge. In addition, a dining room at the east end of the building offers cafeteria-style service to members of the faculty and staff.

## UNIVERSITY BOOKSTORE

The University Bookstore is operated by the University to provide texts and supplies as required in the various courses at the Chicago Undergraduate Division.

The Bookstore is located at Room 87. It is open daily, Monday through Friday, from 8:30 a.m. to 4:30 p.m. During the registration period, the Bookstore is open from 8:30 a.m. to 6 p.m.

## HEALTH SERVICE

The University maintains a Student Health Service to promote better physical and mental health among the students at the Chicago

Undergraduate Division. Medical examinations are required of all students prior to the time of their first registration. The medical examination may be done by your family physician at your own expense; or at Student Health Service without expense, if appointment is made and examination is completed fifteen days prior to registration. Immunizing inoculations for smallpox, tetanus, influenza, and typhoid fever are available to students without charge.

The staff of physicians also instructs classes in hygiene and environmental health. As the functions of the Health Service are primarily educational and preventive, its staff does not assume responsibility for the care of students beyond giving medical advice, emergency treatment, and vaccinations, except for mental health.

The discussion of student welfare problems with the staff of the Student Health Service is encouraged. Members of the staff are available at all times for conferences with the students about individual health problems.

The Mental Health section of the Student Health Service provides consultation and treatment for students with personal, social, family or study problems. Many students are not able to study effectively



*Are you sick?*

because of nervous tension, depression, insomnia or other signs of emotional disturbance. Even if the student is in doubt whether his problem requires psychiatric help, he is welcome to make an appointment to discuss the problem and to see whether such help is needed. All problems are kept in strict confidence. Appointments may be made by calling Extension 105 or inquiring at the Student Health Service.

The Health Service is located on the third floor at the east end of the Pier. The office is open from 8:00 a.m. to 5:00 p.m. daily and during vacation periods.

## EXTRACURRICULAR ACTIVITIES

Extracurricular activities are recognized as an important part of student life and are encouraged as an adjunct to academic courses, in order to develop individual talents and qualities of leadership, personality, and character. All questions pertaining to extracurricular activities should be directed to the Office of the Dean of Students, Room 313.

### CLUBS AND ORGANIZATIONS

Over 60 student clubs and organizations are active on the campus. These groups sponsor varied social and cultural activities for the benefit of their own membership and plan programs for the entire student body. Interested students not on scholastic probation are invited to join the club or organization of their choice. The majority of student groups meet weekly or twice monthly during the scheduled activity hour on Tuesday of each week and on the second and fourth Thursdays of each month.

To avoid conflicts in scheduling student and University events, the Office of the Dean of Women, with the assistance of the faculty and students, prepares the Campus Events Calendar which is published by the University Bookstore. Social and special events are scheduled in the Office of the Dean of Women.

Opportunities for practical experience in journalism are provided by the weekly student newspaper, the *Chicago Illini*, written and edited by students. Winner of eight All-American awards presented by the Associated Collegiate Press, *Chicago Illini* is open to all students with an interest in any form of writing, art, photography, etc. Engineering students edit the Chicago Undergraduate Division section of the *Illinois Technograph*, the University of Illinois engineering periodical. Contributions of student members to the publication of the Writers Club, *Mosaic*, and of members of Alpha Lambda Delta in producing



*Chi-Illini Cues* likewise offer opportunities to students interested in journalism.

Cultural programs which supplement classroom work for students are offered by the Activities Honorary Society, the Cadet Association, Circle K (college level men's service organization sponsored by the Kiwanis), Pi Kappa Delta (national forensics honorary), Pershing Rifles, and the Student Education Association. Similar purposes are served by three language clubs, and the Amateur Radio, Biology, Chess, Commerce, Geology, Humanities, International Relations, Inter-Varsity Christian Fellowship, Jazz, Lithuanica, Ukrainian, Mathematics, Newman, and Ski Clubs. Engineering, architecture, chemistry, occupational therapy, pre-dental, pre-law, and pre-medical students may take part in the activities of their respective professional societies. Several are affiliated with national professional organizations. Athletic and physical education organizations include the Varsity Lettermen's Club, Men's Physical Education Majors Club, the Cheerleaders, Orchesis (the modern dance organization), the Women's Athletic Association, and the Women's Physical Education Majors Club. Phi Eta Sigma and Alpha Lambda Delta encourage high scholarship among freshman men and women.

Opportunities for experience in music and drama are available through membership in the University Band, the University Choir, the University Orchestra, and the Pier Playhouse. Students who enroll in the musical organizations at registration and meet other requirements may earn academic credit for this work if they so desire. Several musical programs and plays are presented each year.

All-University dances—informal and semi-formal—are planned, supervised, and sponsored by the University Dance Committee. This committee also assists in planning the Registration Dances and student mixers, as well as assisting special committees in planning the annual Homecoming and Spring Carnival.

### UNIVERSITY CINEMA SERIES

Through the University Cinema Series program, students and staff have the opportunity to view motion picture classics at no cost. They are normally scheduled once a month in the third floor lounge.

### FORUM SERIES

Each year six all-University programs are presented in the Auditorium under the direction of the Forum Series Committee. The Forum

Series gives students the opportunity to hear distinguished speakers and to see and hear cultural programs of general interest. The programs are financed by a portion of the student activity fee. Admission is free to all students within the seating limitations of the Auditorium. Selection of programs and other administrative details of the series are the responsibility of the Forum Series Committee.

Forum Series programs are usually presented during the activity hour on the first or third Thursday of October, November, December, February, March, and April. Special programs are arranged to meet occasions of special significance.

## FORENSICS

The forensics program at the Chicago Undergraduate Division provides an opportunity for students to gain experience in debating, discussion, and individual events. All students, including those without previous experience, may take part in the forensic activities.

The debating program begins each fall with an instructional program for newcomers and an intramural tournament. From mid-November to mid-April a full schedule of intercollegiate competition is maintained. In addition to Chicago-area colleges and universities which come to the Chicago Undergraduate Division for debates, guest teams from outside the area have included colleges and universities from Indiana, Texas, Iowa, Michigan, Missouri, Ohio, and New York. Speakers from the Chicago Undergraduate Division also attend tournaments in Illinois and other states, where they meet debaters from schools throughout the country.

Since its organization in 1947, the debate team has engaged in both junior and senior college competition. It has won the Chicago Area, the state, and the regional championships, and in 1952, 1953, 1954, 1956, and 1958 represented the East Central States area in the national championship tournament at West Point, New York.

Problems of national and international interest are the topics for public discussion and panel presentations, both on and off campus.

The Chicago Undergraduate Division holds membership in the Illinois Intercollegiate Debate League, the Illinois Intercollegiate Oratorical Association, the Chicago Area Debate League, and Pi Kappa Delta. The last of these is a national honorary with 36,000 members and chapters in more than 200 colleges and universities.

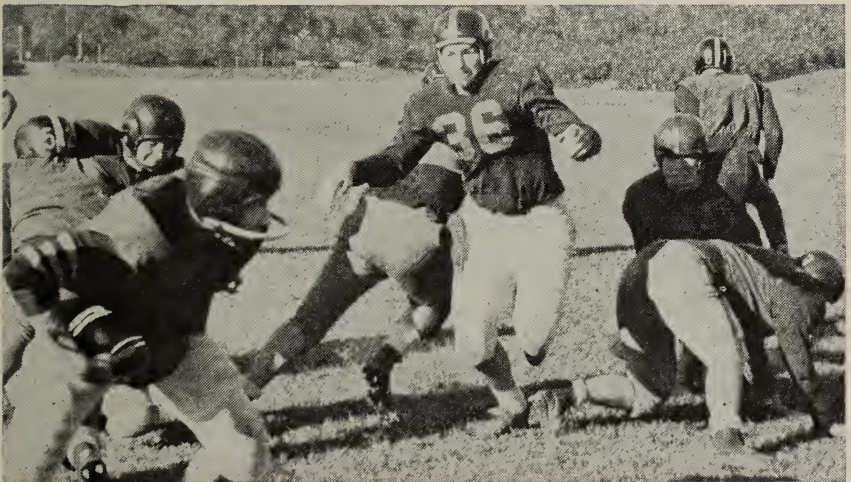
The Chicago Undergraduate Division has been host for noteworthy forensic events. Debaters from Great Britain have appeared on campus

in previous years and will be scheduled again in the future. The annual Freshman-Sophomore tournament has attracted as many as fifty-five visiting colleges from ten states, and the annual tournaments for high schools include leading teams located within seventy-five miles of Chicago.

## ATHLETICS

The Chicago Undergraduate Division, a charter member of the Gateway Athletic Conference, participates in eleven varsity sports—football, basketball, baseball, cross-country, track, wrestling, swimming, soccer, gymnastics, tennis, and golf. In accordance with a special ruling, freshmen in good standing are allowed to participate in varsity sports.

A special feature is the extensive intramural program, in which students can elect to take part in wrestling, badminton, table-tennis, volleyball, basketball, gymnastics, handball, weight-lifting, tennis, archery, bowling, swimming, and softball. The intramural and inter-collegiate programs are under the supervision of an Athletic Committee of student and faculty representatives. Both programs are financed through funds from student activities fees. The Chicago Undergraduate Division Gymnasium, adjacent to the entrance of the main building, is the center of the intramural and physical education programs. Basketball games, wrestling meets, and gymnastics meets are



*The fighting Chi-Illini.*

also held in the gymnasium which has floor space for eight full-size basketball courts.

A staff of eighteen coaches directs the Chicago Undergraduate Division athletic activities. Varsity letter awards are made to athletes who meet the participation requirements of intercollegiate competition, to sophomore managers, and to sophomore cheerleaders.

## HONORS

Students who achieve a grade average of 4.5 during the freshman year may be eligible for membership in one of the national scholastic honor fraternities. Women who earn an average of 4.5 in 15 hours of academic work during their first semester, or an average of 4.5 in 30 hours during their first year, may be initiated into Alpha Lambda Delta. Men whose average is 4.5 based upon 12 or more hours in the first semester, or 4.5 for the entire freshman year, are eligible for membership in Phi Eta Sigma.

Additional honors include: The Ernest C. VanKeuren award (for excellence in the humanities); the B. B. Freud award (for excellence in chemistry); the Roscoe E. Harris award (for excellence in physics); and the Dean's List of the individual colleges (for all students with grades of "B" or better in all courses).

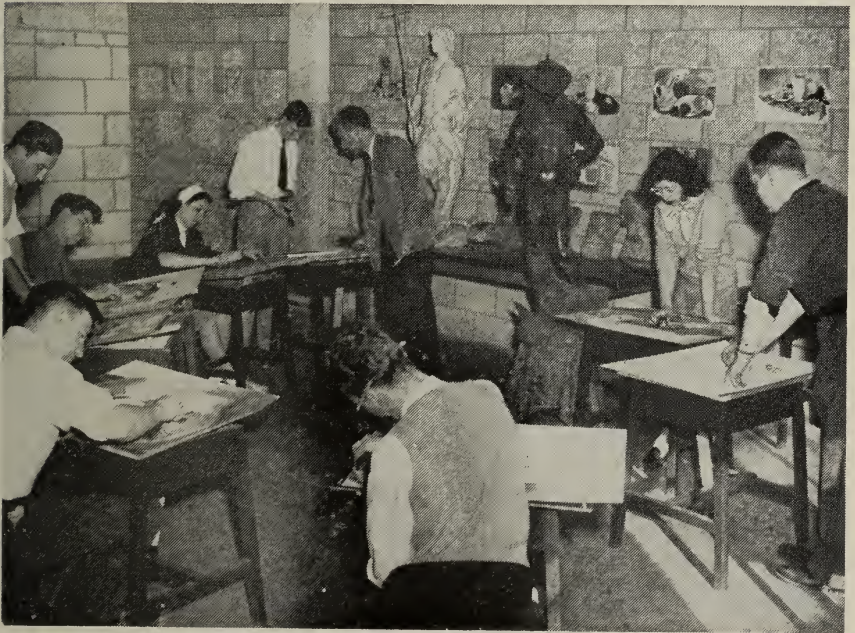


*The West Campus—Navy Pier Park.*

## HONORS DAY

Honors Day is observed at the Chicago Undergraduate Division as an occasion upon which public recognition is given those students who excel in scholarship. The families and friends of the honor students are invited to attend the annual convocation, in which students and members of the faculty participate. The printed program contains the names of students to whom honors have been awarded and also the elections to those honorary societies which meet the standard of scholarship approved by the Senate Committee on Honors.

Two types of honors are awarded: Class Honors and College Honors. To be eligible for Class Honors, a student must be in the highest ten percent of his class in his college and have not less than a 4.0 average. To be awarded College Honors, a student must be in the highest three percent of the class and have a minimum average of 4.5. Grades used in determining honors for students are those on file in the Office of Admissions and Records.



*Art class.*

# *General University Requirements*

## COURSES REQUIRED OF ALL STUDENTS

The following course requirements must be met by all students registered at the Chicago Undergraduate Division. These subjects are to be started in the first semester of the freshman year, except as otherwise provided, and are to be continued until these requirements are completed.

1. Men and women entering the University with fewer than sixty semester hours of credit are required to secure four semesters of credit in physical education including the amount transferred. Those entering with sixty semester hours or more are exempt from the requirement in physical education.

2. Two semesters of rhetoric (Rhetoric 101 and 102) are required. A satisfactory proficiency in the use of written English is a requirement for all undergraduate degrees. Students who receive grades of "C" or "D" in Rhetoric 102, or its equivalent, are required to take the English Qualifying Examination before graduating. Those who fail to pass the qualifying examination are required to pass an extra course in rhetoric, Rhetoric 200.

3. Effective June 1, 1964, each student must present for graduation a minimum of six hours in the humanities, the social sciences and the natural sciences, respectively.

## THE GRADING SYSTEM

The following grades are given in the University of Illinois: A—Excellent, B—Good, C—Fair, D—Poor (lowest passing grade), E—Failure. The University does not use plus or minus signs with the letter grades. Further, there are no numerical equivalents.

A student with a failure may have a special examination on the recommendation of the head of the department approved by the dean of his college and on payment of a fee of \$10 (but not within ten days of the final examination period), or he may take courses in sequence, with the approval of the department.

Other symbols in use are:

W—Withdrawn from the course without penalty.

Ex—Absent from the final examination for reasons acceptable to the dean of the college concerned and hence “Excused.” (Entitles the student to an examination later without fee, but becomes a failure if not removed during the first semester that the student completes in residence following the giving of the grade of “Ex.”)

Ab—Absent from the final examination without excuse; counts as a failure. See under “Failure” for method of earning credit in a course in which an “Ab” grade has been received.

Rep—Replaces grade of “Ex” when course in which “Ex” grade was received is repeated by the student.

## GRADE-POINT AVERAGE

In computing the grade-point average, weighted values are given to the grades as follows: A=5 grade points; B=4; C=3; D=2; E=1; Ab=1. To compute the grade point average, multiply the number of hours of each grade by the weight, add the products, and divide by the number of hours. Thus, if you earn three hours of A, six of B, three of C, two of D, and four of E, the computation of your grade point average is as follows:

Grade	Hours	Weight	Grade Points	
A	3	5	15	
B	6	4	24	
C	3	3	9	
D	2	2	4	
E	4	1	4	
	18		56	$\frac{56}{18} = 3.11$

Your grade point average is 3.11.

*Definition of a Semester Hour.* In the University, a semester hour of credit represents one classroom hour of fifty minutes weekly of the student’s time for the duration of one semester in lecture or recitation, plus the time necessary for preparation; or a longer time in laboratory or other exercises for which outside preparation is not required. It is expected that most students will spend two hours preparation for one hour a week of lecture or recitation. Each University semester hour credit is thus understood to represent at least three hours of the student’s time, and the credit value of a course is calculated in semester hours on that basis.

## PROFICIENCY EXAMINATIONS

Proficiency examinations are available in courses normally open to freshmen and sophomores; the student must obtain the consent of the head of the department concerned. There is no fee charged for these examinations. A student who passes a proficiency examination is given credit toward graduation, provided that this does not duplicate credit counted for his admission to the University and the course is acceptable in his curriculum. The grade in proficiency examinations is "pass" or "not pass," but no student is given a grade of "pass" unless he has made at least "C" in the examination. No official record is made of failures in these examinations, and grades received on proficiency examinations are not considered in computing averages.

Proficiency examinations are given under the following restrictions:

1. They may be taken only by persons who are in residence or, after having been in residence, are registered in a correspondence course; or who are candidates for degrees and need no more than ten semester hours credit to complete the requirements for their degrees;
2. They may not be taken by students who have received credit for more than one semester of work in the subject in advance of the course in which the examination is requested;
3. They may not be taken to raise grades or remove failures in courses.



*Another class.*



# *College of Architecture and Art*

The College of Architecture and Art serves as a center for study and investigation in the visual and plastic arts and offers professional curricula in Architecture and in several specialized areas. Emphasis is focused on the creative process within a broadly cultural educational program. Architecture and the arts are considered in their social context as a reflection of the highest aspirations of contemporary culture and as expressions that give meaning and purpose to human life. Principles and methodology are stressed rather than resultant forms and changing styles.

## *Architecture*

The essential concern of the Department of Architecture is the total physical environment in which man lives—to train architect-planners to serve the changing needs of society. While maintaining the intimate relationship between architecture and the related arts that has long obtained, the program recognizes the architect's growing need for competence in the social and physical sciences, and in technology. The academic program seeks to develop intellectual foundations essential to independent critical judgment in the analysis and synthesis of the problems confronted by the professional architect.

The curricula in Architecture provide a general option and an engineering option as part of the requirements leading to the five-year degree of Bachelor of Architecture. Only the first three years of the five-year curriculum are offered here at the present time.

### **ELECTIVES**

Electives are courses not required in the curriculum or parallel in subject matter. To comply with the general education requirements each student must have a minimum of six semester hours in the Humanities, the Social Sciences, and the Natural Sciences.

Lists of desired electives and advice may be obtained from the dean or from an adviser.

## Curriculum in Architecture (Five Years)

### FIRST YEAR

FIRST SEMESTER	15-17 HOURS
Art 181—Freehand Drawing .....	2
G. E. 107—Architectural Projections .....	2
Math. 123—Analytical Geometry .....	5
Rhet. 101—Rhetoric and Composition .....	3
Elective .....	3
Physical Education .....	1
Military (Men) .....	1

SECOND SEMESTER	16 HOURS
Arch. 101—Introduction to Architecture .....	3
Art 182—Freehand Drawing .....	2
G. E. 108—Architectural Projections .....	2
Elective .....	3
Rhet. 102—Rhetoric and Composition .....	3
Physical Education .....	1
Military (Men) .....	1

### SECOND YEAR

FIRST SEMESTER	16 HOURS
Arch. 131—Architectural Design .....	3
Arch. 141—Materials and Methods of Construction I .....	2
Art 183—Freehand Drawing .....	2
Physics 101—General Physics .....	5
Elective .....	3
Physical Education .....	1
Military (Men) .....	1

SECOND SEMESTER	16 HOURS
Arch. 113—History of Ancient Architecture ..	2
Arch. 132—Architectural Design .....	3
Arch. 142—Materials and Methods of Construction II .....	2
Art 184—Freehand Drawing .....	2
T.A.M. 171—Elementary Mechanics .....	3
Soc. 100—Introduction to Soc. ....	3
Physical Education .....	1
Military (Men) .....	1

### THIRD YEAR

FIRST SEMESTER	16 HOURS
Arch. 233—Architectural Design .....	3
Arch. 241—Materials and Methods of Construction III .....	2
Arch. 214—History of Medieval Architecture .....	3
Art 281—Freehand Drawing .....	2
Social. 276—Sociology of the City <sup>1</sup> .....	3
T.A.M. 172—Strength of Materials .....	3

SECOND SEMESTER	18 HOURS
Arch. 215—History of Renaissance and Baroque Architecture .....	3
Arch. 234—Architectural Design .....	3
Arch. 242—Materials and Methods of Construction, IV .....	2
Arch. 245—Structural Elements .....	3
Art 282—Freehand Drawing .....	2
Physics 102—General Physics (Light, Electricity, and Magnetism) .....	5

<sup>1</sup>Soc. 100 is a prerequisite to this course.

## Curriculum in Architectural Engineering (Five Years)

### FIRST YEAR

FIRST SEMESTER	16-18 HOURS
Art 181—Freehand Drawing .....	2
G. E. 107—Architectural Projections .....	2
Math. 123—Analytical Geometry .....	5
Rhet. 101—Rhetoric and Composition .....	3
Elective .....	3
Physical Education .....	1
Military (Men) .....	1

SECOND SEMESTER	16 HOURS
Arch. 101—Introduction to Architecture .....	3
Art 182—Freehand Drawing .....	2
G. E. 108—Architectural Projections .....	2
Math. 132—Calculus .....	5
Rhet. 102—Rhetoric and Composition .....	3
Physical Education .....	1
Military (Men) .....	1

### SECOND YEAR

FIRST SEMESTER	16 HOURS
Arch. 131—Architectural Design .....	3
Arch. 141—Materials and Methods of Construction I .....	2
Art 183—Freehand Drawing .....	2
Math. 142—Calculus .....	3
Physics 101—General Physics .....	5
Physical Education .....	1
Military (Men) .....	1

SECOND SEMESTER	17 HOURS
Arch. 113—History of Ancient Architecture ..	2
Arch. 132—Architectural Design .....	3
Arch. 142—Materials and Methods of Construction II .....	2
Art 184—Freehand Drawing .....	2
Elective .....	3
T.A.M. 150—Analytical Mechanics .....	2
Physical Education .....	1
Military (Men) .....	1

### THIRD YEAR

FIRST SEMESTER	16 HOURS
Arch. 233—Architectural Design .....	3
Arch. 241—Materials and Methods of Construction III .....	2
Arch. 214—History of Medieval Architecture .....	3
Art 281—Freehand Drawing .....	2
Social. 276—Sociology of the City <sup>1</sup> .....	3
T.A.M. 221—Resistance of Materials .....	3
T.A.M.—Laboratory .....	1

SECOND SEMESTER	18 HOURS
Arch. 215—History of Renaissance and Baroque Architecture .....	3
Arch. 234—Architectural Design .....	3
Arch. 242—Materials and Methods of Construction, IV .....	2
Arch. 245—Structural Elements .....	3
Art 282—Freehand Drawing .....	2
Physics 102—General Physics (Light, Electricity, and Magnetism) .....	5

<sup>1</sup> Soc. 100 is a prerequisite to this course.

# Art

The curricula in Art permit a student to attain a proficiency in art and to secure a liberal education. The first year is basic and cultural and at the beginning of the second year the student chooses his field of specialization in one of the following: Advertising Design, Industrial Design, Art Education, History of Art, Painting. These curricula all require 130 semester hours of credit in addition to physical education and military training for the degree of Bachelor of Fine Arts.

## Common Program for Freshman, All Art Curricula

FIRST YEAR		SECOND SEMESTER	
FIRST SEMESTER	15 TO 16 HOURS	14 TO 16 HOURS	
Arch. 171—Drawing Theory .....	2	Arch. 172—Drawing Theory .....	2
Art 117—Drawing .....	3	Art 118—Drawing .....	2
Art 119—Design .....	2	Art 120—Design .....	3
Rhet. 101—Rhetoric and Composition .....	3	Rhet. 102—Rhetoric and Composition .....	3
Foreign Language or Elective <sup>1</sup> .....	3 or 4	Foreign Language or Elective <sup>1</sup> .....	3 or 4
Physical Education .....	1	Physical Education .....	1
Military (men) .....	1	Military (men) .....	1

<sup>1</sup>Electives must be chosen from the areas of humanities, social sciences, and natural sciences, and must include a minimum of three hours in each area.

## Curriculum in Advertising Design

FIRST YEAR		SECOND YEAR	
FIRST SEMESTER	16 HOURS	SECOND SEMESTER	16 HOURS
Common Program for Freshmen.			
Art 111—Introduction to Ancient and Medieval Art .....	3	Art 112—Introduction to Renaissance and Modern Art .....	3
Art 125—Life Drawing .....	2	Art 126—Life Drawing .....	2
Art 129—Anatomy, I .....	2	Art 130—Anatomy, II .....	2
Art 131—Elementary Composition .....	2	Art 132—Elementary Composition .....	2
Art 141—Still Life .....	2	Art 142—Still Life .....	2
Physical Education .....	1	Physical Education .....	1
Military (men) .....	1	Military (men) .....	1
Electives .....	3	Electives .....	3

## Curriculum in Art Education

FIRST YEAR		SECOND YEAR	
FIRST SEMESTER	17 OR 18 HOURS	SECOND SEMESTER	17 OR 18 HOURS
Common Program for Freshmen.			
Art 125—Life Drawing .....	2	Art 126—Life Drawing .....	2
Art 131—Elementary Composition .....	2	Art 132—Elementary Composition .....	2
Ed. 101—The Nature of the Teaching Profession .....	2	Art 141—Still Life .....	2
Natural Science <sup>1</sup> .....	3	Natural Science <sup>1</sup> .....	3
Physical Education .....	1	Psych. 100—Introduction to Psychology .....	4
Military (men) .....	1	Physical Education .....	1
Electives .....	7	Military (men) .....	1
		Electives .....	3

<sup>1</sup>Botany, zoology, chemistry, physics, geology, geography, biology, general science, mathematics (excluding arithmetic), and physiology, or their equivalents in integrated courses.

## Curriculum in Industrial Design

### FIRST YEAR

Common Program for Freshmen.

FIRST SEMESTER		SECOND YEAR	SECOND SEMESTER	
		16-18 HOURS	16 or 17-HOURS	
Art 111—Introduction to Ancient and Medieval Art .....	3	Art 112—Introduction to Renaissance and Modern Art .....	3	
Art 133—Design Workshop .....	2	Art 134—Design Workshop .....	2	
Art 151—Sculpture .....	2	Art 152—Sculpture .....	2	
Phys. Sci. 101—Physical Science .....	4	Phys. Sci. 102—Physical Science .....	4	
Math. 112—College Algebra, and Math. 114—Plane Trigonometry, or Art 125—Life Drawing, and Art 141—Still Life .....	5 or 4	Math. 123—Analytic Geometry, or Art 126—Life Drawing, and Art 142—Still Life .....	4	
Physical Education .....	1	Physical Education .....	1	
Military (men) .....	1	Military (men) .....	1	

## Curriculum in the History of Art

### FIRST YEAR

Common Program for Freshmen

FIRST SEMESTER		SECOND YEAR	SECOND SEMESTER	
		18 HOURS	18 HOURS	
Art 111—Introduction to Ancient and Medieval Art .....	3	Art 112—Introduction to Renaissance and Modern Art .....	3	
Art Elective (studio) <sup>1</sup> .....	2	Art Elective (studio) .....	2	
Foreign Language .....	4	Foreign Language .....	4	
Hist. 111—History of Western Civilization to 1815 .....	4	Hist. 112—History of Western Civilization from 1815 to the Present .....	4	
Speech 101—Principles of Effective Speaking .....	3	Physical Education .....	1	
Physical Education .....	1	Military (men) .....	1	
Military (men) .....	1	Electives .....	3	

<sup>1</sup>Recommended studio courses are Art 125, 126, 131, 132, 141, 142.

