

CORNELL UNIVERSITY  
ANNOUNCEMENTS

MARCH 12, 1965

SUMMER SCHOOL  
June 30—August 13, 1965

## SUMMER SESSION OFFICE

THE OFFICE of the Summer Session is in Room B-20, Ives Hall; the telephone number of the office and of the Director is 275-5192. The office will be open from 8 a.m. to 4:30 p.m., except Saturday, during the period of the Summer School; on Saturday the office will close at 12 noon. Professor William A. Smith is Director.

## ADMINISTRATIVE BOARD

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