## Curriculum in Painting

### FIRST YEAR

Common Program for Freshmen

FIRST SEMESTER		SECOND YEAR	SECOND SEMESTER	
		16 HOURS	16 HOURS	
Art 111—Introduction to Ancient and Medieval Art .....	3	Art 112—Introduction to Renaissance and Modern Art .....	3	
Art 125—Life Drawing .....	2	Art 126—Life Drawing .....	2	
Art 129—Anatomy, I .....	2	Art 130—Anatomy, II .....	2	
Art 131—Elementary Composition .....	2	Art 132—Elementary Composition .....	2	
Art 141—Still Life .....	2	Art 142—Still Life .....	2	
Physical Education .....	1	Physical Education .....	1	
Military (men) .....	1	Military (men) .....	1	
Electives <sup>1</sup> .....	3	Electives <sup>1</sup> .....	3	

# Curriculum in Crafts

## CERAMIC EMPHASIS

### FIRST YEAR

Common Program for Freshmen

### SECOND YEAR

FIRST SEMESTER	16 to 18 HOURS	SECOND SEMESTER	16 HOURS
Art 111—Introduction to Ancient and Medieval Art .....	3	Art 112—Introduction to Renaissance and Modern Art .....	3
Art 125—Life Drawing .....	2	Art 126—Life Drawing .....	2
Art 133—Design Workshop .....	2	Art 134—Design Workshop .....	2
Art 141—Still Life .....	2	Art 142—Still Life .....	2
Art 151—Sculpture .....	2	Art 152—Sculpture .....	2
Physical Science 101 .....	4	Physical Science 102 .....	4
Physical Education .....	1	Physical Education .....	1
Military (men) .....	1	Military (men) .....	1

## Metal Emphasis

### FIRST YEAR

Common Program for Freshmen

### SECOND YEAR

FIRST SEMESTER	17 HOURS	SECOND SEMESTER	17 HOURS
Art 111—Introduction to Ancient and Medieval Art .....	3	Art 112—Introduction to Renaissance and Modern Art .....	3
Art 125—Life Drawing .....	2	Art 126—Life Drawing .....	2
Art 133—Design Workshop .....	2	Art 134—Design Workshop .....	2
Art 141—Still Life .....	2	Art 142—Still Life .....	2
Art 151—Sculpture .....	2	Art 152—Sculpture .....	2
Physical Science 101 .....	4	Physical Science 102 .....	4
Physical Education .....	1	Physical Education .....	1
Military (men) .....	1	Military (men) .....	1

# *College of Business Administration*

Through training in modern business practices and in the fundamentals of economics, the College of Business Administration seeks to develop in its students the abilities necessary for responsible positions in business and government. It offers a unified program of basic studies for freshmen and sophomores and a variety of fields of concentration for juniors and seniors. It is primarily this unified program for freshmen and sophomores which is offered at the Chicago Undergraduate Division. Though the factual contents of many of the courses are directly useful in specific vocations such as accounting, banking, selling, and teaching, students should expect to serve an apprenticeship in the fields they enter after graduation from this college, if they wish to prepare themselves for higher positions. While concentrating in a special field, they are required to elect courses offered in other colleges and schools of the University and to secure as liberal an education as possible to avoid the narrowing effects of overspecialization.

The program for the first and second years is organized around a nucleus of courses in accountancy and economics, mathematics and science, language and literature, and rhetoric and speech. While this program is designed primarily as preparation for the third and fourth years of the curriculum, it affords a well-balanced combination of studies for those who are in college only two years in preparation for work in the business world. Students who have completed this two-year program with a satisfactory scholastic record are qualified for admission to the College of Education or to the College of Journalism and Communications, as well as to advanced work in the College of Business Administration. Students transferring to other colleges after completing the two-year program do not receive their degrees from the College of Business Administration but from the college to which they transfer.

In his last two years, in addition to completing the college general education requirements and the college general business education requirements, the student must complete one of the seventeen fields of concentration listed on page 89. These fields overlap to some extent in that they deal with the common problems of business and

public affairs. A student electing any one field of concentration ordinarily takes a substantial number of courses in other fields. The program leads to the degree of Bachelor of Science in the chosen field. For degrees from both the College of Business Administration and the College of Law, see page 86.

New freshmen and transfer students have special advisors during the registration period to help them plan their programs.

### **Summary of Requirements for Graduation**

A candidate for the degree of Bachelor of Science in a field of the College of Business Administration must:

1. Fulfill general University requirements as to registration, residence, scholarship, and fees.

2. Have a total of 126 credit hours excluding Physical Education and Military, of which not less than sixty credit hours must be in Accountancy, Business Law, Economics, Finance, Management, and Marketing. Business Education courses may be included in the fields of Commercial Teaching and Secretarial Training. In Commercial Teaching and Commerce and Law only forty-five such hours are required, while in Industrial Administration and in Personnel Management the number of such hours is fifty.

3. Complete courses included in University requirements, College General Education requirements, and College General Business requirements. (See pages 85 and 86.)

4. Complete the requirements for one of the fields of concentration. (See page 86.)

5. Have a minimum average of 3.0 for all courses counted toward graduation, a 3.0 average for those courses taken at this university, and a 3.0 average in 200 and 300 level courses in the field of concentration. Physical Education and Military are not counted in the graduation average.

### **Electives**

Whenever a program for any session includes all possible required courses at that time, and it seems desirable to add other courses to make a reasonable number of hours, certain electives are recommended. Prerequisites for these electives should be observed carefully.

These electives should be directed toward requirements in the Upper Division. They include business law, management, marketing, anthropology, history, philosophy, political science, psychology, and sociology, as well as additional courses in geography, mathematics, science, literature, foreign language, art, architecture, or music. Advice on these electives may be obtained at the office of the dean or from the advisor at the time of registration.

### Special Requirements

**COLLEGE ALGEBRA:** All students entering the College of Business Administration without credit in college algebra must take a Mathematics Placement Test to determine whether they should take Mathematics 103, Mathematics 112, or no college algebra. No credit for Mathematics 103 is allowed toward graduation.

**BUSINESS LAW:** Students planning to major in accountancy or management must take Business Law 201 and 202 rather than Business Law 100; however, a student may take Business Law 100 followed by Business Law 202 with reduced credit.

**LITERATURE OR LANGUAGE:** Students must obtain credit in six hours of English and/or American literature or a reading knowledge of a modern foreign language equivalent to that resulting from four semesters of study in college. If a student has completed four years of one modern foreign language in high school, he has fulfilled the literature or language requirement of this college. Literature may be taken in the sophomore year. Students must select courses that require sophomore standing or above.

**SCIENCE OR ADVANCED MATHEMATICS:** Courses to fulfill this four-hour requirement may be taken from the following: biology, chemistry, geology, physics, physical science, and mathematics. Mathematics 103, 112, and 161 are not accepted as advanced mathematics.

### Prelaw Curriculum

Students interested in obtaining a legal education may take their prelegal work in the College of Business Administration. This preparation should be of particular interest to students looking forward to some phase of the legal practice involving business, corporation, or income tax law. The general requirements are the same as those for all Commerce students shown on page 87. The third year includes studies of special value to the prelaw student. The courses involved here include commerce courses as well as those in political science, history, and philosophy.



When a student has completed 96 hours, excluding Physical Education and Military, in the College of Business Administration and thirty hours in the College of Law, including all required courses and all other graduation requirements, he will be granted the degree of Bachelor of Science in Commerce and Law. Upon completion of the requirements of the two remaining years in the College of Law, the law degree will be granted.

Students who are candidates for a Business and Law Degree must spend their junior year in Urbana in the Business curriculum in addition to their senior year in the College of Law.

### **Commercial Teaching**

Since there are certain state requirements for certification of teachers in Illinois high schools, a special program to meet these requirements for commercial teachers has been established in the College of Business Administration. The approved program for this field for the first two years is shown on page 90.

### **Prejournalism**

Students desiring to enter the College of Journalism and Communications may do so after the completion of two years with proper grade average in the College of Business Administration. Those interested in advertising and other business phases of journalism may find consideration of this program profitable. The general program for this purpose is the same as that shown on page 88.

## **GENERAL REQUIREMENTS**

Normally students must register for not less than fourteen nor more than eighteen credit hours in each semester. Students must take required courses in Groups I, II, and III in the semesters indicated for each course (see page 88). A required course which is failed must be retaken the following semester.

The requirements for graduation, as stated in Groups I, II, and III (page 88), apply to all fields of concentration except commercial teaching. For a complete statement on commercial teaching, see page 89.

## Sample Program for All Business Administration Students (Excepting Commercial Teaching)

FIRST YEAR			
FIRST SEMESTER	17 HOURS	SECOND SEMESTER	16 HOURS
Accy. 101 .....	3	Accy. 105 .....	3
Rhet. 101 .....	3	Rhet. 102 .....	3
Mgmt. 100 .....	3	Econ. 136 or 138 .....	3
Math. 103 .....	3	Math. 112 .....	3
Science or Advanced Mathematics .....	4	Speech 101 .....	3
Physical Education .....	1	Physical Education .....	1

SECOND YEAR			
FIRST SEMESTER	16 or 17 HOURS	SECOND SEMESTER	16 or 17 HOURS
Accy. 106 or 108 (106 recommended) .....	3	Econ. 103 .....	3
Econ. 102 .....	3	Econ. 170 .....	3
Rhet. 151 .....	3	Literature or Language .....	3 or 4
Literature or Language .....	3 or 4	Choice from Group II or III .....	6
Electives from Group II .....	3	Physical Education .....	1
Physical Education .....	1		

## Requirements for all Business Administration Students

(Except Commercial Teaching. See page 89)

	CREDIT HOURS	NORMAL SEMESTER
I. University Requirements.		
Military <sup>1</sup> .....	4	1, 2, 3, 4
Physical Education .....	4	1, 2, 3, 4
Rhetoric 101, 102 .....	6	1, 2,
Total .....	14	
II. College General Education Requirements.		
Management 100—Introduction to Business (recommended)	(3) <sup>2</sup>	1
Economics 136—Economic History of the United States or Economics 138—Introduction to the Economic History of Modern Europe, or Geography 105—Introductory Economic Geography .....		
Literature or Language <sup>3</sup> .....	6 to 16	3, 4
Mathematics 103—Introduction to College Algebra and Mathematics 112—College Algebra <sup>4</sup> .....	3	2
Rhetoric 151—Business Letter Writing .....	0 to 3	1, 2
Science or Advanced Mathematics <sup>5</sup> .....	3	3 or 4
Social Science (Anthropology, History, Philosophy, Political Science, Psychology, or Sociology) a minimum of six hours; a minimum of three hours in 200 or 300 level courses in economics .....	4	1
Speech 101—Principles of Effective Speaking .....	9 to 12	3 or 4
Additional hours in Language, Literature, Advanced Mathematics, Science, Social Science, Art, Architecture, Music, Humanities, and Geography to bring the total of this group, excluding Economics 100, to 38 credit hours.....	3	1, 2, 3 or 4
Total .....	0 to 13	2, 3, 4
	38	

<sup>1</sup>Not required if first sixty credit hours are taken at the Chicago Undergraduate Division.

<sup>2</sup>For freshmen only. Students with thirty credit hours or more should not take this course.

<sup>3</sup>If literature is elected, six hours of American or English literature requiring sophomore standing will satisfy the minimum requirement. If language is elected, it must be a modern foreign language and the equivalent of four semesters when pursued in college must be taken to satisfy requirements. (See page 86.)

<sup>4</sup>The placement examination will determine the mathematics course the student will take. Each student must have Mathematics 112 to complete this requirement, unless the placement test indicates that he already has knowledge equivalent to this. The only students exempted from the placement test are those who have college credit in college algebra. (See page 86.)

<sup>5</sup>If science is elected it may be any laboratory science (geography is not included here). If mathematics is elected it may be any course in advance of college algebra, trigonometry included. (See page 86.)

III. College General Business Education Requirements.		
Accountancy 101—Principles of Accounting .....	3	1
Accountancy 105—Accounting Procedure .....	3	2
Accountancy 106—Elementary Cost Accounting (recommended), or Accountancy 108—Intermediate Accounting .....	3	3
Business Law 100—Basic Principles of Business Law (See page 107) .....	3	4
Economics 102, 103—Principles of Economics .....	6	3, 4
Economics 170—Elements of Statistics .....	3	4
Finance 250—Money, Credit, and Banking .....	3	
Finance 254—Business Finance .....	3	
Management 101—Industrial Organization and Management .....	3	4
Marketing 101—Principles of Marketing .....	3	4
Total .....	33	

IV. Field of Concentration Requirements and Free Electives.

Sufficient credit hours must be taken here to make a grand total of 126 credit hours, excluding Physical Education and Military Science. None of the required courses in the fields of concentration are available at the Chicago Undergraduate Division.

Fields of Concentration:

- Accountancy
- Commerce and Law
- Commercial Teaching (special program)
- Economics of Government and Business, Public Utilities, and Transportation
- Economic History
- Economic Theory
- Finance
- General Economics
- Industrial Administration
- Insurance
- Labor Economics
- Management
- Marketing (ten sub-fields)
- Personnel Management
- Secretarial Training
- Statistical Economics
- Urban Land Economics

Questions should be directed to the Dean of the College of Business Administration, Room 27.

### Curriculum Preparatory to Teaching Commercial Subjects

For the degree of Bachelor of Science in Commercial Teaching. A minimum of 126 hours of credit, in addition to military and physical education, is required for graduation.

For a major, a minimum of forty-five credit hours in courses in accountancy, business education, business law, economics, finance, management, and marketing is required for graduation in this field of concentration. However, thirty-two of these hours must be exclusive of economics.

For a minor, the student must have, in addition, an approved teaching minor outside the commerce field.

Continuation in this curriculum requires admission of the student to advanced standing in teacher education. Admission to advanced standing is determined on the basis of the applicant's academic and personal qualifications for teaching. The completion of certain standardized tests is required. The record of an applicant whose academic average is below 3.5 is subject to special study.

FIRST YEAR

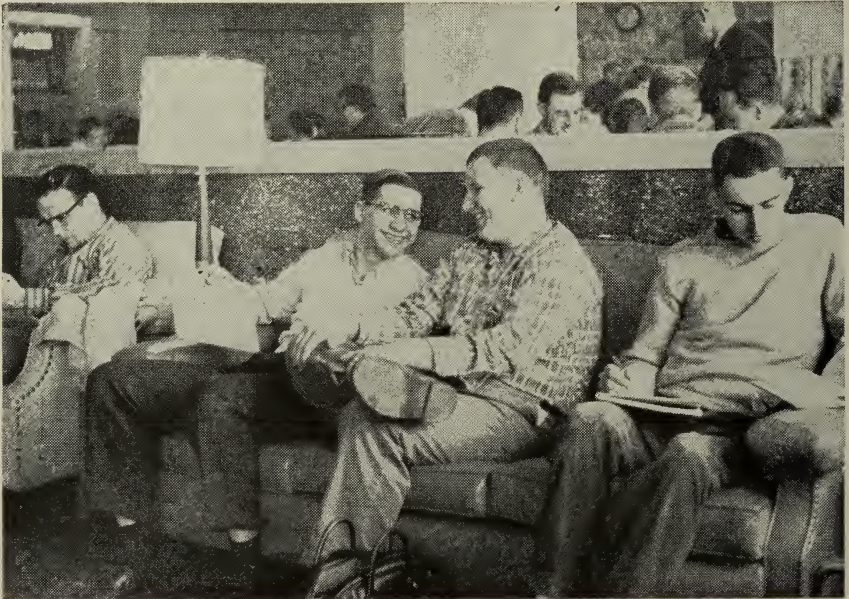
FIRST SEMESTER	17 HOURS	SECOND SEMESTER	16 HOURS
Accy. 101—Principles of Accounting .....	3	Accy. 105—Accounting Procedure .....	3
Science or Advanced Mathematics.....	4	Science or Advanced Mathematics.....	4
Econ. 136—American Economic History, or		Ed. 101—The Nature of the	
Econ. 138—European Economic History .....	3	Teaching Profession .....	2
Math. 112—College Algebra <sup>1</sup> .....	3	Econ. 136—American Economic History, or	
Rhet. 101—Rhetoric and Composition .....	3	Econ. 138—European Economic History.....	3
Physical Education .....	1	Rhet. 102—Rhetoric and Composition .....	3
		Physical Education .....	1

SECOND YEAR

FIRST SEMESTER	17 HOURS	SECOND SEMESTER <sup>2</sup>	17 HOURS
Accy. 108—Intermediate Accounting .....	3	Econ. 103—Principles of Economics .....	3
Econ. 102—Principles of Economics .....	3	Hist. 152—History of the United States .....	3
Geog. 105—Introduction to		Mktg. 101—Principles of Marketing .....	3
Economic Geography .....	3	Ed. 201—Foundations of American Education..	2
Rhet. 151—Business Letter Writing .....	3	Sociol. 100—Principles of Sociology .....	3
Psych. 100—Introduction to Psychology.....	4	Physical Education .....	1
Physical Education .....	1		

<sup>1</sup>May require adjustment. See note 4 above.

<sup>2</sup>If there is room for electives, they could include Business Law 100, Political Science 150 as specific requirements; Accountancy 108, American or English Literature, or Philosophy 105 as option electives; Management 101 as a free elective. Whichever ones are chosen would affect the junior or senior program in that respect.



*Time out!*

# *College of Engineering*

The College of Engineering aims to prepare men for professional work in engineering and for responsible positions of a technical and semitechnical character in industry, commerce, and government. The college provides training in the mathematical and physical sciences and their applications to the design, construction, and operation of industrial plants and public and private works of all kinds. The curricula, though widely varied and specialized, are built on a general foundation of scientific facts and theories applicable to many different fields. Work in the classrooms, laboratories, shops, and drafting rooms is correlated by practical problems which the students solve by methods similar to those of practicing engineers.

While each student pursues a curriculum of his own choice, according to the field of his particular interest, all students take certain courses in common. Basic courses in mathematics, chemistry, physics, rhetoric, and engineering graphics are required in the first two years. Although the curricula are progressively specialized in the third and fourth years, each student is required to take some courses outside his chosen field.

Nontechnical courses are included in each curriculum; they may be required or elective. Many of the nontechnical courses satisfy the broad objectives of the humanities and social science requirements of engineering curricula, in particular making the student keenly aware of the urgent problems of society and developing a deeper appreciation of the cultural achievements of man. The humanities and social science courses are usually drawn from the liberal arts and sciences, economics, and certain approved courses in fine and applied arts. Students who are interested in a broader cultural background should consider the combined engineering-liberal arts and sciences program described on page 97.

All departments in this college except the Department of General Engineering offer graduate degrees. Some of the advanced undergraduate courses in each department may be taken for graduate credit. Detailed information on graduate programs may be obtained from the catalog of the Graduate College.

At the Chicago Undergraduate Division, the first two years are offered in the fields of aeronautical engineering, ceramic engineering, civil engineering, electrical engineering, engineering physics, general engineering, industrial engineering, mechanical engineering, metal-

lurgical engineering, mining engineering, engineering mechanics, and the combined liberal arts-engineering curriculum. Those few required courses which are not available here are noted.

Instruction is designed primarily to prepare the student to enter the College of Engineering on the Urbana campus of the University of Illinois to complete the courses leading to the degree.

### **Honors Program**

The purpose of the Honors Program in Engineering is to recognize and develop the talents of superior students. A student in this program is assigned to a special honors adviser in his department and special consideration is given to the selection of a course program to meet the specific needs of the student. Special courses and sections are available in most departments for honors students.

Participation in the Honors Program is based on the following requirements:

1. First semester freshmen: admission to the University as a James Scholar.
2. Second semester freshmen, sophomores, juniors, and seniors: maintenance of a 4.5 University of Illinois cumulative grade average.
3. Transfer students are required to complete at least one normal semester of work in engineering at the University of Illinois, with a grade average of 4.5 or higher, in addition to having a superior transfer record.

A student is graduated from the Honors Program with the designation "High Honors" on his diploma, except that, upon the recommendation of his department, with approval of the College Honors Committee, the designation "Highest Honors" is awarded to students whose performance in the Honors Program has been truly exceptional.

### **Requirements for Graduation**

Students in the College of Engineering who meet the University's general requirements with reference to registration, residence, and fees, and who maintain satisfactory scholastic records in this college, are awarded degrees appropriate to their curricula. Each curriculum, except civil engineering, engineering physics, and general engineering, requires a minimum of 136 semester hours of credit, not counting the required work in military training and physical education. The civil engineering curriculum requires a minimum of 138 semester hours of

credit, the engineering physics curriculum requires a minimum of 130 semester hours of credit, and the general engineering curriculum requires a minimum of 142 semester hours of credit, exclusive of military training and physical education.

Each curriculum leads to the degree of Bachelor of Science and may ordinarily be completed in four years. A graduate of one curriculum ordinarily can qualify for another baccalaureate degree by doing a fifth year of work, consisting of thirty to thirty-six semester hours, providing plans have been made for such an arrangement at the beginning of his third year.

### **Requirements for Admission Effective in September, 1963**

Effective September 1, 1963, the entrance requirements to the College of Engineering will be English, three units; algebra, two units; plane geometry, one unit; trigonometry, one-half unit, science, two units; social studies, two units; and foreign language, two units.

The present practice of giving a Mathematics Placement Test and of admitting students deficient in mathematics, as outlined on pages 35 and 37 will be continued after these new requirements become effective. Also, provision has been made to admit students deficient in foreign language provided that the deficiency is removed without credit during the first two years. A new student will be considered deficient in foreign language if he does not present two units in the same language.

The required subjects in science must include two units from physics, chemistry, and biology, Botany and zoology may be submitted for biology. General science may not be used as a required science subject but may be used in fulfilling the University requirement of fifteen units for admission.

Students transferring from other colleges will not be exempted from the above entrance requirements unless they have demonstrated proficiency in the areas in which they are deficient.

### **General Education Sequences**

All Engineering students are required to complete sequences of courses in the areas of Natural Sciences, Humanities, and Social Sciences. This combination of areas of knowledge is called General Education. Engineering students satisfy the Natural Sciences requirement by completing the departmental curricula.

## Humanities and Social Sciences

These two areas of General Education are covered by requiring all engineering students to complete at least 18 semester hours in the Humanities and Social Sciences (in addition to 6 semester hours of Rhetoric and Composition). Freshmen entering in the Fall of 1963 and transfer students who begin their collegiate studies elsewhere in the Fall of 1963, or thereafter, will be expected to fulfill these requirements.

The following regulations apply to selection of the 18 semester hours in the Humanities and Social Sciences:

1. Students must complete at least one elective sequence consisting of a minimum of 6 semester hours chosen from the Elective Sequences List of Humanities as given below.
2. If, in satisfying regulation 1, a student selects one of the intermediate foreign language sequences in the Elective Sequences List of Humanities, the student must present at least 3 additional hours in the Humanities. This regulation increases the Humanities sequences requirement to a minimum of 11 semester hours, but is not intended to increase the Humanities and Social Sciences requirement beyond the minimum total of 18 semester hours. This requirement can be met by completing any course from the Elective Sequence Lists of Humanities, other than another intermediate foreign language course, or by completing one of the following advanced foreign language courses: French 201, German 210, Latin 201, Russian 201, or Spanish 201.
3. Students must complete at least one elective sequence consisting of a minimum of 6 semester hours chosen from the Elective Sequences List of Social Sciences as given below:
4. A student may not use more than one sequence from any one department to satisfy the Elective Sequence requirements of regulations 1 and 3.
5. Students may choose all 18 required semester hours from the courses listed in the Elective Sequences Lists in the Humanities and in the Social Sciences, but if not, the remainder of the required semester hours must be elected from the Supplementary List of Courses in Humanities and Social Sciences given below. With the consent of the adviser any student will be permitted to add to this Supplementary List of Courses any 200 or 300 numbered course (for which the student has the prerequisites) from the following areas: American Literature, English Literature, Foreign Language, History, Philosophy, Political Science and Social Science.



## Elective Sequences in Humanities and Intermediate Foreign Language

### Classics

101, 110, 161; 6 hours  
301, 302; 6 hours

### Division of General Studies

161, 162; 8 hours

### English Literature

101, 102; 6 hours  
101, 103; 6 hours  
105, 106; 8 hours  
121, 122; 6 hours  
121, 123; 6 hours

### American Literature

113, 114; 6 hours

### History

111, 112; 8 hours  
131, 132; 8 hours  
211, 212; 6 hours  
219, 220; 6 hours  
260, 261; 6 hours  
260, 262; 6 hours

### Humanities

151, 152; 8 hours  
211, 212; 8 hours  
363, 364; 6 hours

### Philosophy

101, 102; 6 hours  
303, 306; 8 hours

### Intermediate Foreign Language

#### French

103, 104; 8 hours

#### German

103, 104; 8 hours

#### Latin

103, 104; 8 hours

#### Russian

103, 104; 8 hours

#### Spanish

103, 104; 8 hours

## Elective Sequences in Social Sciences

### Anthropology

102\*, 103; 8 hours  
103, 160; 7 hours  
102\*, 252; 7 hours

### Division of General Studies

171, 172; 8 hours

### Economics

108, 210; 6 hours  
108, 218; 6 hours  
108, 238; 6 hours  
108, 306; 6 hours  
108, Mining Engineering 302; 6 hours

### Geography

104, 105; 8 hours

### Philosophy

105, 104; 8 hours

### Political Science

150, 151; 6 hours  
191, 192; 8 hours  
191, 184; 6 hours

### Psychology

100, 101; 8 hours  
103, 101; 8 hours  
103, 250; 7 hours

### Sociology

100, 225; 6 hours  
104\*, 130; 8 hours  
100, 212; 6 hours  
100, 218; 6 hours

\*Credit is not given for both Anthropology 102 and Sociology 104.

## Supplementary List of Courses in Humanities and Social Sciences

### Architecture

113, History of Ancient Architecture, 2 hours  
214, History of Medieval Architecture,  
3 hours  
215, History of Renaissance and Baroque  
Architecture, 3 hours

### Art

111, Introduction to Ancient and Medieval  
Art, 3 hours  
112, Introduction to Renaissance and Modern  
Art, 3 hours

### Art

116, Masterpieces of Art, 2 hours  
211, The Art of Industrialized Society,  
2 hours

### American Literature

318, The American Novel: Cooper to Norris,  
3 hours

### Education

301, Philosophy of Education, 2 hours

### French

201, Introduction to French Literature,  
3 hours

### Geography

386, Political Geography, 3 hours

### German

210, Masterpieces of German Literature,  
3 hours

Courses in bold face type in sequential and supplementary lists are offered at the Chicago Undergraduate Division. Others are offered at Urbana only.

General Engineering	Political Science
220, History of Engineering, 3 hours	312, State Government, 2 hours
	317, The American Federal System, 3 hours
History	Psychology
181, The Ancient World, 3 hours	256, Psychology of Attitude and Opinion, 3 hours
182, The Ancient World, 3 hours	
304, Medieval Civilization, 3 hours	Russian
305, The Age of the Renaissance, 3 hours	201, Introduction to Russian Literature, 3 hours
323, Science, Philosophy and the Modern European Mind, 3 hours	
324, Science, Idealism and Materialism, 3 hours	Spanish
	201, Introduction to Spanish Literature, 3 hours
Latin	Speech
162, (Classics) Roman Antiquities, 2 hours	361, History of the European Theatre to the Renaissance, 3 hours
201, (Classics) Survey of Latin Literature, 3 hours	362, History of the European Theatre from the Renaissance to 1900, 3 hours
Music	Social Science
113, Appreciation of Music, 2 hours	101, Latin American Civilization: The Caribbean, 3 hours
114, Appreciation of Music, 2 hours	102, Latin American Civilization: South America, 3 hours
115, Appreciation of Music, 2 hours	
213, History of Music, 3 hours	*Social Science
	111, The Individual and Society, 4 hours
Philosophy	113, World Patterns and World Problems, 4 hours
105, Moral Ideas and Practice, 2 hours	Sociology
110, World Religions, 3 hours	275, Sociology of the Community, 3 hours
361, Comparative Religion: The Religions of the East, 3 hours	276, Sociology of the City, 3 hours
362, Comparative Religion: The Religions of the West, 3 hours	
363, Contemporary Religious Thought, 3 hours	

\*These Social Science courses are offered only at the Chicago Undergraduate Division.

## Technical and Nontechnical Electives

Each engineering curriculum offers some elective opportunities which may be specified as technical or nontechnical. All technical elective courses must be chosen from departmental approved lists. Nontechnical electives other than humanities and social sciences may be chosen from the list below; however, the student should make sure that he is fulfilling minimum requirements in each area as outlined in his curriculum.

### Technical Electives

Chemistry and Mathematics—all courses, except Mathematics 120  
 Engineering—all 200- and 300-series courses not required in the student's curriculum, except General Engineering 220  
 Geology—all courses except Geology 102

### Nontechnical Electives

Commerce and Business Administration—all courses  
 General Engineering 220  
 Geology 102  
 Hygiene—all courses

Liberal Arts and Sciences—all courses except those in chemistry, geology, and mathematics noted under technical electives  
Humanities and Social Science—all courses listed above.

### **Combined Engineering-Liberal Arts and Sciences Program**

A five-year program of study permits a student to earn a Bachelor of Science degree in some branch of engineering from the College of Engineering and a Bachelor of Arts or a Bachelor of Science degree from the College of Liberal Arts and Sciences.

The purpose of this program is to provide engineering students with a broader background in the liberal arts than is possible in the four-year engineering curricula. Graduates of this program will be well qualified for responsible positions in industry, business, or government, which require a combination of a thorough technical training and a well-rounded cultural education.

Each student in this program has advisers in both colleges, who assist him in planning a program of study to meet individual needs and the requirements for both degrees. In general, most combinations of engineering curricula and liberal arts majors may be completed in ten semesters, provided the student does not have any deficiencies in the entrance requirements of either college.

The student can complete most successfully the following curricula in engineering: aeronautical and astronautical, agricultural, ceramic, civil, electrical, engineering mechanics, general, industrial, mechanical, metallurgical and mining engineering, combined with one of the following majors in the sciences and letters curriculum in Liberal Arts, and Sciences: anthropology, classics, English, French, German, history, Latin, mathematics, philosophy, physics, political science, psychology, Russian, sociology, Spanish, and speech.

This combined program operates under the following conditions:

1. Students entering the program must meet admission requirements for both colleges.

2. A student who starts in the program and decides to transfer out of it is subject to the existing graduation requirements of the college of his choice.

3. The degrees of Bachelor of Science in Engineering and Bachelor of Arts in Liberal Arts and Sciences are awarded simultaneously. No student in the combined program is permitted to complete one curriculum before the other and receive a degree from either college before the completion of the entire program.

4. Any student entering this program from high school with his Liberal Arts and Sciences foreign language requirement partially or completely fulfilled is required to substitute for these hours an equivalent number of hours in the humanities or social sciences.

5. In general, students having over forty hours of transfer work are ineligible for the combined program.

6. Students transferring from the Chicago Undergraduate Division must plan to complete at least one year in the College of Liberal Arts and Sciences at Urbana, and one year in the College of Engineering at Urbana.

7. Students are expected to maintain at least a 3.5 scholastic average to be accepted or continued in the program.

A typical combined program follows.

### First Year

Common Freshman Program for Engineers which is taken in the College of Engineering (see page 98).

Students are enrolled in the College of Liberal Arts and Sciences for the second and third years.

FIRST SEMESTER	SECOND YEAR 19 HOURS	SECOND SEMESTER	17 HOURS
Language .....	4	Language .....	4
Biological Science .....	4	Biological Science .....	4
Humanities or Social Sciences .....	4	Physics (Heat, Electricity and Magnetism) .....	4
Integral Calculus .....	5	Liberal Arts and Sciences Major .....	3
Physical Education .....	1	Physical Education .....	1
Military (men) .....	1	Military (men) .....	1

For further information about this program the student may write to the Office of the Dean in either the College of Engineering or the College of Liberal Arts and Sciences at the Chicago Undergraduate Division.

### Common Program for Freshman Engineers

The entrance requirements to the College of Engineering in mathematics are three and one-half units: algebra, two units; plane geometry, one unit; and trigonometry, one-half unit. Students are admitted on the basis of a minimum of one unit each in algebra and plane geometry, but they are required to make up the deficiencies during their first year in college. This delays their graduation one semester unless steps are taken early to offset the deficiencies. It is recommended that such students attend a summer session preceding entrance into college or immediately following their first year, thus eliminating the extra semester at the end. A Mathematics Placement Test is given to all students presenting three and one-half or four units of high school mathematics. A passing grade on this examination is required for a student to enroll in analytic geometry the first semester. Students having college credit for algebra and trigonometry are not required to take this examination.

Freshman students who have had a year of chemistry in high school will take a Chemistry Placement Test. If the placement test score is sufficiently high, and if the student ranks in the upper quarter of his graduating class, and if he is qualified for Mathematics 112 and Mathematics 114, or Mathematics 123, he may substitute Chemistry 109 and two additional hours of electives for Chemistry 102 and Chemistry 104.

In general, the course requirements for transfer students are based on the curriculum in effect for students of similar engineering classification at the time they enter the College of Engineering at the University of Illinois.

		FIRST YEAR	
FIRST SEMESTER	16 or 17 HOURS	SECOND SEMESTER	19 HOURS
Chem. 102 or 101—General Chemistry <sup>1</sup> .....	3 or 4	Chem. 104—Chemistry of Metallic Elements <sup>1</sup> .....	4
G.E. 103—Engineering Graphics, I <sup>2</sup> .....	3	G.E. 104, Engineering Graphics II <sup>2</sup> , or Humanities or Social Science Elective .....	3
Math. 123—Analytic Geometry <sup>3</sup> .....	5	Math. 133—Calculus .....	3
Rhet. 101—Rhetoric & Composition .....	3	Physics 106—General Physics (Mechanics) .....	4
Physical Education .....	1	Rhet. 102—Rhetoric and Composition .....	3
Military (Men) .....	1	Physical Education .....	1
		Military (Men) .....	1

<sup>1</sup>Only three hours of Chemistry 101 may be used toward degrees in engineering. See note in paragraph on common freshmen programs about substitutions of Chemistry 109 for Chemistry 102 and 104. Students in Ceramic or Metallurgical Engineering are advised to elect Chem. 105 in place of Chem. 104.

<sup>2</sup>All students are required to take General Engineering 103. Students in Agricultural Engineering, Ceramic Engineering, General Engineering, Mechanical Engineering and Industrial Engineering will take the second semester engineering graphics course, G.E. 104. All others will replace G.E. 104 with a humanities or social science elective. Students required to take this elective may have it scheduled during their first semester.

<sup>3</sup>Mathematics 111 or 112 and 114, for those entering with two or three units of high school mathematics. This also applies to those who do not pass the mathematics placement test.

## Curriculum in Aeronautical and Astronautical Engineering

		FIRST YEAR	
Common Program for Freshmen <sup>1, 2</sup> (page 99)			
		SECOND YEAR	
FIRST SEMESTER	18 HOURS	SECOND SEMESTER	17 HOURS
Math. 143—Calculus .....	5	Math. 195—Introduction to Automatic Digital Computing .....	3
M.E. 182—Manufacturing Processes .....	3	Math. 343—Advanced Calculus .....	3
Physics 107—General Physics (Heat, Electricity, and Magnetism) .....	4	Physics 108—General Physics (Sound, Light, and Modern Physics) .....	4
Modern History or Political Science <sup>2</sup> .....	4	T.A.M. 156—Analytical Mechanics (Statics and Dynamics) .....	5
Physical Education .....	1	Physical Education .....	1
Military (Men) .....	1	Military (Men) .....	1

<sup>1</sup>The elective in the Common Program for Freshmen program must be selected from the social sciences or humanities.

<sup>2</sup>Students should consult the college list of approved courses on Pages 95, 96.

## Curriculum in Ceramic Engineering

### FIRST YEAR

Common Program for Freshmen<sup>1, 2</sup> (page 99)

FIRST SEMESTER		SECOND YEAR	
	19 HOURS	SECOND SEMESTER	19 HOURS
Cer. Engr. 101—Introduction to Ceramic Engineering <sup>3</sup> .....	3	Cer. Engr. 102—Ceramic Processes & Equipment <sup>3</sup> .....	3
Chem. 123—Quantitative Analysis <sup>2</sup> .....	5	Math. 345—Differential Equations and Orthogonal Functions .....	3
Math. 143—Calculus .....	5	Physics 108—Heat, Sound, Light .....	4
Physics 107—Electricity, Magnetism, Modern Physics .....	4	T.A.M. 154—Analytical Mechanics (Statics and Dynamics) .....	4
P.E. ....	1	Social Science-humanities sequence elective <sup>4</sup> .....	3
Military (Men) .....	1	P.E. ....	1
		Military (Men) .....	1

<sup>1, 2</sup>See footnote on Common Freshmen Program Page 99.

<sup>3</sup>Not offered at the Chicago Undergraduate Division.

<sup>4</sup>See list of approved electives pages 95 and 96.

<sup>5</sup>Since Chem. 123 is not currently being offered at the Chicago Undergraduate Division, it is recommended that students elect Chem. 105 in the first year and Chem. 122 in the second year.

## Curriculum in Civil Engineering

### FIRST YEAR

Common Program for Freshmen<sup>1, 2</sup> (page 99)

FIRST SEMESTER		SECOND YEAR	
	18 HOURS	SECOND SEMESTER	19 HOURS
Geol. 150—Geology for Engineers .....	3	Physics 108—General Physics (Sound, Light, and Modern Physics) .....	4
Math. 143—Calculus .....	5	Math. 345—Differential Equations and Orthogonal Functions .....	3
Physics 107—General Physics (Heat, Electricity, and Magnetism) .....	4	T.A.M. 211—Analytical Mechanics (Dynamics) .....	3
T.A.M. 151—Analytical Mechanics (Statics) .....	3	T.A.M. 221—Elementary Mechanics of Deformable Bodies .....	3
C.E. 195—Introduction to Civil Engineering .....	1	Social Science or Humanities Electives <sup>3</sup> .....	4
Physical Education .....	1	Physical Education .....	1
Military (Men) .....	1	Military (Men) .....	1

<sup>1, 2</sup>See Common Freshmen Program (Page 99).

<sup>3</sup>Students should consult the list of approved electives on pages 95 and 96. Economics 108 is required of all students.

## Curriculum in Electrical Engineering

To qualify for registration in the electrical engineering courses specified in the first semester of the junior year of the curriculum in electrical engineering (Electrical Engineering 229, 322, 340, 341), a student must have a combined grade-point average of 3.25 in the mathematics, physics, and electrical engineering courses which are required in the freshman and sophomore years of the curriculum.

## FIRST YEAR

Common Program for Freshmen<sup>1, 2</sup> (page 99)

FIRST SEMESTER		18 HOURS	SECOND YEAR	SECOND SEMESTER	18 HOURS
Math. 143—Calculus .....		5	E.E. 250—Introduction to Circuit Analysis .....		5
Math. 195—Introduction to Automatic Digital Computing .....		3	E.E. 251—Circuit Laboratory .....		1
Physics 107—General Physics (Heat, Electricity & Magnetism) .....		4	Math. 345—Differential Equations and Orthogonal Functions .....		3
T.A.M. 154—Analytical Mechanics (Statics and Dynamics) .....		4	Physics 108—General Physics (Sound, Light and Modern Physics) .....		4
Physical Education .....		1	Physical Education .....		1
Military (Men) .....		1	Military (Men) .....		1
			Elective <sup>3</sup> .....		3

<sup>1, 2</sup>See Common Freshmen Program (Page 99).

<sup>3</sup>Of the thirty-seven hours of electives required, twelve must be technical, six of which must be chosen from the 300 series of electrical engineering courses not otherwise required, eighteen social science or humanities and seven either technical or non-technical. Advanced military courses may be substituted for five hours of non-technical electives. Suggested technical electives other than electrical engineering courses are Mathematics 315, 343, 346.

## Curriculum in Engineering Mechanics

### FIRST YEAR

Common Program for Freshmen<sup>1, 2</sup> (page 99)

FIRST SEMESTER		17 HOURS	SECOND YEAR	SECOND SEMESTER	18 HOURS
Math. 143—Calculus .....		5	Math. 341—Differential Equations .....		3
Physics 107—General Physics (Heat, Electricity, and Magnetism) .....		4	Physics 108—General Physics (Sound, Light, and Modern Physics) .....		4
T.A.M. 151—Analytical Mechanics (Statics) .....		3	T.A.M. 211—Analytical Mechanics (Dynamics) .....		3
Social Science or Humanities Elective <sup>3</sup> .....		3	Social Science or Humanities Elective <sup>3</sup> .....		3
Physical Education .....		1	Math. 195—Introduction to Automatic Digital Computing .....		3
Military (Men) .....		1	Physical Education .....		1
			Military (Men) .....		1

<sup>1, 2</sup>See Common Freshmen Program (Page 99).

<sup>3</sup>See list of approved electives (Pages 95 and 96).

## Curriculum in Engineering Physics

This curriculum prepares students for graduate study in physics or related fields, and for research and development positions in industrial and government laboratories which require men with a broad, basic education in physics and mathematics.

The curriculum requires 130 hours, plus required physical education. Of these 130 hours, 38 hours are elective. At least 18 elective hours must be chosen from the social sciences and humanities including second year language courses (see list on pages 95 and 96); at least 6 more elective hours must be nontechnical, including any first year language; the remaining 14 hours may be technical or nontechnical electives. Of these 38 elective hours, at least 12 hours must be either

from nontechnical courses numbered 200 or above or from technical courses numbered 300 or above.

Students in the engineering physics curriculum, when registering for advanced undergraduate courses in physics, must have a grade-point average of at least 3.5 in all subjects, exclusive of the basic courses in military training and physical education, and a combined grade-point average of at least 3.5 in all courses in mathematics and physics taken prior to such registration. Transfer students must have a corresponding record in the institution from which they transfer and must maintain such status at the University of Illinois.

## First Year

Common Program for Freshmen (Page 99). The three hour elective should be a social science or humanities course.<sup>1</sup>

Students eligible for Chemistry 109 should take the following program in their first year.<sup>3</sup> The program for the remaining years will then have to be adjusted slightly.

### FIRST YEAR

FIRST SEMESTER	18 HOURS	SECOND SEMESTER	17 HOURS
Chemistry 109 .....	5	General Engineering 103 .....	3
Mathematics 123—Analytic Geometry .....	5	Mathematics 133—Calculus .....	3
Rhetoric 101 .....	3	Physics 106 (Mechanics) .....	4
Language <sup>2</sup> or Social Science or Humanities Elective <sup>1</sup> .....	4	Rhetoric 102 .....	3
Physical Education .....	1	Language <sup>2</sup> or Social Science or Humanities Elective <sup>1</sup> .....	4
		Physical Education .....	1

### SECOND YEAR

FIRST SEMESTER	19 HOURS	SECOND SEMESTER	17 HOURS
Math. 143—Calculus .....	5	Math. 343—Advanced Calculus .....	3
Physics 107—General Physics (Heat, Electricity, and Magnetism) .....	4	Physics 108—General Physics (Sound, Light, and Modern Physics) .....	4
Language <sup>2</sup> or Social Science or Humanities Elective .....	4	Physics 341—Electricity and Magnetism .....	4
Social Science or Humanities Elective <sup>1</sup> .....	4	Language <sup>2</sup> or Social Science or Humanities Elective <sup>1</sup> .....	4
Physical Education .....	1	Physical Education .....	1
Military Science .....	1	Military Science .....	1

<sup>1</sup>See list of approved electives, pages 95 and 96.

<sup>2</sup>Students should continue their high school language, if it was German, Russian, or French. If for any reason a first year language is taken here, the social science and humanities requirement must be made up later. A first year language counts toward graduation as a nontechnical elective.

<sup>3</sup>Students not taking Chem. 109 should consult the common Freshman program, page 99.



## Curriculum in General Engineering

### FIRST YEAR

Common Program for Freshmen<sup>1, 2</sup> (page 99)

### SECOND YEAR

FIRST SEMESTER	19 HOURS	SECOND SEMESTER	18 HOURS
Econ. 108—Elements of Economics	3	G.E. 221—Introduction to Design	3
Math. 143—Calculus	5	Math. 345—Differential Equations and Orthogonal Functions	3
Physics 107—General Physics (Heat, Electricity, and Magnetism)	4	Physics 108—General Physics (Sound, Light, and Modern Physics)	4
Speech 101—Principles of Effective Speaking	3	T.A.M. 211—Analytical Mechanics (Dynamics)	3
T.A.M. 150—Analytical Mechanics (Statics)	2	Social Science or Humanities Elective <sup>3</sup>	3
Physical Education	1	Physical Education	1
Military (Men)	1	Military (Men)	1

<sup>1, 2</sup>See Common Freshmen Program (Page 99).

<sup>3</sup>See list of approved electives (Pages 95 and 96).

## Curriculum in Industrial Engineering

### FIRST YEAR

Common Program for Freshmen<sup>1, 2</sup> (page 99)

### SECOND YEAR

FIRST SEMESTER	19 HOURS	SECOND SEMESTER	18 HOURS
Econ. 108—Elements of Economics	3	Math. 263—Statistics in Engineering and Physical Sciences	3
Math. 143—Calculus	5	M.E. 184—Principles of Metal Cutting and Forming	3
M.E. 183—Materials Casting	3	Physics 108—General Physics (Sound, Light, and Modern Physics)	4
Physics 107—General Physics (Heat, Electricity, and Magnetism)	4	Social Science or Humanities Electives <sup>3</sup>	3
T.A.M. 150—Analytical Mechanics (Statics)	2	T.A.M. 211—Analytical Mechanics (Dynamics)	3
Physical Education	1	Physical Education	1
Military (Men)	1	Military (Men)	1

<sup>1, 2</sup>See Common Freshmen Program (Page 99).

<sup>3</sup>See list of approved electives (Pages 95 and 96).

## Curriculum in Mechanical Engineering

### FIRST YEAR

Common Program for Freshmen<sup>1, 2</sup> (page 99)

### SECOND YEAR

FIRST SEMESTER	19 HOURS	SECOND SEMESTER	19 HOURS
Econ. 108—Elements of Economics	3	Math. 345—Differential Equations and Orthogonal Functions	3
Math. 143—Calculus	5	M.E. 184—Principles of Metal Cutting and Forming	3
M.E. 183—Materials Casting	3	Physics 108—General Physics (Sound, Light, and Modern Physics)	4
Physics 107—General Physics (Heat, Electricity, and Magnetism)	4	Social Science or Humanities Electives <sup>3</sup>	3
T.A.M. 150—Analytical Mechanics (Statics)	2	T.A.M. 211—Analytical Mechanics (Dynamics)	3
Physical Education	1	Physical Education	1
Military (Men)	1	Military (Men)	1

<sup>1, 2</sup>See Common Freshmen Program (Page 99).

<sup>3</sup>See list of approved electives (Pages 95 and 96).

## Curriculum in Metallurgical Engineering

### FIRST YEAR

Common Program for Freshmen<sup>1, 2</sup> (page 99)

### SECOND YEAR

FIRST SEMESTER	19 HOURS	SECOND SEMESTER	18 HOURS
Chem. 123—Quantitative Analysis <sup>5</sup> .....	5	Cer. E. 221—Pyrometry <sup>4</sup> .....	2
Math. 143—Calculus .....	5	Economics 108—Elements of Economics .....	3
Physics 107—General Physics (Heat, Electricity, and Magnetism) .....	4	Physics 108—General Physics (Sound, Light, and Modern Physics) .....	4
Social Science or Humanities Elective <sup>1</sup> .....	3	T.A.M. 154—Analytical Mechanics (Statics and Dynamics) .....	4
Physical Education .....	1	Social Science or Humanities Elective <sup>3</sup> .....	3
Military (Men) .....	1	Physical Education .....	1
		Military (Men) .....	1

<sup>1, 2</sup>See Common Freshmen Program (Page 99).

<sup>3</sup>See list of approved electives (Pages 95 and 96). Research Physical Metallurgy Option substitute Math. 345 for this elective.

<sup>4</sup>Not offered at C.U.D.

<sup>5</sup>Since Chem. 123 is not currently being offered at the Chicago Undergraduate Division, it is recommended that students elect Chem. 105 in the first year and Chem. 122 in the second year.

## Curriculum in Mining Engineering

### FIRST YEAR

Common Program for Freshmen<sup>1, 2</sup> (page 99)

### SECOND YEAR

FIRST SEMESTER	19 HOURS	SECOND SEMESTER	19 HOURS
Econ. 108—Elements of Economics .....	3	Math. 195—Introduction to Automatic Digital Computing .....	3
Math. 143—Calculus .....	5	Math. 263—Statistics in Engineering and the Physical Sciences .....	3
Physics 107—General Physics (Heat, Electricity and Magnetism) .....	4	Physics 108—General Physics (Sound, Light, and Modern Physics) .....	4
T.A.M. 150—Analytical Mechanics (Statics) .....	2	T.A.M. 211—Analytical Mechanics (Dynamics) .....	3
Social Science or Humanities Elective <sup>3</sup> .....	3	Social Science or Humanities Elective <sup>3</sup> .....	3
Physical Education .....	1	Physical Education .....	1
Military (Men) .....	1	Military (Men) .....	1

<sup>1, 2</sup>See Common Freshmen Program (Page 99).

<sup>3</sup>See list of approved electives (Pages 95 and 96).

# *College of Liberal Arts and Sciences*

The College of Liberal Arts and Sciences at the Chicago Undergraduate Division offers the first two years of work in the several professional, pre-professional, and general curricula offered in this college at the Urbana campus. In all these curricula, the first two years are devoted to general basic education, with increasing specialization in the last two years. A student who is not certain of his vocational objective at the time of his admission to college has an opportunity to do considerable educational exploration in his first two years and to change his vocational objective without additional time. Such a change after the beginning of the junior year usually can not be made without loss of time. It is assumed that except for pre-medical students, students will transfer to the Urbana campus upon completion of the two years' work at the Chicago Undergraduate Division, to continue in their chosen field at the junior level. Students desiring to transfer to institutions other than the Urbana campus of the University of Illinois should familiarize themselves with the requirements of the school of their choice, so that they may plan their work most effectively within the framework of University of Illinois requirements while at the Chicago Undergraduate Division.

The following Liberal Arts and Sciences curricula are offered at the Chicago Undergraduate Division: general, chemistry, chemical engineering, medical technology, medical record administration, physics, premedicine (complete three-year program), predentistry, prenursing, teacher-education, prelaw, preveterinary medicine, pre-journalism, combined liberal arts-engineering, and one year of occupational therapy, prepharmacy, forestry, and home economics. Content of the courses closely parallels that on the Urbana campus of the University of Illinois.

## **General Curriculum**

All students who do not elect to follow one of the specialized curricula described below enroll in the general curriculum. The general curriculum requires a number of basic courses in humanities, social studies and natural sciences, and a reading knowledge of at least one foreign language. Each student must select a major and a minor or a split minor in the field of concentration before beginning the last two years.

Because of the wide range of courses open to students in the general curriculum, it is not feasible to specify definite sequences of

courses to be taken by any student in each of the four years of this curriculum.

Under the guidance of an advisor, each student is expected to plan his own program within the general requirements outlined below. Students at the Chicago Undergraduate Division will find it to their advantage to complete the group requirements listed on pages 105, 106, and 107 in their first four semesters in the University.

### Summary of Requirements for Graduation

Each candidate for the degree of A.B. or B.S. in the general curriculum of Liberal Arts and Sciences must meet the following requirements:

- |  |   |
|--|---|
| Physical Education—Four semesters.   | Minor(s) — Twenty approved hours in one or two departments.   |
| Military Science—Four semesters, except that men transferring from the Chicago Undergraduate Division with sixty hours are exempt from this requirement. | Advanced hours—Thirty hours of credit in courses not open to freshmen and sophomores.   |
| Rhetoric—Rhetoric 101 and 102. (A student with "C" or "D" in Rhetoric 102 must pass the qualifying examination or take Rhetoric 200.)                    | Residence — Either first ninety hours uninterrupted, or last thirty hours uninterrupted at the University of Illinois in Urbana. For students at the Chicago Undergraduate Division, the junior or senior year (thirty semester hours) must be taken at Urbana. |
| Foreign Language—Equivalent of two college years in the same language.   | Average—3.0 ("C") minimum average in all work and in all work at Illinois.  |
| Biological Sciences <sup>1</sup> —Eight hours.   | Total hours—120 hours, excluding basic military and all physical education courses, with not more than one quarter of the work with a grade of "D".   |
| Physical Sciences <sup>1</sup> —Eight hours.   |   |
| Humanities <sup>1</sup> —Eight hours.  |   |
| Social Sciences <sup>1</sup> —Eight hours.   |   |
| Major—Twenty approved hours in one department.   |   |

<sup>1</sup>The eight hours must be taken in approved sequence, except that a major automatically satisfies one sequence.

### REQUIRED SUBJECTS

I. **Foreign Language.** A reading knowledge of a foreign language equivalent to that resulting from four semesters of study of a foreign language commenced in college. Completion of four years of foreign language in high school also satisfies this requirement. Proficiency examinations are offered in those languages which are included in the

curriculum of the College of Liberal Arts and Sciences. Students transferring from other colleges may present in satisfaction of the language requirement two years of college credit in a language not offered at the University of Illinois. Note: No credit toward graduation is given for a beginning course in a foreign language unless it is continued through a full year. Students planning to enter a graduate college are advised to obtain a reading knowledge of both French and German.

**2. General Education.** To be begun in the freshman year and completed before the senior year. Students at the Chicago Undergraduate Division will find it to their advantage to complete at least three of these requirements by the end of their fourth semester. Proficiency examinations may be taken for credit in some of these subjects.

An approved two-semester course or sequence of courses in each of the following areas, with a minimum of eight hours credit in each area, is required: (a) humanities, (b) biological sciences, (c) physical sciences, (d) social sciences. A major satisfies one sequence requirement.

## ELECTIVES

**1. Liberal Arts and Sciences.** Any course offered in the College of Liberal Arts and Sciences may be used as an elective.

**2. Other Colleges.** Electives totaling as much as but not more than thirty-two hours may be taken in other colleges and schools of the University and counted toward graduation from this college, in addition to the courses acceptable for major and minor requirements, if such electives are in conformity with the following list:

Accountancy. A total of 6 hours (including not more than one of the following courses: Accountancy 101, 201).

Agricultural Economics. A total of 6 hours.

Architecture. A total of 15 hours.

Art. A total of 15 hours, unless the student is majoring in history of art.

Aviation. A total of 3 hours.

Business Law. A total of 6 hours.

City Planning and Landscape Architecture. A total of 7 hours.

Dance. A total of 6 hours from Dance 240, 246.

Economics. All courses.

Education. A total of 20 hours.

Engineering. A total of 10 hours. However, a student in the combined LAS-Engineering curriculum may count all engineering courses toward the two degrees.

Finance. All courses.

Food Technology. A total of 6 hours.

Forestry. A total of 3 hours.

Home Economics. All courses.

Horticulture. A total of 6 hours.

Hygiene. A total of 2 hours.

Journalism. A total of 10 hours.

Law. A student of senior standing with an average of 3.5 who has been in residence either the first two years or the last year of his prelegal work may take and count toward the A.B. degree not to exceed 32 hours in the University of Illinois College of Law. A student of senior standing with an average of 3.5 who has completed his first three years (not less than 88 semester hours excluding basic military and physical education) in residence at the University of Illinois (a student at the Chicago Undergraduate Division must complete his junior year with at least 30 semester hours at Urbana) and who transfers to an accredited college of law other than that of the University of Illinois may

count 32 hours of law toward the A.B. degree. The applicant for the degree will petition the dean of the College of Liberal Arts and Sciences, who may approve the granting of the bachelor's degree if all the college and university requirements have been met, and the student is in good standing in the law school from which the credit is being transferred.

Library Science. A total of 20 hours.

Management and Marketing. A total of 6 hours. Typing, secretarial training, and shorthand may not be counted for credit.

Military. A total of 8 hours in advanced courses.

Music. A total of 15 hours approved by the director of the School, unless the student is majoring in music.

Physics. All courses.

## SPECIAL CURRICULA

### Chemistry and Chemical Engineering

The minimum language requirement for graduation in the following curricula in chemistry and chemical engineering is the equivalent of two years of college work in German or Russian. When a student does not offer either German or Russian for entrance, the second year of the language required for graduation may be counted as an elective in either curriculum, and should be taken in immediate sequence.

Students who enter with inadequate preparation in chemistry, mathematics, and foreign languages in high school will find it difficult to complete their professional training in chemical engineering in four years. The optional five-year curriculum is recommended especially for those who do not qualify for Chemistry 107 and Mathematics 123,

and who do not have two units of high school credit in Russian or German. Students should note that they must have a 3.5 general average for registration in these curricula after they have attained junior standing in the curriculum.

## Curriculum in Chemistry

		FIRST YEAR	
FIRST SEMESTER	17 HOURS	SECOND SEMESTER	17 HOURS
Chem. 107—General Chemistry <sup>1</sup> .....	.5	Chem. 108—General Chemistry and Qualitative Analysis .....	.5
German or Russian <sup>2</sup> .....	.4	German or Russian <sup>2</sup> .....	.4
Math. 112—College Algebra .....	.3	Math. 123—Analytic Geometry .....	.5
Math. 114—Trigonometry .....	.2	Rhet. 102—Rhetoric and Composition .....	.3
Rhet. 101—Rhetoric and Composition .....	.3	Physical Education	
Physical Education			
		SECOND YEAR	
FIRST SEMESTER	16 HOURS	SECOND SEMESTER	17 or 18 HOURS
Chem. 124—Quantitative Analysis .....	.5	Chem. 234—Organic Chemistry .....	.5
Math. 133—Calculus .....	.3	Math. 143—Calculus .....	.5
Physics 106—Mechanics .....	.4	Physics 107—Heat, Electricity, Magnetism .....	.4
Electives <sup>3</sup> .....	.3	Electives <sup>3</sup> .....	.2 or 3
Physical Education		Physical Education	

<sup>1</sup>All students with entrance credit in chemistry are required to take a placement examination before registering for Chemistry 107. Those who do not show the necessary proficiency will be placed in Chemistry 101 or 102, after which they will take Chemistry 106 and 110. For students without entrance credit in chemistry, the required sequence is Chemistry 101, 106, and 110.

<sup>2</sup>German and Russian are the only acceptable languages in this curriculum. The equivalent of two years of one of these languages is required.

<sup>3</sup>Suggested courses for electives are Biology 101, 111, 121, 131, 132; English 121, 122, 123; Geology 130, 150; History 151, 152; German. Of the total electives for graduation, at least twelve hours should be from advanced courses in chemistry and at least ten hours from courses offered by other departments.

## Curriculum in Chemical Engineering (Four Years)

		FIRST YEAR	
FIRST SEMESTER	16 HOURS	SECOND SEMESTER	15 to 18 HOURS
Chem. 107—General Chemistry <sup>1</sup> .....	.5	Chem. 108—General Chemistry and Qualitative Analysis .....	.5
G. E. 101—Elements of Drawing .....	.3	Math. 133—Calculus .....	.3
Math. 123—Analytic Geometry <sup>3</sup> .....	.5	Physics 106—Mechanics .....	.4
Rhet. 101—Rhetoric and Composition .....	.3	Rhet. 102—Rhetoric and Composition .....	.3
Physical Education		Electives <sup>2</sup> .....	.0 to 3
		Physical Education	
		SECOND YEAR	
FIRST SEMESTER	18 HOURS	SECOND SEMESTER	17 HOURS
Chem. 124—Quantitative Analysis .....	.5	Chem. 342—Elementary Physical Chemistry .....	.3
German or Russian .....	.4	Chem. 343—Physical Chemistry Laboratory .....	.1
Math. 143—Calculus .....	.5	German or Russian .....	.4
Physics 107—Heat, Electricity, Magnetism ..	.4	Physics 108—Sound, Light and Modern Physics .....	.4
Physical Education		T.A.M. 150—Analytical Mechanics (Statics) ..	.2
		Electives <sup>3</sup> .....	.3
		Physical Education	

## Optional Curriculum in Chemical Engineering (Five Years)

		FIRST YEAR	
FIRST SEMESTER	15 to 17 HOURS	SECOND SEMESTER	17 HOURS
Chem. 101 or 102—General Chemistry <sup>4</sup> ..	.5 or 3	Chem. 106—Inorganic Chemistry .....	.5
German or Russian .....	.4	German or Russian .....	.4
Math. 112—College Algebra .....	.3	Math. 123—Analytic Geometry .....	.5
Math. 114—Trigonometry .....	.2	Rhet. 102—Rhetoric and Composition .....	.3
Rhet. 101—Rhetoric and Composition .....	.3	Physical Education	
Physical Education			

		SECOND YEAR	
FIRST SEMESTER	17 HOURS	SECOND SEMESTER	18 HOURS
Chem. 110—Qualitative Analysis .....	.5	Chem. 124—Quantitative Analysis .....	5
German or Russian .....	4	German or Russian .....	4
Math. 133—Calculus .....	3	Physics 107—Heat, Electricity, Magnetism ....	4
Physics 106—Mechanics .....	4	Math. 143—Calculus .....	5
Physical Education		Physical Education	

<sup>1</sup>All students with entrance credit in chemistry are required to take a placement examination before registering for Chemistry 107. Those who do not show the necessary proficiency will be placed in Chemistry 101 or 102, after which they will take Chemistry 106 and 110. For students without entrance credit in chemistry, the required sequence is Chemistry 101, 106, and 110.

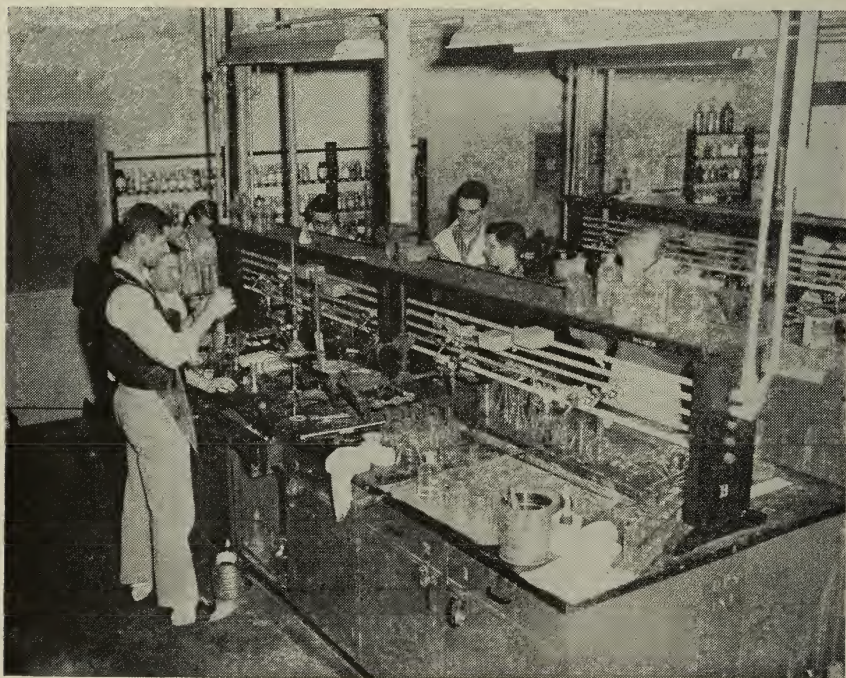
<sup>2</sup>Suggested courses for electives are Biology 101, 111, 121, 131, 132; English 121, 122, 123; Geology 130, 150; History 151, 152; German or French. Of the total electives for graduation, at least twelve hours should be from advanced courses in chemistry and at least ten hours from courses offered by other departments.

<sup>3</sup>Students without the required entrance credits in mathematics take Mathematics 112 (or 103), 114, 123, 133, and 143.

<sup>4</sup>Two years of German and/or Russian are required for the B.S. degree. Two units of high school credit in either of these languages is equivalent to one year of college credit. Students entering without German or Russian in high school may substitute the second year of the language requirement for the eight hours of electives referred to in footnote 5.

<sup>5</sup>Eight hours of electives must be chosen from the Divisions of Humanities or Social Sciences with the approval of the advisor. The courses are intended to broaden the engineer and provide an interest and liberal education in history, language, literature, philosophy, political science, or public speaking.

<sup>6</sup>Students who qualify for Chemistry 107 should take the Chemistry 107, 108, 124, 342 sequence rather than Chemistry 101, 106, 110, 124 and thus have five additional hours of advanced electives.



*Chemistry lab.*



## Combined Program in Engineering and Liberal Arts and Sciences

The Colleges of Engineering and Liberal Arts and Sciences offer a combined program of five years leading to a baccalaureate degree from each college. This curriculum requires 166 hours for graduation, exclusive of physical education and military science. It is possible to combine any of certain engineering curricula—aeronautical and astronautical, agricultural, civil, electrical, engineering mechanics, general, industrial, mechanical, metallurgical and mining, physics, industrial, ceramic—with any one of certain majors in Liberal Arts and Sciences—anthropology, classics, English, French, German, history, Latin, mathematics, philosophy, physics, political science, psychology, Russian, sociology, Spanish, speech. Other combinations will require more than ten semesters.

The first year is the program common to freshmen in Engineering and may be taken in either college. The second and third years are taken in Liberal Arts and Sciences, and the last two years are taken in Engineering. All graduation requirements of both colleges must be met.

Students entering this curriculum must meet the admission requirements of both colleges. A student dropping out of the program will be subject to the existing graduation requirements of the college of his choice. A student in the curriculum is governed by the probation and drop rules of the college in which he is registered. A student who completes the foreign language requirement in Liberal Arts and Sciences in less than four semesters must replace the hours thus released by work in social sciences or humanities.

Students transferring from the Chicago Undergraduate Division must plan to complete at least one year in the College of Liberal Arts and Sciences and two years in the College of Engineering at Urbana.

Graduation will be from both colleges simultaneously on completion of the entire program.

Transfer students who have more than 40 hours are generally ineligible for this program. Applications from transfer students for the combined program must be made at least six weeks in advance of the opening of the term.

## Forestry Curriculum

Students may take the first year of the four-year forestry curriculum, administered by the College of Agriculture at Urbana, at the Chicago Undergraduate Division. Courses for the freshman program in forestry should be chosen only after consultation with the dean of the College of Liberal Arts and Sciences.

## Home Economics Curriculum

Students planning to major in home economics may profitably attend the Chicago Undergraduate Division for one year. Courses for the freshman program in home economics should be chosen only after consultation with the dean of the College of Liberal Arts and Sciences.

## Predental Curriculum

Students applying for admission to the predental curriculum must have ranked in the upper half of their high school graduating classes. They must maintain a minimum average of 3.5 at all times in the curriculum. Since the function of the predental years is to supply a general background for the student as well as specific training in the fundamental concepts of the sciences, the elective hours include social sciences, humanities, and at least one modern language.

The specific requirements for admission to the College of Dentistry are as follows:

	SEMESTER HOURS
Chemistry (including three hours of quantitative analysis and four hours of organic chemistry—Chemistry 101 or 102, 105, 122, and 133) .....	12
Physics (Physics 101 and 102) .....	6
Biology (including general zoology <sup>1</sup> ) .....	6
Rhetoric and Composition (Rhetoric 101 and 102) .....	6
Electives (Social Sciences, Humanities, and at least one modern language; excluding military, hygiene, and physical education) .....	30
Total .....	60

<sup>1</sup>The general zoology requirement may be met by Biol. 101 and 131 or Biol. 101 with a grade of "B."

## Prejournalism Curriculum

Students planning to enter the College of Journalism and Communications register as prejournalism freshmen and sophomores, and follow the general curriculum in the College of Liberal Arts and Sciences. Courses in English literature and rhetoric, foreign languages, physical sciences, and social studies are recommended as desirable preparation for the profession of journalism. The ability to use a typewriter should be acquired before entering the junior year.

For admission to the College of Journalism and Communications as a candidate for a degree, a student must have completed fifty-six semester hours of work in one of the undergraduate curricula, exclusive of required courses in physical education and military training, with an average grade of 3.5. An applicant for admission will find it to his advantage to include in his prejournalism curriculum courses in economics, English, history, foreign languages, political science, psychology, and sociology.

The College of Journalism and Communications offers the following curricula: editorial, advertising, publication, management, and radio-television.

### Prelaw Curriculum

The prelegal courses constitute a highly important phase of the education of students planning the study of law, and this work should be planned with care. Students contemplating the study of law are advised to consult with the Student Counseling Service at the Chicago Undergraduate Division relative to their interests and aptitudes for law.

Students taking the curriculum leading toward degrees in both Liberal Arts and Law comply with the graduation requirements in the general curriculum, and must transfer to Urbana for the junior year. Such students are urged to complete all requirements except the minor and advanced hours before entering the College of Law. The prospective law student is advised to choose his work, beyond those subjects prescribed in liberal arts, from among the following fields: English, with special emphasis on rhetoric; speech; political science; history, with emphasis on American and English constitutional history; economics; philosophy, and particularly logic; psychology; sociology; mathematics; and accountancy.

### Premedical Curriculum

Any freshman whose scholastic rank is in the upper half of his high school graduating class is eligible for admission to the premedical curriculum. Premedical students must maintain a 3.5 average at all times to remain in the curriculum. A student transferring to this college with advanced standing must meet this standard in terms of the University's grading system in order to be admitted to the premedical curriculum.

The specific requirements for admission to the College of Medicine at the University of Illinois are as follows:

	SEMESTER HOURS
Non-Science Courses (32 semester hours required)	
English .....	6
Foreign Language .....	6*
Social Science and Humanities (at least three hours from each area) .....	16
Electives .....	4
Laboratory Sciences (32 semester hours required)	
Biology (including laboratory courses in general zoology, vertebrate zoology or comparative anatomy, and embryology) .....	10
Chemistry (including in addition to introductory courses, four hours of organic chemistry and three hours of quantitative analysis) .....	14
Physics (including nuclear physics and laboratory work in mechanics, heat, sound, light, and electricity) .....	8
Upper division courses in one area .....	6
Free Electives .....	24
Physical Education, 4 semesters .....	4
Total .....	94

\*Waived for students with four units of high school language in one language; must be replaced by Social Science and/or Humanities.

## Medical Technology

Three-year preprofessional curriculum in General Medical Technology. For admission to the Chicago Professional Colleges, a student must have completed 90 semester hours (exclusive of physical education and military science) with at least a 3.0 average.

The curriculum is as follows:

Rhetoric 101 and 102  
Chemistry 101, 102, 105 (or 107, 108, or 109 in place of the corresponding courses), 122, 133  
Mathematics 103 and/or 114  
Physics 101, 102 (or 106, 107, 108)  
Biological Science: 13 hours chosen from the biological sciences, including courses in microbiology  
Foreign Language: Completion of four semesters in college or equivalent  
Social Science and Humanities: An approved General Education sequence  
Electives: Amount necessary to complete 90 hours, exclusive of military and physical education, with at least 6 hours in advanced courses in one department  
Physical Education: 4 semesters

## Medical Record Library Science

The first two years of a three-year pre-professional curriculum in Medical Record Library Science.

The curriculum requires a total of 90 semester hours (exclusive of physical education and military with a grade point average of at least 3.0.

The required courses at this campus are as follows:

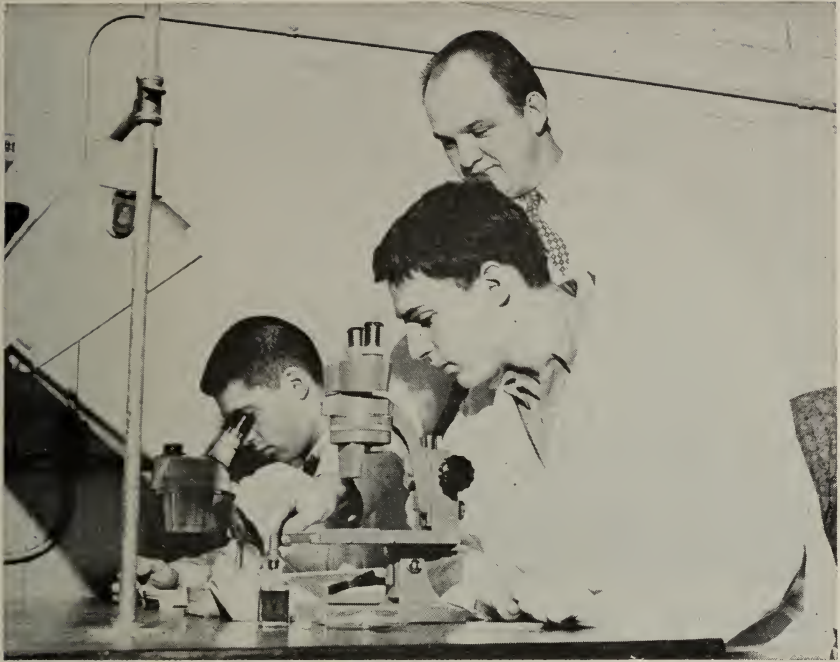
Rhetoric 101, 102  
Foreign Language: Completion of four semesters in college, or equivalent.  
General Education: Approved sequences in humanities and physical science.  
Social Science: Psychology 100 and 105.  
Biological Science: Biology 101 and 141. The Biology Department will approve of 141 following 101 for students in this Curriculum.

## Prepharmacy Curriculum

Admission to the College of Pharmacy of the University of Illinois requires favorable action by the Admissions Committee of that college. To be eligible for consideration by the Committee a student must: (1) present six hours of rhetoric, one year of general chemistry, five hours of college algebra and trigonometry; (2) have a total of thirty hours of credit excluding hygiene, military science, and physical education; (3) have a grade point average of at least 3.0.

The specific requirements can be met at the Chicago Undergraduate Division through Rhetoric 101, 102; Chemistry 102 (101), 105; Mathematics 112, 114. These courses total 19-21 hours. The additional work will be taken in foreign language, as required in Liberal Arts and Sciences, social sciences, and/or humanities. Students deficient in preparation for Mathematics 112 will start with Mathematics 103.

Students who transfer into this curriculum at the end of their first semester may find it necessary to complete the requirements in the Summer Session.



*Comparative Anatomy.*

### Curricula in Nursing

The University offers two degree programs leading to a Bachelor of Science in Nursing. One is for students direct from high school, the second is a continuation program for registered nurses who meet a specific set of requirements. Each program is made up of two phases—a preprofessional year in the College of Liberal Arts and Sciences, and the professional phase administered by the College of Nursing.

Admission to the preprofessional year in both programs is restricted to students from the upper half of the high school class who are eligible to enter the College of Liberal Arts and Sciences. Transfer students must have a 3.0 scholastic average.

Admission to the professional phase is on recommendation of the Admissions Committee of the College of Nursing after completion of the following preprofessional year:

	SEMESTER HOURS
Rhetoric 101 102 .....	2
Chemistry 102 (or 101), 132 .....	6-7
Biology 101 .....	4
Humanities .....	6-8
Social Sciences .....	6-8
Electives .....	
Physical Education .....	
Totals .....	30

Specific questions on both programs should be addressed to the Dean of the College of Nursing, 1853 W. Polk Street, Chicago 12, Illinois.

## Occupational Therapy

The University offers a baccalaureate degree program in occupational therapy, open both to men and women, and requiring six semesters of work in the College of Liberal Arts and Sciences and five quarters in the College of Medicine. The first year may be taken at the Chicago Undergraduate Division.

Admission to the curriculum is restricted to students from the upper half of the high school graduating class, who are in good health as determined by a physical examination, and who are approved by the Director of the curriculum. A 3.5 average is required for admission to the professional phase of the curriculum.

The work of the first year is as follows:

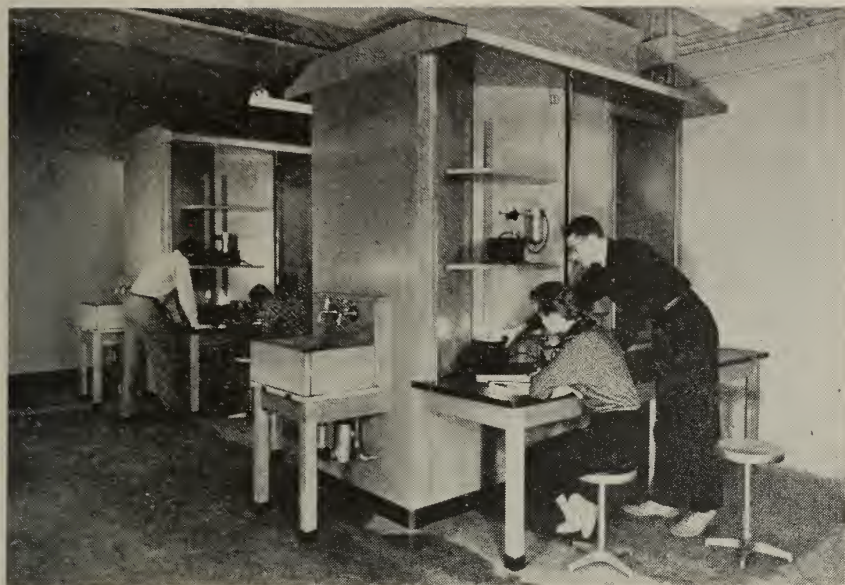
	SEMESTER HOURS
Rhetoric 101, 102 .....	6
Biology 101, 141 .....	8
Art 181, 182 .....	4
Speech 101 .....	3
Hygiene 104 .....	2
Electives (foreign language, social science, humanities) ...	8-10
Physical Education .....	3
Total .....	31-33

## Curriculum in Physics

The curriculum in physics is recommended for students who plan to enter graduate study in physics or who wish to prepare to enter government or industrial laboratory research positions upon attaining the B.S. degree. It specifies the courses essential to a strong foundation in physics and permits concentration in the first two years on basic courses which are prerequisite to advanced courses in physics and mathematics.

It is planned for a student entering with four years of high school mathematics, including trigonometry (see, however, footnote 1 following curriculum), a year of chemistry, and no French or German. A student who can satisfy the college language requirement on entering has the distinct advantage of adding 16 hours of electives to his course of study. A student who has a year of high school biology will also have more freedom in choice of electives (see footnote 4 following curriculum).

To enter the physics curriculum, an entering freshman must rank in the upper half of his high school class. To be permitted to register in advanced physics or mathematics courses in this curriculum, students must have a grade average of at least 3.5 in all subjects, exclusive of the basic courses in military science and physical education, and a combined grade average of at least 3.5 in all courses completed in physics and mathematics. Transfer students must have a corresponding record in the institution from which they transfer.



*Physics Experiments.*

FIRST SEMESTER		FIRST YEAR		SECOND SEMESTER	
	16 HOURS		16 OR 17 HOURS		
Math. 123—Analytic Geometry <sup>1</sup> .....	5	Math. 133—Calculus <sup>1</sup> .....	3	Chem. 104—Chemistry of the Metallic Elements <sup>2</sup> .....	4
Chem. 103—General Chemistry <sup>2</sup> .....	4	German or French <sup>3</sup> .....	4	Rhet. 102—Rhetoric and Composition .....	3
German or French <sup>3</sup> .....	4	Rhet. 101—Rhetoric and Composition .....	3	Elective .....	2 or 3
Physical Education .....		Physical Education .....			
FIRST SEMESTER		SECOND YEAR		SECOND SEMESTER	
	17 HOURS		15 HOURS		
Math. 143—Calculus <sup>1</sup> .....	5	Math. 345—Differential Equations and Orthogonal Functions .....	3	Physics 107—General Physics .....	4
Physics 106—General Physics .....	4	German or French <sup>3</sup> .....	4	Elective <sup>4</sup> .....	4
German or French <sup>3</sup> .....	4	Physical Education .....			
Elective <sup>4</sup> .....	4				
Physical Education .....					

<sup>1</sup>The prerequisite to entering the stated sequence in mathematics is three to four years of high school mathematics, including trigonometry, and a satisfactory grade on the mathematics placement examination. Students having college credit for algebra and trigonometry are not required to take the examination. A student who does not meet the above prerequisite may meet the requirements in basic mathematics with the sequence Math. 112, 114, 123, 133, 143, but he will receive only 13 hours credit toward the degree.

<sup>2</sup>The chemistry requirement may be satisfied by a year of general chemistry selected from courses Chem. 101 through 108, or by the one-semester course, Chem. 109. A maximum of eight hours in general chemistry will be counted toward the degree, except that ten hours will be allowed for Chem. 107 and 108.

<sup>3</sup>The language requirement is a reading knowledge of German or French. A student planning to enter graduate study should attain a reading knowledge of both German and French.

<sup>4</sup>The elective subjects must include at least 24 hours of course work in humanities, social sciences, and biological sciences. The courses must satisfy the general education requirements of the college, except that students offering one unit or more of biology for admission may substitute additional courses in humanities and social sciences for biological sciences. Students will be advised to include six to eight hours of physics and three to six hours of mathematics among the remaining electives.

## Teacher Education Curricula

Of the curricula in teacher education which have been approved by the College of Liberal Arts and Sciences, work in thirteen curricula is offered at the Chicago Undergraduate Division as follows: biology, chemistry, English, French, geography, German, mathematics, physics, social studies, Spanish, speech, and speech correction. In order to meet graduation and state certification requirements, these curricula are relatively rigid, and failure to take the prescribed courses of the first two years within that time may result in an additional semester of undergraduate work.

While these curricula vary considerably from one another, the common core of the first two years is as follows:

	FIRST YEAR SEMESTER	SECOND YEAR HOURS
Physical Education .....	2	2
Rhetoric 101, 102 .....	6	
Speech 101 .....	3	
Foreign Language (until a 104 course is completed) .....	8	8
Science .....	6-8	
English or Social Studies as required .....		6-8
Specific requirements, Education 101, History 151 or 152, Political Science 150, Psychology 100 .....		13
Work in major teaching field and electives .....	3-7	4-6
	<hr/>	<hr/>
Total .....	30-32	32-34

The first two years of the elementary education curriculum, which is designed to meet the requirements for teaching in the elementary and kindergarten-primary grades of Illinois schools, are also administered by this college.

The work of the first two years in this curriculum has the following pattern:

	FIRST YEAR SEMESTER	SECOND YEAR HOURS
Physical Education .....	2	2
Rhetoric 101, 102 .....	6	
Speech .....	2-3	
Language arts .....	6-8	
Science, biological and physical .....	8	8
Social Studies .....	8	
Specific requirements, Education 101, Geography 104, History 151 or 152, Political Science 150, Psychology 100 .....		16
Electives .....		7-9
	<hr/>	<hr/>
Total .....	32-34	32-34

Admission to the curricula preparatory to teaching deaf and hard-of-hearing children or mentally handicapped children requires the meeting of qualitative and physical requirements and a personal interview. The determination of courses will be made with a teacher education advisor.





*Future teachers.*

### **Admission to Advanced Standing in Teacher Education**

Continuation in teacher education programs requires admission of the student to advanced standing in teacher education. Application for admission to advanced standing must be made early in the first semester of the sophomore year. A student who transfers to a teacher education curriculum with more than sophomore standing must apply for admission to advanced standing early in his first semester of attendance. Information about the procedure for applying for advanced standing is available from the Director, Division of Education, Room 36.

Admission to advanced standing is determined on the basis of the applicant's academic and personal qualifications for teaching. The completion of certain standardized tests is required. The record of an applicant whose academic average is below 3.5 is subject to special study.

Admission to advanced standing in teacher education is prerequisite to admission to education practice (student teaching). A student who is admitted to advanced standing in teacher education is admitted to the educational practice course unless there is subsequent deterioration in his record.

### **Preveterinary Curriculum**

The two-year preveterinary curriculum in the College of Liberal Arts and Sciences is followed by the four-year curriculum in the College of Veterinary Medicine in Urbana. Students applying for

admission to the preveterinary curriculum must rank in the upper half of their high school graduating classes. Students transferring with advanced standing must have maintained at least a 3.5 average in terms of the University's grading system. Students must maintain at least a 3.5 average to remain in the curriculum.

The specific requirements for admission to the College of Veterinary Medicine at Urbana are as follows:

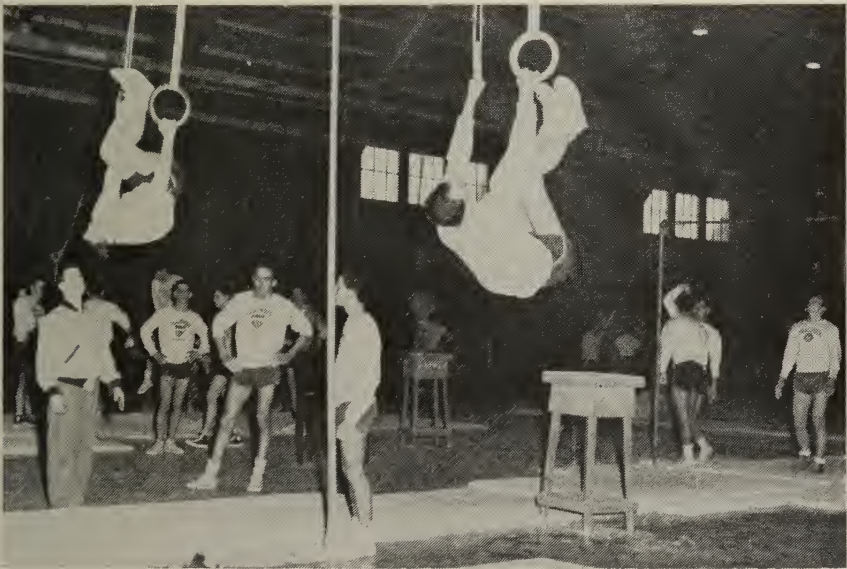
	SEMESTER HOURS
Chemistry (including organic and quantitative analysis—Chemistry 101 or 102, 105, 122, and 133) .....	16
Biological Sciences (including botany and general zoology) .....	8
Physics (including laboratory—Physics 101 and 102) .....	8
Foreign Language .....	6
Rhetoric and Composition (Rhetoric 101 and 102) .....	6
Electives in not less than two of the following fields: economics, fine arts, language, geography, history, literature, philosophy, political science, psychology, sociology, speech. Approximately one-half of these credits should be in social sciences.....	9
Free electives .....	7
Total .....	60

The preveterinary curriculum is extremely rigid, and failure to register in the prescribed courses in the proper sequence may result in an additional semester of study.

# *Division of Physical Education*

All students entering the university as freshmen are required to obtain four semesters credit in physical education. Each student is given a health examination and a placement test before registration. The findings of the Health Service and the results of the placement test are used as a basis for prescribing each student's program. Students with handicapping defects are assigned prescribed activities. Students with low placement scores are assigned to basic physical fitness courses. Students who are organically sound and demonstrate a fair degree of motor fitness are permitted to elect from a variety of activity courses. All general courses in physical education meet three times a week for one hour or two times a week for one and one-half hours. All non-professional courses in physical education carry one hour credit.

Men entering the University with less than sixty semester hours credit are required to secure four semesters credit in physical education, including the amount transferred. In addition to a basic physical fitness program, men are offered instruction in volleyball, badminton, swimming, individual tumbling, double tumbling, apparatus stunts,



*Physical Education class—apparatus.*

boxing, wrestling, weight lifting, archery, boating and fishing, basketball, back yard sports, personal defense activities, individual athletics, and intercollegiate and intramural athletics.

Veterans who have fulfilled the physical education requirement while in the service are exempt from taking physical education. Veterans are encouraged to utilize the physical education facilities, but additional credit will not be granted except as elective credit in the College of Business Administration.

Women entering the University as freshmen are required to obtain four semesters credit in physical education; those entering the University with sophomore standing are required to obtain credit for two semesters of physical education. Women are offered instruction in elementary and intermediate rhythms, ballroom dance, speedball, modified activities, basketball, volleyball, softball, badminton, tumbling, apparatus stunts, fundamentals of motor fitness, archery, folk and square dance, boating and fishing, swimming, golf, and bowling. Women's classes are held in the Auditorium at the east end of the Pier. Through the Women's Athletic Association and Orchesis, the modern dance group, women students are offered wide opportunities for extracurricular activities in sports and the dance.

## PROFESSIONAL CURRICULA

In addition to the service program, the Division of Physical Education offers the first two years of a four-year program leading to the degree of Bachelor of Science in Physical Education, for both men and women. Men desiring to major in Recreation or Health Education, and women desiring to major in Dance, may take at least one year of work at this Division. Complete information concerning the professional curricula is available at the office of the Director of the Division of Physical Education (for men) and from the Head of the Department of Physical Education for Women.

### Curriculum in Physical Education for Men

		FIRST YEAR	
FIRST SEMESTER		SECOND SEMESTER	
P.E.M. 150—Professional Orientation .....	2	P.M.M. 155—Gymnastics .....	1
P.E.M. 151—Beginning Basketball .....	2	P.E.M. 156—Wrestling .....	1
P.E.M. 152—Beginning Football .....	2	P.E.M. 157—Track & Field .....	1
Speech 101—Prin. of Effect. Sp. ....	3	P.E.M. 158—Baseball .....	1
Rec. 174—Camp Counseling .....	3	Biol. 101—Fundamentals of Biol. ....	4
Hyg. 104—Science of Per. Health .....	2	Rhet. 102—Rhetoric & Comp. ....	3
Rhet. 101—Rhetoric & Composition .....	3	Hyg. 110—Public Health .....	2
	17	Humanities Elective .....	3
			16

SECOND YEAR

FIRST SEMESTER		SECOND SEMESTER	
P.E.M. 153 Fitness Programs .....	2	Rec. 170—Outdoor Rec. Spts. ....	2
P.E.M. 154—Swimming .....	2	Rec. 171—Indoor Rec. Spts. ....	2
Rec. 176—Principles of Rec. ....	3	Dance 235—Square & Ballrm. ....	2
Pol. Sci. 150—American Government .....	3	P.E.M. 209—History of Spt. ....	3
Psych. 100—Introduction to Psych. ....	4	History 152—American History .....	4
Education 201—Found. of Am. Ed. ....	2	Rhet. 151—Bus. Letter Writ. ....	3
	<u>16</u>	Electives .....	2
			<u>18</u>

Curriculum in Physical Education for Women

A minimum of 132 hours of credit, counting physical education, is required for graduation.

FIRST YEAR

FIRST SEMESTER	HOURS	SECOND SEMESTER	HOURS
P.E.W. 150—Professional Orientation .....	2	P.E.W. 152—Volleyball and Softball .....	1
P.E.W. 151—Body Mechanics and Gymnastics. 1		Dance 160—Beginning Contemporary Dance ..	1
P.E.W. 110—Swimming .....	1	Rhet. 102—Freshman Rhet. and Comp. ....	3
Rhet. 101—Freshman Rhet. and Comp. ....	3	Speech 101—Principles of Effective Speaking ..	3
Biol. 101—Fundamentals of Biology .....	4	Psych. 100—Introduction to Psychology .....	4
Hygiene 104—The Science of Personal Health. 2		Gr. Elective .....	3
Gr. Elective .....	3	P.E.W. Elective .....	1
P.E.W. Elective .....	1	Total .....	16
Total .....	17		

SECOND YEAR

FIRST SEMESTER		SECOND SEMESTER	
P.E.W. 153—Hockey, Soccer and Basketball ..	1	P.E.W. 154—Tumbling and Tennis .....	1
Dance 235—Square and Ballroom Dance ....	2	P.E.W. 166—Elementary School Games ....	2
H.E. 281—First Aid .....	2	P.E.W. 201—Badminton, Archery, Track	
Pol. Sci. 150—American Government .....	3	and Field .....	1
Gr. Elective .....	2	Ed. 109—Educational Psychology .....	3
Group Elective or Minor .....	6	Hist. 152—History of U. S. from 1865 to	
P.E.W. Elective .....	1	Present .....	4
Total .....	17	Free Elective or Minor .....	5
		P.E.W. Elective .....	1
			<u>17</u>

# *U. S. Army Reserve Officers' Training Corps*

## **Purpose**

The principal objective of this program is to develop commissioned officers for the Army Reserve and the Regular Army. It is specifically designed to enable potential leaders to prepare themselves for effective service in the Army and offers individual training in developing essential qualities of leadership required to achieve success in either a civilian occupation or a military career.

## **Participation**

The ROTC course is offered to qualified male students on a voluntary basis. Qualifications for enrollment are:

1. U.S. citizenship. Non-citizens may be informally enrolled providing they present written evidence of intent to become citizens.
2. Classification as a full-time student.
3. Age from 14 to 23 years.
4. Successful completion of physical examination.

*Note* 1. Students who voluntarily enroll in ROTC thereby become obligated to fulfill the University degree requirement in Military Science, namely, successful completion of the basic course.

2. Credits shown with courses of instruction are University credits. These may or may not coincide with college and/or departmental credits. Be sure and check with your college.

## **Program of Instruction**

College level ROTC instruction is divided into two parts: the basic course, which comprises the first two years of the program, and the advanced course, which comprises the last two years of the program.

### **Basic Course: Freshman and Sophomore Years**

The first two years of military training are designated as the basic course. Students in the basic course devote three hours a week to military instruction which consists of two hours of classroom instruction

and one hour of drill. Credit for the basic course is one credit hour each semester. A student entering the University of Illinois after successfully completing military training at a high school or preparatory school which has an accredited Junior Division ROTC program will be entitled, upon enrollment, to such placement as may be determined by the Professor of Military Science. In no case will this placement exceed the first year of the basic course. Active duty may be substituted at the rate of six months active duty for each year of the basic course.

Students receive an Army green uniform and textbooks at Government expense. Equipment and supplies are provided on a loan basis and must be returned at the close of the school year. A deposit of \$10 is required prior to issue of equipment. This deposit, through the Military Property Custodian, is refundable at the close of the school year.

### **Advanced Course: Junior and Senior Years**

All students who have successfully completed the basic course and who meet the physical and academic requirements are eligible for selection to the Advanced Course. Entrance into the Advanced Course is limited to the number authorized by the Department of the Army.

In addition to four semesters of college subjects, each student must attend ROTC Summer Camp, usually following his junior year. The summer camp is normally six weeks in duration.

A subsistence allowance of approximately twenty-seven dollars (\$27.00) per month is paid to each student. This allowance is paid from the first day of the beginning of the Advanced Course until the day of graduation from the ROTC program, except while attending summer camp.

Students attending ROTC Summer Camp receive \$109.20 for attendance plus five cents per mile each way for travel expenses. Meals, housing, medical care, uniforms, and all equipment are furnished free of charge at ROTC Summer Camp.

### **Commissioning**

Upon successful completion of the Advanced Course and completion of degree requirement, students will be commissioned as Second Lieutenants in the United States Army Reserve and a few will be offered commissions in the Regular United States Army. The student

may select the branch of the Army in which he desires to serve from the following list:

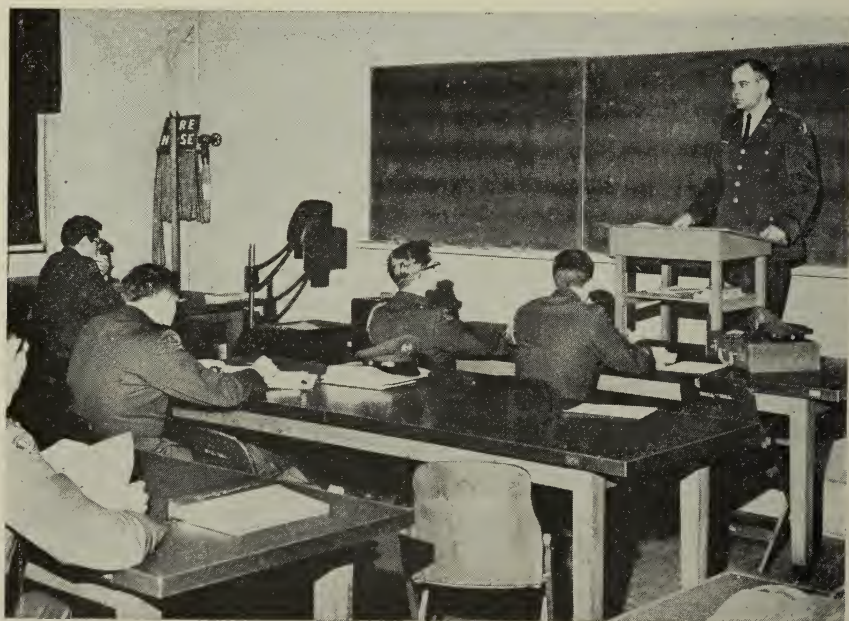
Adjutant General's Corps	Medical Service Corps
Armor	Military Intelligence
Army Security Agency	Military Police Corps
Artillery	Ordnance Corps
Chemical Corps	Quartermaster Corps
Corps of Engineers	Signal Corps
Finance Corps	Transportation Corps
Infantry	

The Department of the Army makes the final decision as to branch assignment using the following criteria as a basis:

- a. Overall needs of the Army.
- b. Student's preference.
- c. Academic subjects studied at the University.
- d. Leadership ability.

### Deferment From Selective Service

Deferment from Selective Service is granted until completion of the four-year course to those students who are qualified and approved by a deferment board composed of military and civilian faculty personnel. Deferred students will retain their deferment throughout their course in military, provided they maintain the required standards.



*A good soldier is born in the classroom.*



# Courses of Instruction

The following list of undergraduate courses is arranged in alphabetical order. The courses offered by each department are listed numerically in groups with headings to indicate the students for whom they are designed. Courses for undergraduates (freshmen and sophomores) are numbered 100 to 199; those for advanced undergraduates (junior and seniors), are numbered 200 to 399. *Most* courses are given each semester. See, however, semester timetable for precise offerings.

Students having ninety or more hours of credit, without regard to the college in which they may be enrolled, are classified as seniors for the purpose of designating those freshman courses which, when taken by seniors, carry reduced credit.

Following the title of each course is a description of its content, the credit given, and the requirements for admission to the course, if any.

## ACCOUNTANCY

**Accy. 101. Principles of Accounting. Credit 3 hours.** Beginners' course. Simple transactions, general ledger accounts, books of original entry, closing process, trial balances, financial statements, accounting for negotiable instruments, controlling accounts, adjusting entries. Students with 90 or more credit hours receive only 2 hours credit.

**Accy. 105. Accounting Procedure. Credit 3 hours.** Relation of business documents to the accounts; fundamentals of partnership and corporation accounting, business forms and records; payroll accounting; single entry; financial statement analysis. Students with 90 or more credit hours receive only 2 hours credit. Prerequisite: Accountancy 101.

**Accy. 106. Elementary Cost Accounting. Credit 3 hours.** Accounting for production management. Principles and methods of accounting for managerial control of costs of production. Prerequisite: One year of accountancy; sophomore standing.

**Accy. 108. Intermediate Accounting. Credit 3 hours.** Consideration at the intermediate level of accounts and transactions peculiar to the partnership and corporation types of organization and of modern basic concepts of accounting theory; interpretation of financial statements and analysis of the principal accounts represented therein. Prerequisite: One year of accountancy; sophomore standing.

**Accy. 274. Federal Income Tax Accounting. Credit 3 hours.** Basic discussion of history, theory, and broad outlines of federal income taxation, together with the more important problems of a less advanced and difficult nature. Prerequisite: Accountancy 108.

**Accy. 308. Advanced Accounting. Credit 3 hours.** Reserves, sinking funds, actuarial methods, investments, partnerships, statements for special purposes, receiverships, consolidated balance sheets, foreign exchange. Prerequisite: Accountancy 106 and 108; an average of 3.0 in preceding courses in accountancy.

# ANTHROPOLOGY

**Anthro. 102. Introduction to Anthropology: The Origin of Man and Culture. Credit 4 hours.** An introduction to and general survey of human origins and early man, physical anthropology, race and racism, linguistics, archaeology and the beginning of human civilization. Recommended though not required to be taken with Anthropology 103 as a survey of the field of anthropology. This course with Anthropology 103 satisfies the social science requirement in Liberal Arts and Sciences.

**Anthro. 103. Introduction to Anthropology: The Growth of Culture. Credit 4 hours.** An introduction to and survey of the development of cultures with special attention to invention, diffusion, adaptation, integration, and other processes of cultural growth as illustrated by primitive and native populations of the world. Recommended though not required to be taken with Anthropology 102 as a survey of the field of anthropology. This course with Anthropology 102 satisfies the social science requirement in Liberal Arts and Sciences.

# ARCHITECTURE

**Arch. 101. Introduction to Architecture. Credit 3 hours.** Introduction to the building industry and the profession of architecture, exercises illustrating basic architectural forms and their organization. Prerequisite: Credit or registration in General Engineering 107.

**Arch. 113. History of Ancient Architecture. Credit 2 hours.** A description and analysis of the development of the architecture of the ancient East, Greece and Rome, related to the environmental and cultural setting. Prerequisite: Architecture 131 or sophomore standing.

**Arch. 131. Architectural Design. Credit 3 hours.** Beginning study of architectural planning and designing. Fundamentals of sketching and presentation. Prerequisite: Sophomore standing, Arch. 101, credit in G.E. 108, and registration in Arch. 141.

**Arch. 132. Architectural Design. Credit 3 hours.** Continued study of the fundamentals of architectural design. Prerequisite: Architecture 131.

**Arch. 141. Materials and Methods of Construction I. Credit 2 hours.** Wood frame construction as used in houses; manufacture and performance characteristics of materials; farming systems; typical details; finishing materials. Prerequisite: Registration in Architecture 131, and credit in G.E. 108.

**Arch. 142. Materials and Methods of Construction II. Credit 2 hours.** Non-fire resistance construction; manufacture and performance characteristics of materials; support systems; typical details; finishing materials. Lectures and drawings. Prerequisite: Architecture 141.

**Arch. 214. History of Medieval Architecture. Credit 3 hours.** A description and analysis of the development of medieval architecture in Europe and the East related to the environmental and cultural setting. Prerequisite: Architecture 113 or consent of instructor.

**Arch. 215. History of Renaissance and Baroque Architecture. Credit 3 hours.** A description and analysis of the development of Renaissance and baroque architecture related to the environmental and cultural setting. I, II; 3. Prerequisite: Architecture 214 or consent of instructor.

- Arch. 233. Architectural Design. Credit 3 hours.** Continued study of architectural planning with emphasis on small structures. Prerequisite: Architecture 132; credit or registration in Theoretical and Applied Mechanics 150 or 171; registration in Architecture 241.
- Arch. 234. Architectural Design. Credit 3 hours.** Continued study of architectural planning. I, II; 3. Prerequisite: Architecture 233.
- Arch. 241. Materials and Methods of Construction, III. Credit 2 hours.** Semi-fire resistive construction; manufacture and performance characteristics of materials; framing systems; typical details; finishing materials. I, II; 2. Prerequisite: Architecture 142; registration in Architecture 233.
- Arch. 242. Materials and Methods of Construction, IV. Credit 2 hours.** Fire-resistive construction; modular dimensioning; industrial structures; long span systems; tall and high-hazard buildings. Prerequisite: Architecture 241.
- Arch. 245. Structural Elements. Credit 3 hours.** Graphical and algebraic analysis of forces; centroids; moments of inertia; bending moments; shear, and deflection in beam design; truss loadings and stresses, kerns, pressures, shear, and moments in masonry structure. Use of the handbooks. Prerequisite: Physics 101; Theoretical and Applied Mechanics 172 or 221.

## ART

- Art 111. Survey of Art History. Credit 3 hours.** Cultural analysis of the interrelated fields of architecture, sculpture, painting, and other humanistic studies previous to the Italian Renaissance.
- Art 112. Introduction to Renaissance and Modern Art. Credit 3 hours.** Cultural analysis of the interrelated fields of architecture, sculpture, painting, and other humanistic studies beginning with the Italian Renaissance and continuing through the modern period.
- Art 115. Art Appreciation. Credit 3 hours.** An introduction to the factors inherent in architecture, sculpture, painting, and other arts. Primarily for non-art students.
- Art 117. Drawing I. Credit 3 hours.** Theory and practice in the elements of drawing.
- Art 118. Drawing II. Credit 2 hours.** Continuation of Art 117. Prerequisite: Art 117.
- Art 119. Design. Credit 2 hours.** Theory and practice in the elements of design.
- Art 120. Design. Credit 3 hours.** Continuation of Art 119. Prerequisite: Art 119.
- Art 121. Drawing Theory. Credit 2 hours.** Orthographic, oblique, isometric projections, and perspective. Not open to students expecting a degree in architecture. Students with 90 or more credit hours receive only 1 hour credit.

- Art 122. Drawing Theory. Credit 2 hours.** Continuation of Art 121. The science of shades and shadows on orthographic, oblique, isometric projections, and perspective. Not open to students expecting a degree in architecture. Students with 90 or more credit hours receive only 1 hour credit. Prerequisite: Art 121.
- Art 125. Life Drawing. Credit 2 hours.** Prerequisite: Art 118.
- Art 126. Life Drawing. Credit 2 hours.** Continuation of Art 125. Prerequisite: Art 125.
- Art 127. Drawing, III. Credit 3 hours.** Drawing from figure, still life, and landscape forms in various media. Prerequisite: Art 118.
- Art 128. Drawing, IV. Credit 3 hours.** Continuation of Art 127. Prerequisite: Art 127.
- Art 129. Anatomy, I. Credit 2 hours.** Lecture and studio practice in the skeletal and muscular structure of the human figure. Prerequisite: Art 118.
- Art 130. Anatomy, II. Credit 2 hours.** Continuation of Art 129. Prerequisite: Art 129.
- Art 131. Elementary Composition. Credit 2 hours.** Pictorial composition in line, pattern, and color. Prerequisite: Art 118 and 120.
- Art 132. Elementary Composition. Credit 2 hours.** Continuation of Art 131. Prerequisite: Art 131.
- Art 133. Design Workshop. Credit 2 hours.** Fundamentals of three-dimensional design. Primarily for students in the industrial curriculum. Prerequisite: Art 118 and 120.
- Art 134. Design Workshop. Credit 2 hours.** Continuation of Art 133. Prerequisite: Art 133.
- Art 141. Still Life. Credit 2 hours.** Painting in oil from arranged groups. Prerequisite: Art 118 and 120.
- Art 142. Still Life. Credit 2 hours.** Continuation of Art 141. Prerequisite: Art 141.
- Art 151. Sculpture. Credit 2 hours.** Anatomical and ornamental forms: plaster molds and models; wood and stone sculpture. Prerequisite: Art 118 and 120.
- Art 152. Sculpture. Credit 2 hours.** Continuation of Art 151. Prerequisite: Art 151.
- Art 181. Freehand Drawing. Credit 2 hours.** Simple groups of block form, still life, and casts in pencil and charcoal. Primarily for students in architecture.
- Art 182. Freehand Drawing. Credit 2 hours.** Continuation of Art 181. Simple groups for block form, still life, and casts in pencil and charcoal. Primarily for students in architecture. Prerequisite: Art 181.

- Art 188. Freehand Drawing. Credit 2 hours.** Charcoal drawing from the cast; water color. Primarily for students in architecture. Prerequisite: Art 182.
- Art 184. Freehand Drawing. Credit 2 hours.** Continuation of Art 183. Charcoal drawing from the cast; water color. Primarily for students in architecture. Prerequisite: Art 183.
- Art 281. Freehand Drawing. Credit 2 hours.** Arrangement of form and color, rhythm and sequence, harmony, and contrast; charcoal, pen, pencil, and water color drawing from cast and still life; outdoor sketching. Primarily for students in architecture. Prerequisite: Art 184.
- Art 282. Freehand Drawing. Credit 2 hours.** Continuation of Art 281. Prerequisite: Art 281.

## **BIOLOGICAL SCIENCES**

- Biology 101. Fundamentals of Biology. Credit 4 hours.** This course is designed to give a fundamental understanding of plant and animal life and their reproduction. It is not a survey of the plant and animal kingdoms, but is rather a scientific examination of the manner and means whereby plants and animals live and reproduce their kind. Lectures and laboratory. Students with 90 or more credit hours receive only 3 hours credit. Credit will not be given for Biol. 101 in addition to D.G.S. 131 or Biol. 111.
- Biology 102. Fundamentals of Biology, Continued. Credit 4 hours.** Application of biological principles to the living world. Lectures and laboratory. Students with 90 or more credit hours receive only 3 hours credit. Prerequisite: Biol. 101 or Biol. 103. Credit will not be given for Biol. 102 in addition to D.G.S. 132.
- Biology 103. Introductory Biology for Selected Students. Credit 4 hours.** Lectures and laboratory. Students with 90 or more credit hours receive only 3 hours credit. Credit will not be given for Biol. 103 in addition to D.G.S. 131, Biol. 101, or Biol. 111. This course satisfies the general education sequence in the biological sciences for those students entering with Advanced Placement status. Prerequisite: Advanced Placement in biology; or James Scholar status; or placement by the department.
- Biology 111. General Botany. Credit 4 hours.** The basic principles of plant structure, growth, physiology, reproduction, evolution and distribution, with special emphasis upon the role of the plant kingdom in the cycles of nature and human life. Lectures and laboratory. Students with 90 or more credit hours receive only 3 hours credit. Prerequisite: Placement, or consent of the instructor. Credit will not be given for Biol. 111 in addition to Biol. 101 or 103 or D.G.S. 131.
- Biology 115. Introductory Systematic Botany (Plant Taxonomy). Credit 4 hours.** Classification and identification of flowering plants, with special reference to the local flora, and the needs of high school teachers. Occasional field trips required. Lectures and laboratory. Prerequisite: Biology 102 or 111; or Biology 101 or 103 with a grade of B or A.
- Biology 116. Economic Botany. Credit 3 hours.** Lectures and demonstrations of the uses of plants and plant products by man. The origin and distribution of native and cultivated plants and their relation to human history. Applications to forest, drug, food, textile, beverage and other industries. Lectures and discussion. Prerequisite: Biology 102 or 111.

- Biology 120. The Plant Kingdom. Credit 4 hours.** An introductory study of the life histories of plants representative of algae, fungi, ferns, and seed plants. Prerequisite: Biology 111 or 102; or Biology 101 or 103 with a grade of B or A.
- Biology 121. Microbiology. Credit 4 hours.** A study of microorganisms and their role in the system of nature. Among the microorganisms are included the viruses and the microscopic multicellular plants and animals, as well as the protozoa and bacteria. Primary emphasis will be placed upon the bacteria. The systematic evolutionary, physiological and ecological relationships of these organisms with both plant and animal worlds will be considered. Lectures and laboratory. Prerequisite: Biology 102; or Biology 101 or 103 with a grade of B or A.
- Biology 126. Advanced General Bacteriology. Credit 4 hours.** General technic, special apparatus and methods. Lectures and laboratory. Prerequisite: Biology 121, credit or registration in Chemistry 105.
- Biology 131. General Zoology. Credit 4 hours.** A survey of the animal kingdom. The structures, functions, life history, adaptations, classification and evolutionary relationships of animals. Lectures and laboratory. Students with 90 or more credit hours receive only 3 hours credit. Prerequisite: Biology 111; or Biology 101 or 103 with a grade of B or A. Premedical students receiving C or lower in Biology 101 must take this course before Biology 132.
- Biology 132. Comparative Vertebrate Anatomy. Credit 5 hours.** Classification and comparative anatomy of vertebrates, including functions of their organs and organ systems. Lectures and laboratory. Prerequisite: Biology 102 or 131; or Biology 101 or 103 with a grade of B or A.
- Biology 136. Bird Study. Credit 2 hours.** Native birds; their identification, food relations, seasonal distribution, migration activities, economic importance, and conservation.
- Biology 141. Vertebrate Physiology. Credit 4 hours.** The course is designed to furnish an understanding of the basic physiological activities of the vertebrate organism. Lectures and laboratory. Students with 90 or more credit hours receive only 3 hours credit. Prerequisite: Biology 102; or Biology 101 or 103 with a grade of B or A.
- Biology 142. Physiology of the Nervous System. Credit 4 hours.** This course is designed to furnish an understanding of the physiological activities by which the nervous system carries out its function. Recommended as background for students of psychology, education, or biological sciences. Lectures and laboratory. Prerequisite: Biology 141.
- Biology 333. Vertebrate Embryology. Credit 5 hours.** The development of the vertebrate body and its organs. Lectures and laboratory. Prerequisite: Biology 132.
- Biology 341. General Ecology. Credit 3 hours.** The study of organisms with relation to environment emphasizing population and community aspects. Lectures and discussion. Field trips required. Prerequisite: One year of biological science.
- Biology 351. Genetics and Evolution. Credit 3 hours.** Analysis of the theories of evolution, the mechanism of evolutionary changes, and the principles of heredity. Lectures and discussion. Prerequisite: One year of biological science.

## BUSINESS LAW

**Business Law 100. Basic Principles of Business Law. Credit 3 hours.** Basic principles of business law, covering the subjects of contracts, sales, negotiable instruments and agency. Credit toward graduation will not be given for Business Law 201 or 261 in addition to Business Law 100. Prerequisite: Accountancy 105; Economics 102; 45 credit hours.

## CHEMISTRY

**Chem. 101. General Chemistry. Credit 4 hours.** For students who have no entrance credit in high school chemistry, or whose preparation is inadequate for Chemistry 102. Students with 90 or more credit hours receive only 3 hours credit. Prerequisite: One unit of entrance credit in physics, or 2½ units of entrance credit in mathematics, or credit in Mathematics 103 or 112.

**Chem. 102. General Chemistry. Credit 3 hours.** For students who have had one year of high school chemistry, and whose preparation is adequate as indicated by placement examination. Students with 90 or more credit hours receive only 2 hours credit. Prerequisite: One unit of entrance credit in chemistry or equivalent.

**Chem. 104. General Chemistry II. Credit 4 hours.** Limited to students in engineering curricula. Credit in Chemistry 104 will not be granted to students who have received credit in Chemistry 105, 106, 108 or 109. Students with 90 or more credit hours receive only 3 hours credit. Prerequisite: Chemistry 101 or 102.

**Chem. 105. Inorganic Chemistry and Qualitative Analysis. Credit 5 hours.** For students who are not eligible for Chemistry 104 or 106. Credit in Chemistry 105 will not be granted to students who have received credit in Chemistry 104 or 106. Students with 90 or more credit hours receive only 3 hours credit. Prerequisite: Chemistry 101 or 102.

**Chem. 106. Inorganic Chemistry. Credit 5 hours.** Metallic elements. For students in curricula in chemistry, chemical engineering, and chemistry majors who are not premedical students. Credit in Chemistry 106 will not be granted to students who have received credit in Chemistry 104, 105, 108 or 109. Students with 90 or more credit hours receive only 3 hours credit. Prerequisite: Chemistry 101 or 102.

**Chem. 107. General Chemistry. Credit 5 hours.** For students in curricula in chemistry or chemical engineering. Students with 90 or more credit hours receive only 3 hours credit. Prerequisite: Excellent high school background in chemistry as shown by a placement examination.

**Chem. 108. General Chemistry and Qualitative Analysis. Credit 5 hours.** For students in curricula in chemistry or chemical engineering. Students with 90 or more credit hours receive only 3 hours credit. Credit is not granted to students who have received credit in Chemistry 104, 105, 106 or 109. Prerequisite: Chemistry 107.

**Chem. 109. General and Inorganic Chemistry. Credit 5 hours.** A course in general chemistry and the chemistry of the elements and inorganic compounds, completing in one semester the work usually taken in two. Limited to students in the engineering and physics curricula. Not open to students who have college credit in chemistry. Students with 90 or more credit hours receive only 3 hours credit. Prerequisite: Open only to students in the top quarter of their graduating class who qualify on the Chemistry Placement Test and are placed in Mathematics 112 or above.

- Chem. 110. Qualitative Analysis. Credit 5 hours.** Qualitative analysis of metals and inorganic compounds. Open to all students; required of students who major in chemistry or chemical engineering and those registered in the curriculum in chemistry except students who qualify for Chemistry 107 and 108. Prerequisite: Chemistry 106 or equivalent.
- Chem. 122. Elementary Quantitative Analysis. Credit 5 hours.** Gravimetric and volumetric analysis, stoichiometrical relations, practical application. Prerequisite: Chemistry 105 or equivalent.
- Chem. 123. Quantitative Analysis for Engineers. Credit 5 hours.** A course in quantitative analysis designed for the needs of engineers, especially ceramic and metallurgical. Prerequisite: Chemistry 104, 105 or 109.
- Chem. 124. Quantitative Analysis. Credit 5 hours.** For all students in the chemistry curriculum and chemical engineering. Prerequisite: Chemistry 108, 110 or equivalent.
- Chem. 132. Elementary Organic Chemistry. Credit 3 hours.** This course does not satisfy the organic chemistry prerequisite for Chemistry 350, 354 or 355. Beginning course in organic chemistry especially for students in the prenursing curriculum. Prerequisite: Chemistry 101, 102, 109 or equivalent.
- Chem. 133. Elementary Organic Chemistry. Credit 5 hours.** To fulfill the requirements for premedical, pre dental, preveterinary, dietetics, and home economics students. Prerequisite: Chemistry 105 or equivalent.
- Chem. 234. Organic Chemistry. Credit 5 hours.** For students whose major is chemistry, or for those registered in the curriculum in chemistry or chemical engineering. Prerequisite: Chemistry 124.
- Chem. 247. Elementary Physical Chemistry. Credit 4 hours.** For premedical students and others not in chemistry and engineering curricula. Lectures and laboratory. Prerequisite: Chemistry 122 and 133; Physics 102 or equivalent.
- Chem. 336. Organic Chemistry. Credit 3 hours.** For premedical students who have completed Chemistry 122 and 133 and have the recommendation of the department, and for Chemistry majors who have completed Chemistry 234.
- Chem. 337. Organic Chemistry Laboratory. Credit 2 hours.** For students with credit in, or registered in, Chem. 336.
- Chem. 342. Physical Chemistry. Credit 3 hours.** Introduction to the study of chemical principles. Prerequisite: Chemistry 124; Physics 106, 107 and 108, or two semesters of general physics with concurrent registration in the third semester; credit or registration in Mathematics 143; or equivalents.
- Chem. 343. Physical Chemistry Laboratory. Credit 1 hour.** Quantitative experimental study of chemical principles. Prerequisite: Credit or registration in Chemistry 342.



# CIVIL ENGINEERING

- C. E. 195. **Introduction to Civil Engineering. Credit 1 hour.** A series of informal lectures and discussions on the field of civil engineering, including the position and function of the civil engineer, history of civil engineering and a qualitative approach to civil engineering problems. Prerequisite: Sophomore standing in civil engineering.
- C. E. 201. **Surveying, I. Fundamental surveying operations. Credit 3 hours.** Prerequisite: Mathematics 263.
- C. E. 202. **Surveying, II. Credit 3 hours.** Introduction to precise control surveys and route alignment; elements of aerial photogrammetry. Prerequisite: Civil Engineering 201.
- C. E. 210. **Properties of Soils. Credit 3 hours.** Identification and classification of earth materials; hydraulic and mechanical properties of soils; character of natural soil deposits; and appraisal of methods of subsurface exploration. Laboratory determination of the index properties of soils. Prerequisite: Geology 150, Theoretical and Applied Mechanics 221, and junior standing in engineering or architecture.
- C. E. 214. **Composition and Properties of Concrete. Credit 2 hours.** Properties and uses of cements, aggregates, mixing water, and admixtures; composition and properties of concrete mixtures; field practices in the production of concrete. Laboratory practice in the design and control of quality concrete. Prerequisite: Theoretical and Applied Mechanics 223 or 224, and junior standing in engineering or architecture.
- C. E. 215. **Engineering and Construction Economy. Credit 3 hours.** Application of the mathematics of finance in decision-making on civil engineering works; dyadic formulations with linear programming; cost forecasting. Prerequisite: Registration or credit in Mathematics 195; junior standing or consent of instructor.
- C. E. 250. **Hydrology. Credit 3 hours.** A basic course with emphasis on principles, methods of analysis, and applications for engineering planning and design. Major topics include the various phases of the hydrologic cycle, data collection and interpretation, water resources, systems, determination of flow capacity for hydraulic structures, use of electronic computers, and statistical analyses. Prerequisite: Theoretical Mechanics 235, Mathematics 263.
- C. E. 261. **Structural Theory, I. Credit 3 hours.** An introduction to structural analysis; reactions, shears, and moments in statically determinate and indeterminate systems; stresses in trusses and moment-area principles; compatibility equations; slope deflection; moment distribution. Prerequisite: Theoretical and Applied Mechanics 152 and 221.
- C. E. 262. **Structural Theory, II. Credit 3 hours.** Energy principles in structural analysis; virtual displacements; deflections; strain energy; Castigliano's theory; least work; applications to beams, frames, and trusses; design process, influence lines, envelopes of maximum functions. Special sections of this course may be offered for students having a particular background or a specific interest. Prerequisite: Civil Engineering 261.

## ECONOMICS

- Econ. 102. Principles of Economics I. Credit 3 hours.** An introduction to the major areas of modern economic theory and public policy—product prices, the firm under varying conditions of competition and monopoly, productive factor pricing. Prerequisite: One year of college work.
- Econ. 103. Principles of Economics II. Credit 3 hours.** Continuation of Economics 102. Monetary theory, national income theory, and international economics; public policy arising out of the problems of the structure of industry, economic stability, monetary and banking institutions. Prerequisite: Economics 102.
- Econ. 108. Elements of Economics. Credit 3 hours.** A general survey of the operation of the economic system, with reference to the business firm, the determination of price and output, the level of national income and the general price level, the monetary and banking system, public finance, labor relations, and international trade. For non-commerce students only. Prerequisite: Second-semester freshman standing. Not open to those who have had Economics 102 or 103.
- Econ. 136. American Economic History. Credit 3 hours.** Main events and leading personalities in the economic development of the United States as seen in the westward movement, the growth of industry, agriculture, commerce, finance, transportation, the trust movement, and labor from 1790 to the present. Open to freshmen and sophomores only.
- Econ. 138. European Economic History. Credit 3 hours.** The evolution of the economic institutions of modern Europe in relation to the development of industry, commerce, transportation, and finance in the principal European nations. Open to freshmen and sophomores only.
- Econ. 170. Elements of Statistics. Credit 3 hours.** Method of collection—presentation and interpretation of quantitative economic data, averages, dispersion, index numbers, reliability of statistics, time series analysis, and simple correlation. Commerce students are required to register in Economics 170; they will not receive credit for Psychology 135, Mathematics 161, or Economics 171. Prerequisite: Economics 102 or 108; Sophomore standing.
- Econ. 210. Comparative Economic Systems. Credit 3 hours.** The economics of capitalism, socialism, communism, and fascism. This course with Economics 108 satisfies the general education requirements in social science in the College of Liberal Arts and Sciences. Prerequisite: Economics 102 and 103; or 108.
- Econ. 214. Government Finance and Taxation. Credit 3 hours.** A general survey of government finance at the federal, state, and local levels, including government expenditures, principles of taxation, government borrowing and the national debt, fiscal policy, and intergovernmental fiscal relations. Prerequisite: Economics 102 and 103, or 108.

## EDUCATION

- Ed. 101. Nature of the Teaching Profession. Credit 2 hours.** An orientation course. This course is designed to help the student get answers to the questions: "What does education in its various branches have to offer?" and "What preparation in general education, subject matter fields, and professional education is required or desirable?" Through an extensive

testing and counseling program this course is designed to help the student evaluate his potentialities and problems with reference to becoming a teacher.

- Ed. 109. Educational Psychology. Credit 3 hours.** The basic undergraduate course in psychology of education for prospective teachers. Materials and principles from the various areas of psychology (mental hygiene, learning, etc.) are applied to the practical problems of teaching. Prerequisite: Psychology 100.
- Ed. 201. Foundations of American Education. Credit 2 hours.** A study of contemporary American public education in the setting of current American culture; confusions and issues with respect to the school program, its purposes, its content, its methods, and its organization are related to confusions and issues with respect to social, economic, and political purposes and organizations, both domestic and international. An attempt is made through the study of these relationships to clarify the contemporary social functions of the American school and teaching profession. Prerequisite: Psychology 100; Education 101.

## **ELECTRICAL ENGINEERING**

- E. E. 220. Basic Electrical Engineering. Credit 3 hours.** Fundamentals of electric and magnetic circuits and characteristics of electron tubes and circuits. Prerequisite: Physics 106 and 107; Mathematics 143.
- E. E. 250. Introduction to Circuit Analysis. Credit 5 hours.** Study of the formulation and solution of network equations for sinusoidal and general signals, network theorems, three-phase systems. Prerequisite: Physics 107; credit or registration in Electrical Engineering 251.
- E. E. 251. Circuit Laboratory. Credit 1 hour.** To accompany Electrical Engineering 250. Prerequisite: Credit or registration in Electrical Engineering 250.

## **ENGLISH**

- English 101. Introduction to Poetry. Credit 3 hours.** Understanding of poetry through the reading and discussion of representative poems. Students with 90 or more credit hours receive only 2 hours credit. This course, plus English 102 and 103, satisfies the humanities requirement in general education.
- English 102. Introduction to Drama. Credit 3 hours.** Understanding of drama through the reading and discussion of representative plays. The reading list includes selections from Greek, Elizabethan, modern English, Continental, and American drama. Students with 90 or more credit hours receive only 2 hours credit.
- English 103. Introduction to Fiction. Credit 3 hours.** Understanding fiction through the reading and discussion of representative American, British, and Continental fiction of several periods and types. Students with 90 or more credit hours receive only 2 hours credit.
- English 113. American Literature. Credit 3 hours.** Classic American authors before the Civil War; an introduction to Franklin, Poe, Emerson, Hawthorne, Melville, Whitman, and others. Prerequisite: Sophomore standing or exemption from Rhetoric 102.

**English 114. American Literature. Credit 3 hours.** Classic American authors after the Civil War to the present; an introduction to Mark Twain, James, Dreiser, Hemingway, O'Neill, Frost, and others. Prerequisite: Sophomore standing or exemption from Rhetoric 102.

**English 121. Chief English Writers Before 1800. Credit 3 hours.** Chaucer, Shakespeare, Donne, Pope, and other writers. This course with English 122 and 123 meets the general education requirement in humanities in the College of Liberal Arts and Sciences. This course with English 122 is the normal prerequisite to the English major. Prerequisite: Sophomore standing or exemption from Rhetoric 102, or designation as Edmund J. James Scholar.

**English 122. Chief English Writers of the Nineteenth Century. Credit 3 hours.** Coleridge, Tennyson, Arnold, and other writers. This course with English 121 and 123 meets the general education requirement in humanities in the College of Liberal Arts and Sciences. This course with English 121 is the normal prerequisite to the English major. Prerequisite: Sophomore standing or exemption from Rhetoric 102 or designation as Edmund J. James Scholar.

**English 123. Chief Modern English Writers. Credit 3 hours.** Conrad, Eliot, Joyce, Lawrence, Shaw, Yeats, and others. Prerequisite: Sophomore standing or exemption from Rhetoric 102 or designation as Edmund J. James Scholar.

**English 131. Introduction to Shakespeare. Credit 3 hours.** Prerequisite: Sophomore standing or exemption from Rhetoric 102.

**English 225. English Literature from 1588 to 1660. Credit 3 hours.** Survey of English literature of the Renaissance; Sidney, Marlowe, Donne, Jonson, Herrick, Bacon, Burton, and other writers.

**English 246. The English Romantic Poets, Credit 3 hours.** A study in depth of the poetical works of Wordsworth, Coleridge, Scott, Byron, Shelley, and Keats and of lesser poets of the early nineteenth century. It is also concerned with critical writing by these and other men who contributed to an understanding of the poetry of the Romantic period.

**English 255. Survey of American Literature from 1607 to the Civil War. Credit 3 hours.** A comprehensive historical survey of American Literature and its cultural background from 1607 to the Civil War. Credit is not given for English 255 in addition to English 113.

**English 256. Survey of American Literature II. Credit 3 hours.** A comprehensive survey of American literature and its cultural background from the Civil War to the mid-twentieth century. Credit is not given for English 256 in addition to English 114.

**English 347. Drama of the Restoration and 18th Century. Credit 3 hours.** Major dramatic works after the reopening of the public theatres in 1660; development from aristocratic baroque tragedy and comedy to bourgeois sentimental drama and other forms: Dryden, Etherege, Wycherley, Congreve, Vanbrugh, Farquhar, Steele, Goldsmith, Sheridan, and others.

## **FINANCE**

**Finance 250. Money, Credit, and Banking. Credit 3 hours.** A study of the monetary and banking systems; the Federal Reserve System, price

fluctuation, foreign exchange financing, and specialized financial institutions in the United States. Prerequisite: Economics 102 and 103, or 108.

**Finance 254. Business Finance. Credit 3 hours.** Nature of business finance and its relation to economics, accounting, and law; legal nature and forms of business enterprise; capital, capitalization, and financial plan; financial analysis and interpretation; initial financing; refinancing; working capital; income administration, including dividend policies; expansion; internal and external financial and economic relationships of the firm. Prerequisite: Economics 102 and 103; or 108; Accountancy 105 or 201.

## **FRENCH**

**French 101. Elementary French. Credit 4 hours.** Grammar, pronunciation, reading of modern authors, composition, and conversation. For students who have no credit in French. Students with 90 or more credit hours receive only 3 hours credit. No credit for graduation is given for French 101 without French 102. All students in this course are required to register for one hour of work weekly in the language laboratory.

**French 102. Elementary French. Credit 4 hours.** Continuation of French 101. Students with 90 or more credit hours receive only 3 hours credit. Prerequisite: French 101 or one year of high school French. All students in this course are required to register for one hour of work weekly in the language laboratory.

**French 103. Modern French. Credit 4 hours.** Rapid reading of modern authors, syntax, and composition; some conversational practice. Prerequisite: French 102 or two years of high school French.

**French 104. Modern French. Credit 4 hours.** Continuation of French 103. Prerequisite: French 103 or three years of high school French.

**French 113. Conversational Practice. Credit 1 hour.** Oral practice for the development of elementary conversational skill and the improvement of pronunciation. Designed as a supplement to French 103 and 104, and open only to students concurrently enrolled in either French 103 or 104. Prerequisite: French 102 or two years of high school French.

**French 201. Introduction to French Literature. Credit 3 hours.** Prerequisite: French 104 or four years of high school French.

**French 202. Introduction to French Literature. Credit 3 hours.** Continuation of French 201. Prerequisite: French 104 or four years of high school French.

**French 217. Modern French Drama I. Credit 3 hours.** Major Dramatists from 1800 to 1918. Prerequisite: French 201 and 202 or consent of instructor.

**French 218. Modern French Drama II. Major Dramatists from 1918 to the present. Credit 3 hours.** Prerequisite: French 201 and 202 or consent of instructor.

## **GENERAL ENGINEERING**

**G. E. 103. Engineering Graphics, I. Credit 3 hours.** An integrated course in engineering graphics for all students in the College of Engineering.

Freehand sketching; theory of orthographic projection and the analysis and synthesis of theoretical and practical problems involving the size, shape, and/or relative positions of common geometrical magnitudes such as points, lines, planes, and other surfaces and solids; theory of pictorial projections; basic dimensioning; basic charts and diagrams.

- G. E. 104. Engineering Graphics, II. Credit 3 hours.** Continuation of General Engineering 103, extended to the dimensioning for interchangeable assembly including geometric and positional tolerancing; specification of materials and processes; solution of problems requiring individual creativity. Prerequisite: General Engineering 103 or equivalent. I, II.
- G. E. 107. Architectural Projections. Credit 2 hours.** Instrumentation; lettering; projection; intersections; conventions; shades and shadows. Prerequisite: Plane geometry.
- G. E. 108. Architectural Projections. Credit 2 hours.** Shades and shadows; oblique, isometric, and perspective drawings; developments. Prerequisite: General Engineering 107.
- G. E. 210. Industrial Production Illustration. Credit 3 hours.** Mechanical and freehand drawings in axonometric, oblique, and perspective; shades and shadows; rendering of drawings with various media including some with the airbrush; industrial production illustration. Prerequisite: General Engineering 104, or 107 and 108.
- G. E. 213. Graphical Calculations. Credit 2 hours.** Rectification of curves from laboratory data to devise empirical equations using various types of coordinate paper; construction and use of Nomograms or Alignment charts; introduction to graphical mathematics, graphical calculus; use of slide rule with special emphasis on the log-log scales. Prerequisites: Credit in G. E. 103 or equivalent and registration in Math 143.
- G. E. 220. History of Engineering. Credit 3 hours.** Study of the important elements in the growth of the art and science of engineering from ancient times to the present; lives of some of the men who have been leaders; effect of engineering on the social conditions of the various periods. Accepted as a social science humanities elective in all engineering curricula. Prerequisite: Junior standing.

## **GEOGRAPHY**

- Geog. 104. World Regional Geography. Credit 3 hours.** Survey of the geographic structure of the world; regional patterns of settlement and land utilization; man's occupancy of the world. Students with 90 or more credit hours receive only 2 hours credit.
- Geog. 105. Introductory Economic Geography. Credit 3 hours.** Man's utilization of the major economic resources of the world from the standpoint of geographic patterns. Students with 90 or more credit hours receive only 2 hours credit.
- Geog. 107. Weather and Climate. Credit 4 hours.** Planetary relations; the atmosphere, its composition, functions and behavior in the production of various weather types; air masses and air mass analysis; climatic types and climatic regions; application to present day activities. This course and Geography 108 meet the general education requirements in physical sciences in Liberal Arts and Sciences.
- Geog. 108. Landforms and Earth Resources. Credit 4 hours.** The study of landforms from the geographic point of view; maps and their use;

earth resources (native vegetation, soils, water resources, mineral resources); their development and utilization. This course and Geography 107 meet the general education requirements in physical sciences in Liberal Arts and Sciences.

**Geog. 114. Conservation of Natural Resources. Credit 3 hours.** Elements of the conservation of natural resources (soils, water, biotic, mineral, recreational) with special emphasis given to the general principles of conservation as they apply to the United States. Prerequisite: Sophomore standing.

**Geog. 123. Geography of Illinois. Credit 3 hours.** Detailed regional study of the state with special emphasis on the cultural relations of Illinois to the rest of the nation. Prerequisite: One course in Geography or consent of instructor.

**Geog. 386. Political Geography. Credit 3 hours.** World patterns of nations in relation to their natural environmental backgrounds: European nations; Africa, the exploited continent; national structures in Asia; western hemisphere nations.

## **GEOLOGY**

**Geol. 101. Physical Geology. Credit 4 hours.** Materials, structures, surface features of the earth and processes which have produced them. Lectures, quiz, and laboratory. One-half day field trip required. Geology 101 and 102 meet the general education requirement in the physical sciences in Liberal Arts and Sciences. Students with 90 or more credit hours receive only 3 hours credit.

**Geol. 102. Historical Geology. Credit 4 hours.** Evolution of the earth and its life. Lectures and laboratory. One one-day field trip required. Students with 90 or more credit hours receive only 3 hours credit. Prerequisite: Geology 101 or equivalent. This course, with Geology 102, meets the physical sciences requirements in Liberal Arts and Sciences.

**Geol. 110. Field Work. Credit 2 hours.** Field observation in St. Francois Mountains and adjacent parts of Missouri and Illinois. (During spring vacation.) Two three-hour class meetings to be arranged. Credit is given only on completion of a satisfactory written report. Prerequisite: Geology 101, 150, or Physical Science 102.

**Geol. 131. Mineralogy. Credit 4 hours.** A systematic study of minerals. The nature of minerals as crystalline materials, and their geologic relations are emphasized. Crystal models, crystals, and the common nonsilicate minerals are studied in the laboratory. Lecture and laboratory. Prerequisite: One semester of college chemistry.

**Geol. 132. Mineralogy. Credit 4 hours.** A systematic study of minerals and rocks. The geologic relationships of minerals and rocks are emphasized. The common silicate minerals and the important varieties of rocks are studied in the laboratory. Lecture and laboratory. Prerequisite: Geology 131.

**Geol. 150. Geology for Engineers. Credit 3 hours.** Prerequisite: Sophomore standing in the College of Engineering.

## **GERMAN**

**German 101. Elementary German. Credit 4 hours.** Oral practice, reading, and grammar for beginners. Not open to students who have high school

credit in this language. Students with 90 or more credit hours receive only 3 hours credit. No credit toward graduation is given for German 101 without German 102. All students in this course are required to register for one hour of work weekly in the language laboratory.

**German 102. Elementary German. Credit 4 hours.** Continuation of German 101. Students with 90 or more credit hours receive only 3 hours credit. Prerequisite: German 101 or one year of high school German. All students in this course are required to register for one hour of work weekly in the language laboratory.

**German 103. Intermediate German. Credit 4 hours.** Modern narrative prose. Oral practice and sight reading. Prerequisite: German 102, two years of high school German, or equivalent.

**German 104. Intermediate German. Credit 4 hours.** Continuation of German 103. Classical and modern narrative prose. Oral practice and sight reading. Prerequisite: German 103, three years of high school German, or equivalent.

**German 113. Practice in Conversation. Credit 2 hours.** Oral practice for the development of elementary skill in conversation and the improvement of pronunciation. This course is supplementary to German 103 and 104. Prerequisite: German 102 or two years of high school German and concurrent registration in German 103 or 104.

**German 210. Masterpieces of German Literature. Credit 3 hours.** Introduction to German literature, its subjects, forms, and ideals. Prerequisite: Two years of college German, or equivalent.

**German 211. Conversation and Writing. Credit 3 hours.** Prerequisite: German 104, or German 103 and 113 or equivalent.

**German 212. Conversation and Writing. Credit 3 hours.** Continuation of German 211. Prerequisite: German 211 or equivalent.

**German 252. Modern German Drama. Credit 3 hours.** A study of the drama of the nineteenth and twentieth centuries, its relation to the Greek drama and world drama. Prerequisite: German 210 or equivalent.

## HISTORY

**Hist. 111. History of Western Civilization to 1815. Credit 4 hours.** Europe from the age of the great discoveries to the close of the Napoleonic wars. This course with History 112 meets the social science requirement in Liberal Arts and Sciences. Students with 90 or more credit hours receive only 3 hours credit.

**Hist. 112. History of Western Civilization from 1815 to the Present. Credit 4 hours.** Development of European nationalism, liberalism, and imperialism; World War; reconstruction. Credit 4 hours. Students with 90 or more credit hours receive only 3 hours credit.

**Hist. 113. European History 476-1377 A.D. Credit 4 hours.** Europe from the Fall of the Western Roman Empire through the Babylonian Captivity of the Medieval Church. Political, social, economic, and cultural developments such as feudalism, the manorial regime, the rise of the towns, the growth of the national monarchies, monasticism, the rise and decline of the papacy, the cathedral schools and universities, and the beginnings of vernacular literatures. Prerequisite: Sophomore standing.



**Hist. 114. Europe 1370-1715. Credit 4 hours.** The decline of medieval ideals and institutions, the Renaissance, the Reformation, the growth of commercial capitalism, exploration, empire and the New World, the growth of French absolutism, the English monarchy and the challenge of Parliament, the Spanish empire and the revolt of the Netherlands, the Thirty Years War, international politics, political theory and the new science. Prerequisite: Sophomore standing.

**Hist. 115. The History of the Western World. Credit 4 hours.** A survey of the major social, intellectual, political, and economic developments of the Western World, from the Age of Enlightenment to the Unification of Germany (1871).

**Hist. 116. The History of the Western World. Credit 4 hours.** A survey of the major social, intellectual, political, and economic developments of the Western World from the Unification of Germany (1871) to the present.

**Hist. 131. History of England to 1714. Credit 4 hours.** A survey of the political and constitutional, social and economic, church and cultural, and imperial history of the British people from the beginning of English history through 1714. This course with History 132 meets the humanities requirement in Liberal Arts and Sciences. Students with 90 or more credit hours receive only 3 hours credit.

**Hist. 132. History of England from 1714 to the Present. Credit 4 hours.** A survey of the political and constitutional, social and economic, diplomatic and imperial, and cultural history of the British people from 1714 to the present. Students with 90 or more credit hours receive only 3 hours credit.

**Hist. 151. History of the United States to 1865. Credit 4 hours.** Colonial foundations, movement for independence, early years of the Republic. This course with History 152 meets the social science requirement in Liberal Arts and Sciences.

**Hist. 152. History of the United States from 1865 to the Present. Credit 4 hours.** A century of national life and organization. This course with History 151 meets the social science requirement in Liberal Arts and Sciences.

**Hist. 181. The Ancient World. Credit 3 hours.** Ancient empires and Greece. Prerequisite: Sophomore standing.

**Hist. 182. The Ancient World. Credit 3 hours.** Rome. Prerequisite: Sophomore standing.

**Hist. 369. Constitutional Development of the United States to 1865. Credit 3 hours.** Prerequisite: one year in college of United States or English History or one year of Political Science.

**Hist. 370. Constitutional Development of the United States since 1865. Credit 3 hours.** Prerequisite: one year in college of United States or English History or one year of Political Science.

## **HUMANITIES**

**Humanities 101. Values in Literature. Credit 4 hours.** A general education course designed to guide the student to an understanding and appreciation of values in literature, and the relationship between recent litera-

ture and the classics. Assigned works are selected to illustrate and clarify problems in literary appreciation. Literary types studied include poetry, fiction, drama, and the film. Credit is not given for Humanities 101 in addition to English 101, 102, or 103. This course, plus Humanities 102, satisfies the general education requirement in the humanities.

**Humanities 102. Values in Literature. Credit 4 hours.** A general education course designed to guide the student to an understanding and appreciation of values in literature and classics. Assigned works are selected to illustrate and clarify problems in literary appreciation. Literary types studied include poetry, fiction, drama, and the film. Credit is not given for Humanities 102 in addition to English 101, 102, or 103. This course, plus Humanities 101, satisfies the general education requirement in the humanities.

**Humanities 151. The Heritage of Western Culture. Credit 4 hours.** A study of literary masterpieces representing significant contributions to the thinking of the Western World on the topics of man's fate and his personal adjustment to life. This course, plus Humanities 152, satisfies the general education requirement in the humanities. Prerequisite: Sophomore standing.

**Humanities 152. The Heritage of Western Culture. Credit 4 hours.** A study of literary masterpieces representing significant contributions to the thinking of the Western World in relation to the state and society. This course, plus Humanities 151, satisfies the general education requirement in the humanities. Prerequisite: Sophomore standing.

## **HYGIENE**

**Hygiene 104. Personal and Community Hygiene. Credit 2 hours.** This course covers basic principles of hygiene. Especially recommended for those going into teaching, occupational therapy, social work, etc. Students with 90 or more credit hours receive only 1 hour credit.

**Hygiene 110. Public Health. Credit 2 hours.** Material presented deals with information about community public health problems and the program designed to prevent disease and promote health education. This is especially valuable for all people who go into health professions or related community work. Field trips and surveys supplement class work. Teachers, coaches, social workers will need this course in their future professional work. Students with 90 or more credit hours receive only 1 hour credit. Prerequisite: Hygiene 104.

## **MANAGEMENT**

**Management 100. Introduction to Business. Credit 3 hours.** An introductory course on the principles and practices of our economic system from the point of view of the business manager. Open to freshmen only.

**Management 101. Industrial Organization and Management. Credit 3 hours.** Organization plans, administrative policies, and management problems with special attention to manufacturing units. Prerequisite: Economics 102, or 108, or consent of the dean of the college; forty-five credit hours.

**Management 248. Personnel Administration. Credit 3 hours.** A study of the foundations, functions, and objectives of personnel administration: history; contributions of various disciplines; company and union attitudes; organizational aspects; policies and procedures; union-management

relationships; records and reports; personnel research. Prerequisite: Economics 102 or 108.

## MARKETING

**Marketing 101. Principles of Marketing. Credit 3 hours.** The functions, commodities, and middlemen involved in the marketing of goods and services; the policies and problems involved in the operation of market institutions. Prerequisite: Economics 102, or 108, or consent of the dean of the college; forty-five credit hours.

**Marketing 211. Principles of Retailing. Credit 3 hours.** The fundamentals of buying, sales promotion, pricing, control, and store finance. Prerequisite: Marketing 101.

## MATHEMATICS

**Math. 103. Introduction to College Algebra. Credit 3 hours.** Fundamental operations, simple equations, factoring, fractions, exponents, radicals, linear equations in more than one variable, graphing, quadratic equations in one unknown. Students having  $1\frac{1}{2}$  entrance units in algebra receive no credit. Students with 90 or more credit hours receive no credit.

**Math. 109. Fundamentals of Mathematics. Credit 4 hours.** For students who do not specialize in mathematics. A survey of the character of mathematics as a subject and its relations to science, art, philosophy, and knowledge in general. Mathematics 109 and 110 meet the physical science requirement in general education in Liberal Arts and Sciences. Prerequisite: Consent of the department.

**Math. 110. Fundamentals of Mathematics. Credit 4 hours.** For students who do not specialize in mathematics. A survey of the character of mathematics as a subject and of its relations to science, art, philosophy, and knowledge in general. Prerequisite: Mathematics 109.

**Math. 111. Algebra. Credit 5 hours.** Students with 90 or more credit hours receive only 3 hours credit. Required for students in Architecture deficient in algebra. Other students admitted only by consent of their college office and the Mathematics Department. Prerequisite: Entrance algebra, 1 unit and plane geometry, 1 unit.

**Math. 112. College Algebra. Credit 3 hours.** Theory of quadratic equations, progressions, binomial theorem, permutations, combinations, determinants, introduction to the theory of equations, logarithms. Students with 90 or more credit hours receive only 2 hours credit. Prerequisite: Entrance algebra,  $1\frac{1}{2}$  units, or Mathematics 103; plane geometry, 1 unit.

**Math. 114. Plane Trigonometry. Credit 2 hours.** Identities, equations, addition formulas and derived relations, solution of right and oblique triangles, radian measure, inverse functions. Students with 90 or more credit hours receive only 1 hour credit. Prerequisite: Entrance algebra,  $1\frac{1}{2}$  units, or Mathematics 103; plane geometry, 1 unit.

**Math. 120. Introduction to Modern Mathematics. Credit 3 hours.** This course introduces abstract mathematical thinking. It covers the basic elementary properties of sets and introduces groups, rings, and fields as typical examples of frequently used mathematical systems. The categorical properties of special sets of numbers are considered. Emphasis

is placed on modern topics and the modern approach to classical topics. Prerequisite: Math. 123 or consent of instructor.

**Math. 123. Analytic Geometry. Credit 5 hours.** Geometrical properties of curves and surfaces, coordinate systems, translation and rotation of axes, higher plane curves, parametric equations. Students with 95 or more credit hours receive only 4 hours credit. Prerequisite: Mathematics 111 or 112, and 114.

**Math. 133. Calculus. Credit 3 hours.** First course for students of mathematics and engineering. Theory of limits, differentiation and integration of standard algebraic and trigonometric forms, applications. Prerequisite: Mathematics 123.

**Math. 143. Calculus. Credit 5 hours.** Second course for students of mathematics and engineering. The definite integral, integration of rational fractions, integration by parts, series and expansion of functions, hyperbolic functions, partial differentiation, multiple integrals, applications. Prerequisite: Mathematics 133.

**Math. 149. Honors Credit 1 hour.** Special problems in analytic geometry and calculus. Prerequisite: concurrent registration in honors section of Mathematics 123, 133 or 143. Enrollment is limited to students who give evidence of superior mathematical ability.

**Math. 161. Statistics. Credit 3 hours.** An elementary course in the basic concepts of probability and statistics, arrangement and analysis of raw data, hypothesis testing, confidence limits and method of least squares. Prerequisite: Mathematics 112; sophomore standing.

**Math. 195. Introduction to Systematic Digital Computing. Credit 3 hours.** An introduction to the general organization of computers, number systems and the design of logical circuits in order to prepare sequences of arithmetical operations. Practice in preparation of programs and actual use of a computer. Prerequisite: credit or registration in Math. 133.

**Math. 263. Statistics in Engineering and Physical Sciences. Credit 3 hours.** A first course in the use of statistical methods for interpreting the results of experiments. Applications to engineering and the physical sciences are emphasized. Prerequisite: One year of calculus.

**Math. 315. Linear Transformations and Matrices. Credit 3 hours.** A survey course in elementary matrix algebra, covering vector space, linear transformations, representation of transformations by matrices. Prerequisite: One year of calculus.

**Math. 341. Differential Equations. Credit 3 hours.** An introductory course in ordinary differential equations and their applications to physical problems. First and second order equations, linear equations, solutions in series form, operator methods in linear equations. This course is intended for students who wish to go on to a study of partial differential equations in Mathematics 342. Prerequisite: One year of calculus.

**Math. 342. Differential Equations. Credit 3 hours.** An introductory course to partial differential equations, boundary value problems and Fourier series. Also considered are orthogonal functions, Fourier integrals, Bessel functions, applications to physical problems. Prerequisite: Mathematics 341.

**Math. 343. Advanced Calculus. Credit 3 hours.** The course includes the vector calculus, differential and integral calculus of functions of several

variables, infinite series, power series, and line and surface integrals. Prerequisite: One year of calculus.

**Math. 345. Differential Equations and Orthogonal Functions. Credit 3 hours.** Theory of solving the standard elementary differential equations and application of these. Power series, solutions of second order equations and operational methods are included. A brief introduction is given to partial differential equations and Fourier series methods. Prerequisite: One year of calculus.

**Math. 346. Complex Variables and Applications. Credit 3 hours.** Theory and application of complex variables. Complex numbers, analytic functions, integrals, power series, residues and poles, conformal mapping. Prerequisite: Mathematics 343.

## **MECHANICAL ENGINEERING**

**M. E. 182. Manufacturing Processes. Credit 3 hours.** Foundry practice; pattern design; hot and cold forming. Welding and allied processes; machine tools and machining practice; use of jigs, fixtures, and tools for manufacture of interchangeable parts. Classroom discussion and demonstrations. Prerequisite: General Engineering 103; sophomore standing.

**M. E. 183. Materials Casting. Credit 3 hours.** Casting as a process of fabrication; the molding process including machine molding; molding sands characteristics, control, and testing. Melting and pouring practice. Physical characteristics of cast materials, advantages and disadvantages; tray iron structures and elementary metallurgical concepts; design of wood and metal patterns and correlation with foundry practice; core requirements control and testing. Prerequisite: General Engineering 103; sophomore standing.

**M. E. 184. Metal Processing. Credit 3 hours.** Basic machining processes used for metal processing. Use of machine tools, jigs, fixtures, gages, and measuring instruments and inspection methods to produce interchangeable metal parts. Prerequisite: General Engineering 103; credit or registration in Integral Calculus and Physics 107.

**M. E. 202. Thermodynamics and Heat Transfer. Credit 3 hours.** Heat and work transfers and their effects on properties of simple working media undergoing nonflow and steady-flow processes; heat transfer by conduction, convection, and radiation. Prerequisite: Mathematics 345; Physics 107; Theoretical and Applied Mechanics 154 or 211.

**M. E. 205. Thermodynamics. Credit 3 hours.** Energy and its transformation; properties of thermodynamic systems; nonflow and steady-flow processes of fluids; reversibility and limitations; behavior of gases, liquids, and vapors; entropy and the second law; thermodynamic temperature scales and heat engines. Prerequisite: Mathematics 142 or 143; Physics 107.

**M. E. 221. Mechanics of Machinery. Credit 5 hours.** Linkages, cams, and gears; belts, ropes, and chains; velocities, accelerations, and inertia forces in machines; vibrations and critical speeds; balancing of engines; principle of the gyroscope. Prerequisite: T.A.M. 156 or registration in Theoretical and Applied Mechanics 211.

## **MILITARY SCIENCE**

**Mil. Sci. 101. Freshman Basic Drill and Theory. Credit 1 hour.** Basic Military instruction to include: Individual Weapons and Marksmanship,

Organization of the Army and ROTC, Branches of the Army and Their Missions, Customs of the Service, and Leadership, Drill and Command. Prerequisite: Military Science Department approval.

**Mil. Sci. 102. Freshman Basic Drill and Theory. Credit 1 hour.** Basic Military instruction to include: U. S. Army and National Security, Civil Defense, Field Sanitation, First Aid, Mass Casualties, Survival Training, and Leadership, Drill and Command. Prerequisite: Military Science Department approval.

**Mil. Sci. 103. Sophomore Basic Drill and Theory. Credit 1 hour.** Basic Military instruction to include: Map Reading, Squad Tactics, and Leadership, Drill and Command. Prerequisite: Military Science 101 and 102 or Military Science Department approval.

**Mil. Sci. 104. Sophomore Basic Drill and Theory. Credit 1 hour.** Basic Military instruction to include: American Military History, and Leadership, Drill and Command. Prerequisite: Military Science 101 and 102 or Military Science Department approval.

## MUSIC

**Music 100. Rudiments of Theory. Credit 2 hours.** Notation, scales, intervals, chords, terminology.

**Music 130. Introduction to the Art of Music, I. Credit 3 hours.** Designed primarily for the layman. Main objectives are to train students in intelligent listening and to acquaint them with many great works of the literature of music. For nonmusic students only.

**Music 131. Introduction to the Art of Music, II. Credit 3 hours.** Designed primarily for the layman. Main objectives are to train students in intelligent listening and to acquaint them with many great works of the literature of music. For nonmusic students only.

**Music 150. Music Ensemble. Credit ½ hour.** Band, Orchestra, Chorus. Admission by consent of director. This course may be repeated to earn a maximum of 2 semester hours of credit.

## PHILOSOPHY

**Phil. 101. Introduction to Philosophy. Credit 3 hours.** Discussion of problems in the field of morals, art, and knowledge, with selected readings from philosophers whose views have been influential in Western culture. Phil. 101, 102, 105 form an approved humanities sequence in Liberal Arts and Sciences. Credit 3 hours. Prerequisite: Sophomore standing.

**Phil. 102. Logic. Credit 3 hours.** Reasoning, detection of fallacies, evidence. Prerequisite: Sophomore standing.

**Phil. 105. Moral Ideas and Practice. Credit 2 Hours.** Credit is not given for both Philosophy 103 and 105. Prerequisite: Sophomore standing.

**Phil. 303. History of Greek and Roman Philosophy. Credit 4 hours.** The teachings of the philosophers who figure most prominently in the Greek and Roman era—approximately the period from the sixth century B.C. to the fourth century A.D. This course, together with Phil. 306 fulfills the General Education requirement in Humanities.

Phil. 306. History of Modern Philosophy. Credit 4 hours. Developments in philosophy from the sixteenth to the nineteenth century; what prominent philosophers have contributed to man's understanding of himself and his environment. This course, together with Philosophy 303, fulfills General Education requirements in Humanities.

## PHYSICAL EDUCATION FOR MEN

- P. E. M. 101, 102, 103, 104. Prescribed Exercises. Credit 1 hour. Open only to students who are assigned by the Health Service. Students enrolling for the first time should register for P. E. M. 101. Students enrolling for the second, third, or fourth time should register for P. E. M. 102, 103, 104, respectively.
- P. E. M. 106. Developmental Activities. Credit 1 hour. Activities that contribute to the development and maintenance of physical fitness according to social and hygienic standards.
- P. E. M. 107. Beginning Swimming. Credit 1 hour. For nonswimmers (inability to swim 100 yards). Students must have 8:00 and 9:00 hours free on TT. First class will meet in the Gym. A service fee of \$7.50 per student will be collected during the first class period.
- P. E. M. 109. Advanced Swimming. Credit 1 hour. For swimmers (ability to swim at least 100 yards). Student must have 8:00, 9:00 and 10:00 hours free on TT. First class will meet in the Gym. A service fee of \$7.50 per student will be collected during the first class period.
- P. E. M. 112. Individual Tumbling Stunts. Credit 1 hour. Skills, knowledge, attitudes, and conditions.
- P. E. M. 113. Double Tumbling Stunts. Credit 1 hour. Skills, knowledge, attitudes, and conditions.
- P. E. M. 114. Apparatus Stunts. Credit 1 hour. Skills, knowledge, attitudes, and conditions.
- P. E. M. 117. Boxing. Credit 1 hour. Skills, knowledge, attitudes, and conditions.
- P. E. M. 118. Wrestling. Credit 1 hour. Skill, knowledge, attitudes, and conditions.
- P. E. M. 120. Personal Defense Activities. Credit 1 hour. Skills, knowledge, attitudes and conditions.
- P. E. M. 122. Individual Athletics. Credit 1 hour. Skills, knowledge, attitudes and conditions.
- P. E. M. 123. Weight Lifting. Credit 1 hour. Skills, knowledge, attitudes, and conditions.
- P. E. M. 129. Volleyball. Credit 1 hour. Skills, knowledge, attitudes, and conditions.
- P. E. M. 130. Basketball. Credit 1 hour. Skills, knowledge, attitudes, and conditions.

- P. E. M. 132. Archery. Credit 1 hour. Skills, knowledge, attitudes, and conditions.
- P. E. M. 136. Badminton. Credit 1 hour. Skills, knowledge, attitudes, and conditions.
- P. E. M. 139. Backyard Sports. Credit 1 hour. Skills, knowledge, and conditions.
- P. E. M. 140. Boating and Fishing. Credit 1 hour. Prerequisite: Two hours of credit in physical education and a score on the physical fitness test that allows the student a free choice of activities or approval of the Director of Physical Education. Students must furnish their own personal equipment, but should purchase no equipment until after the first meeting of the class. Boats, canoes, life jackets will be furnished.
- P. E. M. 142. Ballroom Dance. Credit 1 hour.
- P. E. M. 143. American Square Dance. Credit 1 hour.
- P. E. M. 150. Professional Orientation. Credit 2 hours. Introduction to the fields of physical education, athletics, health, safety, recreation. For physical education majors.
- P. E. M. 151. Beginning Basketball. Credit 2 hours. Introductory skills, rules and strategy. For physical education majors. First eight weeks.
- P. E. M. 152. Beginning Football. Credit 2 hours. Introductory skills, rules and strategy. For physical education majors. Second eight weeks.
- P. E. M. 153. Fitness Programs. Credit 2 hours. Physical fitness tests; calisthenics, medicine ball, bulldozer, grass, all-out and locomotor exercises; leadership techniques. For physical education majors. To be taken with P.E.M. 154.
- P. E. M. 154. Swimming. Credit 2 hours. Crawl, back, breast, and side strokes; diving; life saving. To be taken with P.E.M. 153. For physical education majors.
- P. E. M. 155. Gymnastics. Credit 1 hour. Tumbling, apparatus stunts. To be taken with P.E.M. 156. For physical education majors. Second eight weeks.
- P. E. M. 156. Wrestling. Credit 1 hour. Skills, rules. To be taken with P.E.M. 155. For physical education majors. Second eight weeks.
- P. E. M. 157. Track and Field. Credit 1 hour. Track events, field events. To be taken with P.E.M. 158. For physical education majors. Second four weeks of first eight weeks.
- P. E. M. 158. Baseball. Credit 1 hour. Baseball skills, rules. To be taken with P.E.M. 157. For physical education majors. First four weeks of first eight weeks.
- P. E. M. 209. History of Sports. Credit 3 hours. Development of sports and physical education in Europe and United States since 1750. For physical education majors only.



## RECREATION

Recreation 170. Outdoor Recreational Sports. Credit 2 hours. Soccer, touch football, volleyball, softball, speedball. Second eight weeks.

Recreation 171. Indoor Recreational Sports. Credit 2 hours. Badminton, handball, paddle tennis, squash, racquets, table tennis, weight lifting. First eight weeks.

Recreation 174. Camp Counseling. Credit 3 hours. Objectives, administration, techniques, activity programs, evaluation.

Recreation 176. Principles of Recreation. Credit 3 hours. History of leisure and recreation; concepts of play and recreation; major recreation agencies.

## PHYSICAL EDUCATION FOR WOMEN

P. E. W. 100. Conditioning Activities. Credit 1 hour. Foundation course offering activities for the maintenance and improvement of physical fitness.

P. E. W. 102. Modified Activities. Credit 1 hour. Prescribed recreational sports, relaxation, and exercise. Prerequisite: Recommendation from the Department of Health Service.

P. E. W. 105. Elementary Rhythms. Credit 1 hour. Beginning techniques in the field of dance.

P. E. W. 106. Intermediate Rhythms. Credit 1 hour. Intermediate dance techniques, solo and group dance compositions. Prerequisite: Physical Education for Women 105 or consent of instructor.

P. E. W. 110. Elementary Swimming. Credit 1 hour. A beginning course for those with little aquatic experience.

P. E. W. 111. Sub-intermediate Swimming. Credit 1 hour. For those whose skill is not sufficient to permit registration in Intermediate Swimming.

P. E. W. 122. Speedball—Volleyball. Credit 1 hour. A fast out-of-doors sport combined with indoor volleyball.

P. E. W. 123. Basketball. Credit 1 hour.

P. E. W. 124. Volleyball. Credit 1 hour.

P. E. W. 125. Softball. Credit 1 hour.

P. E. W. 130. Badminton. Credit 1 hour. Personal equipment to be furnished by student.

P. E. W. 131. Golf. Credit 1 hour. Personal equipment to be furnished by student.

P. E. W. 132. Bowling. Credit 1 hour.

P. E. W. 135. Archery. Credit 1 hour. Personal equipment to be furnished by student. Supplemented by varied sports.

- P. E. W. 136. Tennis. Credit 1 hour. Personal equipment to be furnished by student.
- P. E. W. 138. Track and Field. Credit 1 hour.
- P. E. W. 140. Boating and Fishing. Credit 1 hour. Open to students who have completed two semesters of physical education, or consent of instructor.
- P. E. W. 141. Tumbling and Apparatus Stunts. Credit 1 hour. The side horse, parallel bars, stall bars, buck, etc., are used to develop skills in balance and coordination on apparatus. Attention is directed toward safety factors necessary in utilizing this equipment. Forward rolls, backward rolls, group and individual stunts are used.
- P. E. W. 142. Ballroom Dance. Credit 1 hour.
- P. E. W. 143. American Square Dance. Credit 1 hour.
- P. E. W. 144. Elementary Folk Dance. Credit 1 hour.
- P. E. W. 150. Professional Orientation. Credit 2 hours. Introduction to the fields of physical education, health, safety, recreation and dance.
- P. E. W. 151. Body Mechanics, Gymnastics and Hockey. Credit 1 hour. Skill in fundamental body movements, posture and physical conditioning. For physical education majors.
- P. E. W. 152. Volleyball and Softball. Credit 1 hour. Skills, rules, team tactics. For physical education majors.
- P. E. W. 153. Hockey, Soccer and Basketball. Credit 1 hour. Skills, rules, team tactics. For physical education majors.
- P. E. W. 154. Tumbling and Tennis. Credit 1 hour. Skills, stunts, trampoline; tennis skills, rules, tactics.
- P. E. W. 166. Elementary School Games. Credit 2 hours. Games for classroom, playground, and gymnasium; programs, lesson planning, source materials. For physical education majors.
- P. E. W. 201. Badminton, Archery, Track and Field. Credit 1 hour. Skills, rules and tactics.

## DANCE

- Dance 160. Beginning Contemporary Dance. Credit 1 hour. For physical education majors.
- Dance 235. Folk, Square and Social Dance. Credit 2 hours. Designed for men and women students majoring in physical education, recreation and dance. Methods of teaching and directing ballroom, folk and American square dances in school and community groups with emphasis on organization and leadership.
- Dance 236. Folk Dance. Credit 1 hour. Designed for men and women students majoring in physical education, recreation and dance. Typical English and European folk dances with emphasis upon teaching and directing of school and community groups.

## HEALTH EDUCATION

H. E. 281. First Aid. Credit 2 hours. Red Cross course in first aid.

## PHYSICAL SCIENCE

**Phys. Sci. 101. Introduction to the Physical Sciences. Credit 4 hours.** A course designed to meet the general education requirements in physical science. The more important principles of physics, chemistry, geology, and other branches of physical science are introduced and co-ordinated in order to give the non-science student an understanding and appreciation of the field. Credit will not be given for both Physical Science 101-102 and Division of General Studies 141-142. Credit will not be allowed to a student who has college credit in physics or geology. Students with 90 or more credit hours receive only 3 hours credit. Prerequisite: Two units of high school mathematics or consent of the department.

**Phys. Sci. 102. Introduction to the Physical Sciences. Credit 4 hours.** A continuation of Physical Science 101. Credit will not be given for both Physical Science 101-102 and Division of General Studies 141-142. Credit will not be allowed to a student who has college credit in physics or geology. Students with 90 or more credit hours receive only 3 hours credit. Prerequisite: Physical Science 101, or Division of General Studies 141.

## PHYSICS

**Physics 101. General Physics (Mechanics, Heat, Sound). Credit 5 hours.** Lectures with demonstrations, recitations, and laboratory. For students in arts and sciences, and architecture. Prerequisite: Trigonometry.

**Physics 102. General Physics (Electricity, Magnetism, Light, and Modern Physics). Credit 5 hours.** Lectures with demonstrations, recitations, and laboratory. For students in arts and sciences, and architecture. Prerequisite: Physics 101.

**Physics 106. General Physics (Mechanics). Credit 4 hours.** Lectures with demonstrations, recitations, and laboratory. For students in engineering, Mathematics, physics, and chemistry. Prerequisite: Credit or registration in mathematics 133.

**Physics 107. General Physics (Heat, Electricity, Magnetism). Credit 4 hours.** Lectures with demonstrations, recitations, and laboratory. For students in engineering, mathematics, physics, and chemistry. Prerequisite: Physics 106; credit or registration in Mathematics 143.

**Physics 108. General Physics (Wave Motion, Sound, Light, Modern Physics). Credit 4 hours.** Lectures with demonstrations, recitations, and laboratory. For students in engineering, mathematics, physics, and chemistry. Prerequisite: Credit or registration in Physics 107 and Mathematics 143.

**Physics 282. Experimental Nuclear Physics. Credit 3 hours.** Lectures, problems, and laboratory. Nuclear Particles and radiation, nuclear reactions, interaction of radiations with matter, equipment of nuclear physics. Prerequisite: General physics and calculus.

**Physics 321. Theoretical Mechanics. Credit 4 hours.** Lecture and problems. Motion of a particle in one, two, and three dimensions, with applications; Kepler's laws and planetary motion; scattering of particles; conservation laws; motion of a rigid body in two dimensions; statics of extended systems, simple harmonic motion and resonance. Prerequisite: General Physics and Calculus; Credit or registration in Mathematics 343 or 345.

**Physics 322. Theoretical Mechanics. Credit 4 hours.** Continuation of Physics 321. Moving coordinate frames, fictitious forces, special theory of relativity, conservation laws, particle motion and creation; rigid body motion in three dimensions; gravitation and earth motion; generalized coordinates and Lagrange's equations; constraints, small vibrations, special theory of relativity. Prerequisite: Physics 321.

**Physics 341. Electricity and Magnetism. Credit 4 hours.** Lectures, problems, and laboratory. This course is fundamental to advanced courses and should be elected as early as possible by those intending to specialize in physics. The fundamental laws are introduced using the vector notation stressing Maxwell's equations in the integral form. Topics covered with applications and problems include direct current circuits, circuit theorems, electric and magnetic fields, Gauss' Law, capacitance and inductance; energy and forces associated with these fields in free space and in matter. Prerequisite: General Physics and Calculus; Credit or registration in Mathematics 343 or 345, or consent of department.

**Physics 342. Electricity and Magnetism. Credit 4 hours.** Continuation of Physics 341. Effects associated with changing fields and currents, Faraday's Law, displacement current, transient currents, complex variables in circuit analysis, coupled circuits, and circuit theorems. An introduction to the generation and propagation of electromagnetic waves and the wave equations. Prerequisite: Physics 341.

**Physics 360. Thermodynamics. Credit 4 hours.** Lectures and problems. The zeroth, first, second, and third laws of thermodynamics; the properties of the entropy, enthalpy, free energy, and internal energy functions, applications of simple physical and chemical systems; thermodynamic inequalities and equilibrium; phase transitions. Prerequisite: General Physics and Calculus.

**Physics 381. Atomic Physics. Credit 4 hours.** Same as Chemistry 396. A lecture and problem course presenting our modern knowledge of the nature and properties of electrons, light quanta, atoms, and molecules. The topics discussed include evidence for the atomic nature of matter, the properties of free electrons and ions, photons and their interaction with matter, atomic spectra and structure, molecular spectra and structure, and an introduction to the ideas of quantum mechanics, binding in molecules and crystals, and an introduction to some solid state phenomena. Prerequisite: General Physics and Mathematics 343 or 345; Registration in Physics 385 is recommended.

**Physics 383. Atomic Physics and Quantum Theory for Engineers. Credit 3 hours.** Lectures and problems. Introduction to the basic concepts of quantum theory which underlie modern theories of the properties of materials. Topics covered include elements of atomic and nuclear theory, quantum theory and simple applications, atomic spectra and atomic structure, molecular structure and chemical binding, experimental basis of quantum theory, Schrodinger's equation and simple applications, quantum states of molecules, band theory of solids, and quantum statistics. Prerequisite: General Physics; General Chemistry; Mathematics 345 or equivalent.

**Physics 385. Introduction to Quantum Mechanics. Credit 4 hours.** Recommended to physics majors and also to students in other physical sciences and engineering. Experimental foundation; basic postulates; Schrodinger wave equation; hydrogen atom; superposition of states; the calculation of energy, position, momentum, and angular momentum; steady state perturbation theory; identical particles, time-dependent perturbation theory; introduction to Dirac theory. The course emphasizes basic principles, applied to simple examples, many of them one-dimensional. Numerical methods for the solution of eigenvalue problems are taught and used extensively. Prerequisite: Registration in Physics 381 is recommended; Mathematics 343, Mathematics 345, or consent of department.

## **POLITICAL SCIENCE**

**Pol. Sci. 150. American Government: Organization and Powers. Credit 3 hours.** Historical development and organization of national, state, and local governments; the federal system; national and state constitutions; civil and political rights; party system; nature, structure, powers, and procedures of legislative, executive, and judicial departments in state and nation. Prerequisite: Sophomore standing.

**Pol. Sci. 151. American Government: Functions. Credit 3 hours.** Functions of national, state, and local governments; foreign relations and national defense; taxation and finance; law enforcement; police power, regulation of commerce, communications, and business; promotion of social and economic welfare; current problems. Prerequisite: Sophomore standing; Political Science 150 or consent of the department.

**Pol. Sci. 381. American Foreign Relations. Credit 3 hours.** Participation in international affairs; presidential initiative; development and organization of the Department of State; diplomatic intercourse; consular service; treaty-making power; development of foreign policy and its application to areas of major interest. Prerequisite: Six hours of political science or history.

**Pol. Sci. 384. International Relations. Credit 3 hours.** An examination of the nature of the national state system, of the forces affecting international relations, of the sources of conflicts in international politics, and of their solution. Prerequisite: Six hours of political science or history.

## **PSYCHOLOGY**

**Psych. 100. Introduction to Psychology. Credit 4 hours.** Introductory analysis and description of human behavior with special reference to observation, learning, memory, thinking, emotional life, and personality development. Major emphasis is placed upon psychological principles as they relate to daily life and everyday problems. Prerequisite: Second semester freshman standing.

**Psych. 105. Advanced General Psychology. Credit 4 hours.** An introduction to the basic research in the areas of perception, learning, thinking, and emotion. The major emphasis is on scientific method, experimental techniques, methodological problems, and applications to personality research. Prerequisite: Psychology 100 or equivalent, or consent of instructor.

**Psych. 135. Statistical Methods in Psychology. Credit 3 hours.** Application of elementary statistical methods to psychological data. No credit for this course will be given to students who receive credit for Economics 170 or Mathematics 161. Prerequisite: Psychology 100.

**Psych. 145. Industrial Psychology. Credit 3 hours.** A consideration of socio-psychological principles of behavior in business and industry and of the scientific methods of investigation in this area, and a survey of specific methods of personnel technology. Credit is not given for both Psych. 145 and Psych. 245 at Urbana. Prerequisite: Psychology 100.

**Psych. 150. Personality and Human Relations. Credit 3 hours.** A systematic study of the development and structure of personality. An analysis of the dynamics creating different personalities. Test procedures and various types of deviant behavior. Prerequisite: Psych. 100 or equivalent.

## **RHETORIC**

**Rhetoric 101. Freshman Rhetoric and Composition. Credit 3 hours.** This course provides elementary training and practice in the comprehension and expression of written English. Students with 90 or more credit hours receive only 2 hours credit.

**Rhetoric 102. Freshman Rhetoric and Composition. Credit 3 hours.** This course provides elementary training and practice in the comprehension and expression of written English. Students with 90 or more credit hours receive only 2 hours credit. Prerequisite: Rhetoric 101.

**Rhetoric 133. Principles of Composition. Credit 3 hours.** Practice in exposition with emphasis on organization, paragraphing and sentence structure. For the student whose career requires competence in writing clear, precise prose as an adjunct to other professional activity. Credit is not given for Rhetoric 133 in addition to Rhetoric 143. Prerequisite: Rhetoric 102 or equivalent.

**Rhetoric 143. Intermediate Expository Writing. Credit 3 hours.** Practice in expository types, with emphasis on style and critical analysis. Recommended for rhetoric majors. Credit is not given for Rhetoric 143 in addition to Rhetoric 133. Prerequisite: a grade of "A" or "B" in Rhetoric 102 or consent of instructor.

**Rhetoric 144. Narrative Writing. Credit 3 hours.** Practice in description, narrative sketches, stories. Prerequisite: Rhetoric 101 and 102; sophomore standing.

**Rhetoric 151. Business Letter Writing. Credit 3 hours.** Study of the correspondent's problems in business and practice in writing letters, with emphasis on organization, persuasion, and presentation from the reader's point of view. For the student whose career will require competence in writing letters. Prerequisite: Rhetoric 101 and 102.

**Rhetoric 246. Modern English Grammar. Credit 3 hours.** Definition and meaning; the use of dictionaries, grammars; a survey of syntax, etc. Prerequisite: Junior standing.

# RHETORIC FOR FOREIGN STUDENTS

(See also Speech for Foreign Students)

**Rhetoric 103. English as a Foreign Language. No credit.** An intensive review course in basic English structure for foreign students who are inadequately prepared for Rhetoric 101. Prerequisite: Reading knowledge of English and ability to understand instructions.

**Rhetoric 104. English as a Foreign Language. No credit.** A continuation of Rhetoric 103. A rapid and intensive review of basic English structure and a study of more complicated sentence patterns with practice in oral and written composition, designed for students who may be inadequately prepared for Rhetoric 101. Prerequisite: Rhetoric 103 or consent of instructor.

**Rhetoric 105. English as a Foreign Language. No credit.** Intensive writing practice, designed to remedy the foreign student's problems in the area of his special difficulties. May be taken concurrently with Rhetoric 101. Prerequisite: Rhetoric 104 or consent of instructor.

## RUSSIAN

**Russian 101. Elementary Russian. Credit 4 hours.** Reading, writing, oral-aural practice, elements of grammar. For students who have had no work in Russian. No credit toward graduation is given for Russian 101 without Russian 102. Students with 90 or more credit hours receive only 3 hours credit. All students in this course are required to register for one hour of work weekly in the language laboratory.

**Russian 102. Elementary Russian. Credit 4 hours.** Reading, writing, oral-aural practice, elements of grammar. Continuation of Russian 101. Students with 90 or more credit hours receive only 3 hours credit. All students in this course are required to register for one hour of work weekly in the language laboratory.

**Russian 103. Intermediate Russian. Credit 4 hours.** Reading, oral-aural practice, systematic functional grammar. Prerequisite: Russian 102 or equivalent.

**Russian 104. Intermediate Russian. Credit 4 hours.** Reading, oral-aural practice, systematic functional grammar. Prerequisite: Russian 103 or equivalent. Continuation of Russian 103.

## SOCIAL SCIENCES

**Soc. Sci. 111. The Individual in Society. Credit 4 hours.** A general education course designed to equip the beginning student with an understanding of the nature and the role of the individual as a member of the several groupings of his social community. Credit is not given for this course to a student with credit, or concurrent registration, in a course in anthropology, psychology, or sociology. Students with 90 or more credit hours receive only 3 hours credit.

**Soc. Sci. 113. World Patterns and World Problems. Credit 4 hours.** A general education course designed to bring the student to an understanding of the geographic, economic, and political bases of the present world situation. Students with 90 or more credit hours receive only 3 hours credit.

**Soc. Sci. 116. Family Living. Credit 4 hours.** The development of the family from early to modern times. The factors involved in the establishment and maintenance of a family. Opportunities for individual counseling. Prerequisite: Sophomore standing or consent of instructor.

## **SOCIOLOGY**

**Sociol. 100. Introduction to Sociology. Credit 3 hours.** Introductory analysis and description of the structure and dynamics of human society. Special emphasis is placed on the application of scientific methods to the observation and analysis of social norms, groups, intergroup relations, social change, social stratification. Prerequisite: Sophomore standing.

**Sociol. 130. Society and Individual Development. Credit 3 hours.** Nature of person and relation to institutions, social order, and development. Prerequisite: Sociology 100.

**Sociol. 131. Social Problems. Credit 3 hours.** Introductory survey of sociological aspects of chief modern social problems, stressing the social interrelationships and culture conflicts involved in their genesis, significance, and amelioration or prevention. (The nature and the treatment of such community problems as crime, juvenile delinquency, race, old age, physical and mental health, recreation and leisure, etc., will be considered in this course.) Prerequisite: Three hours of sociology or eight hours of social science.

**Sociol. 270. Population and Human Ecology. Credit 3 hours.** Population in relation to resources; concentration and dispersion of people; population facts and theories; cultural and demographic factors in population replacement; structural and spatial distribution and movement of population and theories of human ecology. Designed primarily for students in sociology, geography, economics, biology (premedicine), political science, history and education. Prerequisite: Sociology 100 or consent of instructor.

**Sociol. 276. Sociology of the City. Credit 3 hours.** Study of urban structure and ecology, particularly in light of the planning movement and the urban populations; growth and development of urban communities. Prerequisite: Sociology 100, or 104 and 105, or Division of General Studies 151 and 152.

## **SPANISH**

**Spanish 101. Elementary Spanish. Credit 4 hours.** For students who have no credit in Spanish. Students with 90 or more credit hours receive only 3 hours credit. No credit toward graduation is given for Spanish 101 without 102. All students in this course are required to register for one hour of work weekly in the language laboratory.

**Spanish 102. Elementary Spanish. Credit 4 hours.** Continuation of Spanish 101. Students with 90 or more credit hours receive only 3 hours credit. Prerequisite: Spanish 101 or one year of high school Spanish. All students in this course are required to register for one hour of work weekly in the language laboratory.

**Spanish 103. Intermediate Spanish. Credit 4 hours.** Rapid reading, review of grammar, composition, conversation. Prerequisite: Spanish 102 or two years of high school Spanish.



**Spanish 104. Intermediate Spanish. Credit 4 hours.** Continuation of Spanish 103. Prerequisite: Spanish 103 or three years of high school Spanish.

**Spanish 115. Elementary Composition and Conversation. Credit 2 hours.** A beginning composition and conversation course at the level of difficulty of Spanish 103-104; may be taken concurrently with Spanish 103 and 104. Does not count toward the major in Spanish. Prerequisite: Spanish 102 or two years of high school Spanish.

**Spanish 221. Drama and Poetry of the Twentieth Century. Credit 3 hours.** A study of the nature of contemporary Spanish Drama and poetry through the reading of representative works by A. Machado, Lorca, J. R. Jimenez, Aleixandre, Benavente, Martinez Sierra, Buero Vallejo, and others. Prerequisite: Spanish 104 or 4 years of high school Spanish.

**Spanish 222. Spanish American Fiction of the Twentieth Century. Credit 3 hours.** Readings of contemporary Spanish American novelists and short story writers. Prerequisite: Spanish 104 or 4 years of high school Spanish.

## **SPEECH**

**Speech 101. Principles of Effective Speaking. Credit 3 hours.** Preparation and presentation of short informative and persuasive speeches, with emphasis on the selection and organization of material, methods of securing interest and attention, and the elements of delivery. Credit 3 hours. Students with 90 or more credit hours receive only 2 hours credit.

**Speech 105. Voice and Articulation. Credit 2 hours.** A drill course for improving the use of the normal speaking voice. Credit 2 hours. Students with 90 or more credit hours receive only 1 hour credit.

**Speech 107. Parliamentary Procedure. Credit 2 hours.** Principles and practice of parliamentary procedure. Students with 90 or more credit hours receive only 1 hour credit.

**Speech 111. Business and Professional Speaking. Credit 2 hours.** Study, preparation, and presentation of the chief types of business speeches, with special attention to conferences, sales talks, interviews, and job applications. Prerequisite: Speech 101; sophomore standing.

**Speech 113. Group Discussion and Conference Leadership. Credit 3 hours.** Study of leadership, group process, and interpersonal relations in the small group, conference, and the public forum, with emphasis on practice in leading and participating in various types of public discussions and conferences, with materials drawn from current public questions. Prerequisite: Sophomore standing. By permission of the head of the department, the prerequisite may be waived for Edmund J. James Scholars and other superior students. Offered only in the second semester.

**Speech 121. Advanced Public Speaking: The Logical Bases of Discourse. Credit 3 hours.** Study of the theory of argument—e.g., evidence, reasoning, and construction of briefs; practice in formal and informal forms of debate and public discourse on current public questions. Prerequisite: Speech 101; sophomore standing. By permission of the head of the department, the prerequisite may be waived for Edmund J. James Scholars and other superior students. Offered only in the first semester.

**Speech 141. Oral Interpretation of Literature. Credit 3 hours.** Principles of interpretation, analysis, and oral reading of prose literature, dramatic literature, and verse. Students with 90 or more credit hours receive only 2 hours credit.

**Speech 161. Fundamentals of Acting. Credit 3 hours.** A study of the methods of acting, with emphasis given to basic stage techniques. The role of the character in relation to the play as a whole; the intellectual and emotional values of the play and their interpretation by means of voice and action. Prerequisite: Credit or concurrent registration in Speech 141. Offered only in the second semester.

**Speech 164. Radio Speaking. Credit 2 hours.** Preparation and presentation of the chief types of radio speeches, and of the interview, round table, and discussion; microphone experience.

**Speech 221. Advanced Public Speaking: The Psychological Bases of Discourse. Credit 3 hours.** Study of the processes of motivation as applied to speeches intended to influence group opinion and action; practice in the preparation and delivery of short persuasive speeches. Prerequisite: Speech 101.

## **SPEECH FOR FOREIGN STUDENTS**

(See also Rhetoric for Foreign Students.)

**Speech 103. Speech for Foreign Students. No credit.** A study of the sounds and intonation patterns of American English and the relation of sound to spelling, including drill sessions designed to improve the student's ability to speak and understand English at normal conversational speed. Prerequisite: Reading knowledge of English and ability to understand instructions.

**Speech 104. Speech for Foreign Students. No Credit.** Pronunciation of English for students whose native language is not English. A study of the sounds and intonation patterns of American English is designed to improve the student's ability to speak at a normal conversational speed. Course deals with material in pronunciation similar to Speech 103 but is designed for more advanced students. Prerequisite: Speech 103 or consent of the instructor.

## **STUDENT COUNSELING SERVICE**

(Group Offerings in Academic Achievement and Career Planning.)

**S. C. S. 101. Reading Improvement. No Credit.** For students who wish to increase their rate of reading or to improve their vocabulary and comprehension skills.

**S. C. S. 102. Study Skills Improvement. No credit.** For students who need to develop more effective methods of study. Practice in studying reference materials competently, improving concentration, taking meaningful notes, and preparing for examinations.

**S. C. S. 103. Vocabulary Development. No credit.** For students who need assistance in the development of language skills. Discussions on the use of vocabulary in thinking and communication. Practical exercises in vocabulary building.

- S. C. S. 104. **Career Planning.** No credit. For students who wish to clarify their vocational goals. Focuses on a self-evaluation of abilities, interests, and personal needs as bearing on occupational choice.

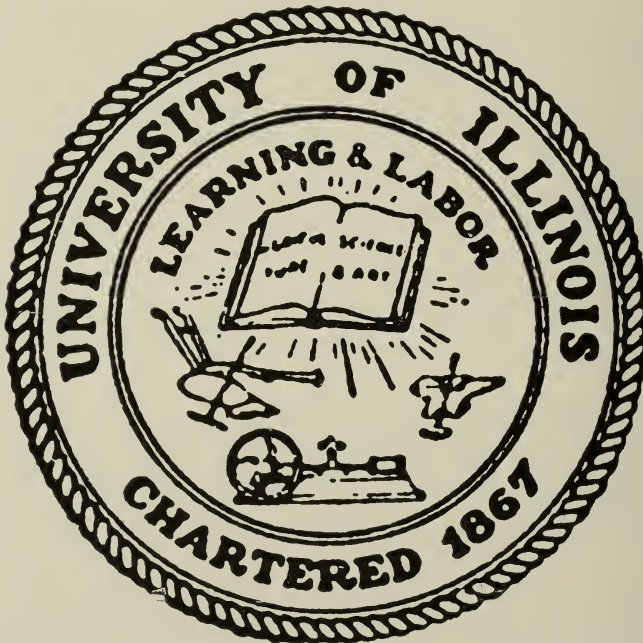
## **THEORETICAL AND APPLIED MECHANICS**

- T. A. M. 150. **Analytical Mechanics (Statics).** Credit 2 hours. Resultants of force systems, algebraic and graphical conditions of equilibrium of force systems; analysis of forces acting on members of trusses, frames, etc.; forces due to friction; centroids. Prerequisite: Physics 101 or 106; registration in Mathematics 143.
- T. A. M. 151. **Analytical Mechanics (Statics).** Credit 3 hours. Resultants of force systems, algebraic and graphical condition of equilibrium for force systems, moment diagrams, virtual work, forces due to friction, centroids. Prerequisite: Physics 106; registration in Mathematics 143.
- T. A. M. 154. **Analytical Mechanics (Statics and Dynamics).** Credit 4 hours. A combination of Theoretical and Applied Mechanics 150 and 211 with less emphasis on some topics. For electrical engineering students. Prerequisite: Physics 106; Registration in Mathematics 143.
- T. A. M. 156. **Analytical Mechanics (Statics and Dynamics).** Credit 5 hours. A combination of Theoretical and Applied Mechanics 150 and 211. Prerequisite: Physics 106; Registration in Mathematics 143.
- T. A. M. 171. **Elements of Mechanics (Statics).** Credit 3 hours. Resultants and equilibrium of force systems; conditions of equilibrium applied to trusses, frames, etc.; forces due to friction; centroids; stress and deformation in direct tension and compression; riveted and welded joints; properties of materials. For architects only. Prerequisite: Mathematics 123.
- T. A. M. 172. **Strength of Materials.** Credit 3 hours. Relationships between external forces acting on beams and the stresses produced; shear, moment, slope and deflection diagrams; moment of inertia; columns. For architects only. Prerequisite: Theoretical and Applied Mechanics 171.
- T. A. M. 211. **Analytical Mechanics (Dynamics).** Credit 3 hours. Displacement, velocity, and acceleration of a particle; relation between forces acting on rigid bodies and the changes in motion produced; translation; rotation; plane motion; solutions using the principles of force, mass, and acceleration, work and energy, impulse and momentum. Prerequisite: Theoretical and Applied Mechanics 150 or 151; Mathematics 143.
- T. A. M. 221. **Elementary Mechanics of Deformable Bodies.** Credit 3 hours. Elastic and inelastic relationships between external forces (loads) acting on deformable bodies and the stresses and deformations produced; tension and compression members; members subjected to torsion and to bending; buckling (columns); combined stresses; repeated loads (fatigue); energy loads, impact; influence of properties of materials. Prerequisite: Theoretical and Applied Mechanics 150 or equivalent; Mathematics 143.
- T. A. M. 223. **Mechanical Behavior of Solids.** Credit 1 hour. Influence of loading conditions and environment on the behavior of engineering

materials; effects of rate of loading, time, temperature, number of stress cycles, and state of stress on the ductile and brittle behavior of materials; significance of mechanical properties. Prerequisite: Registration in Theoretical and Applied Mechanics 221.

T. A. M. 224. Behavior of Materials. Credit 3 hours. Introduction to atomic and molecular structure of metals, cement, concrete, plastics, ceramics, and glass; response of these materials to rapid, steady, and repeated loads at various temperatures (and environments) in terms of rheological models; fracture behavior of specific materials, i.e., stress rupture, brittle fracture, and fatigue of metals and concrete. Prerequisite: Theoretical and Applied Mechanics 221.

T. A. M. 232. Fluid Mechanics. Credit 3 hours. Analysis of flow of fluids in pipes and in open channels; Bernoulli's theorem; viscosity, laminar and turbulent flow; effects of jets on vanes; hydraulic similitude; dimensional analysis; Reynold's and Froude's numbers. Prerequisite: Theoretical and Applied Mechanics 211.





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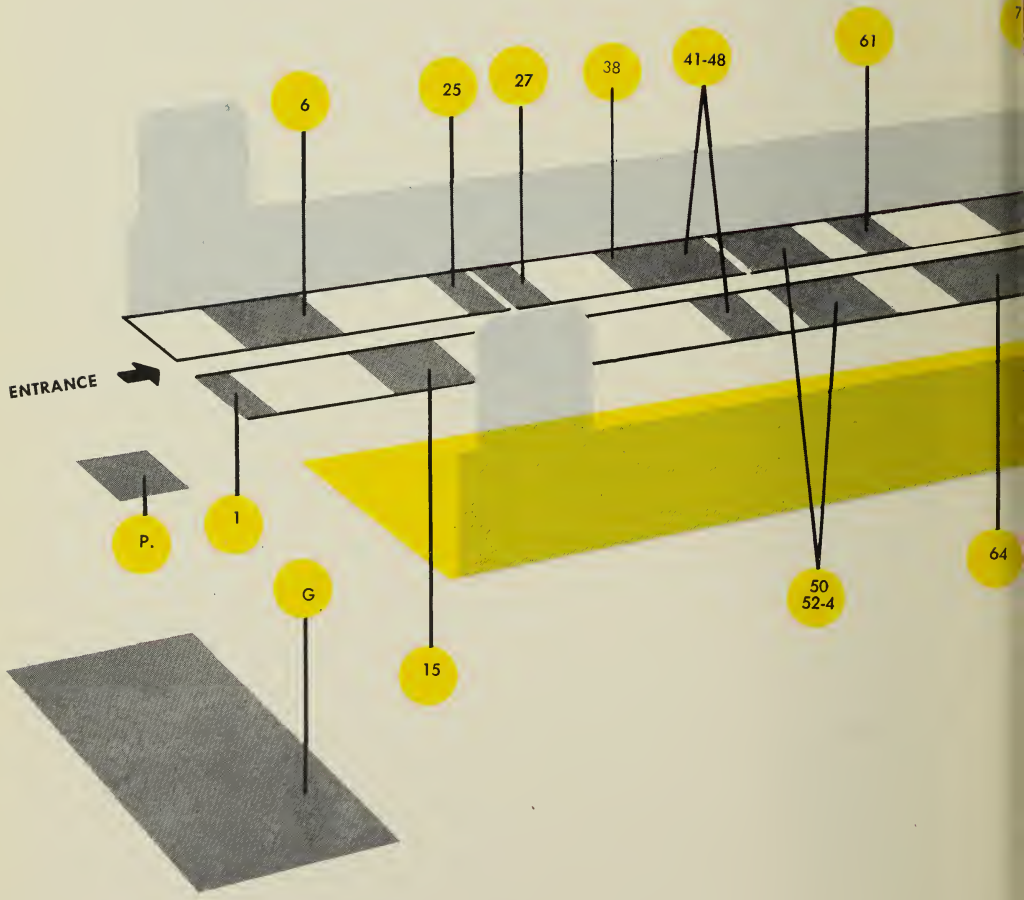
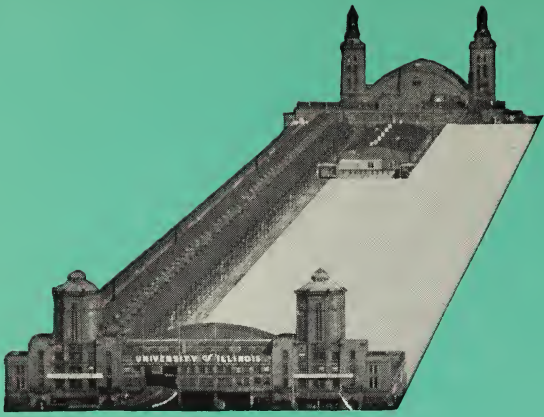
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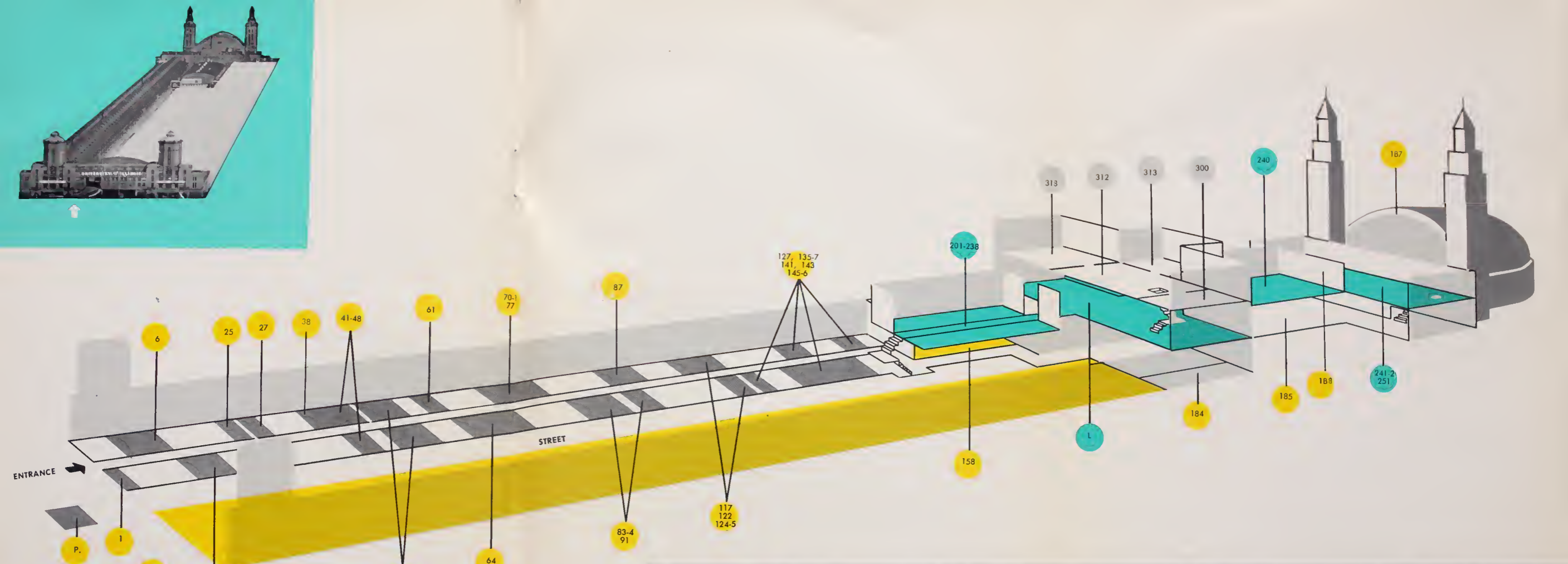
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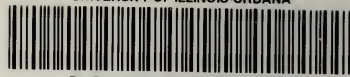


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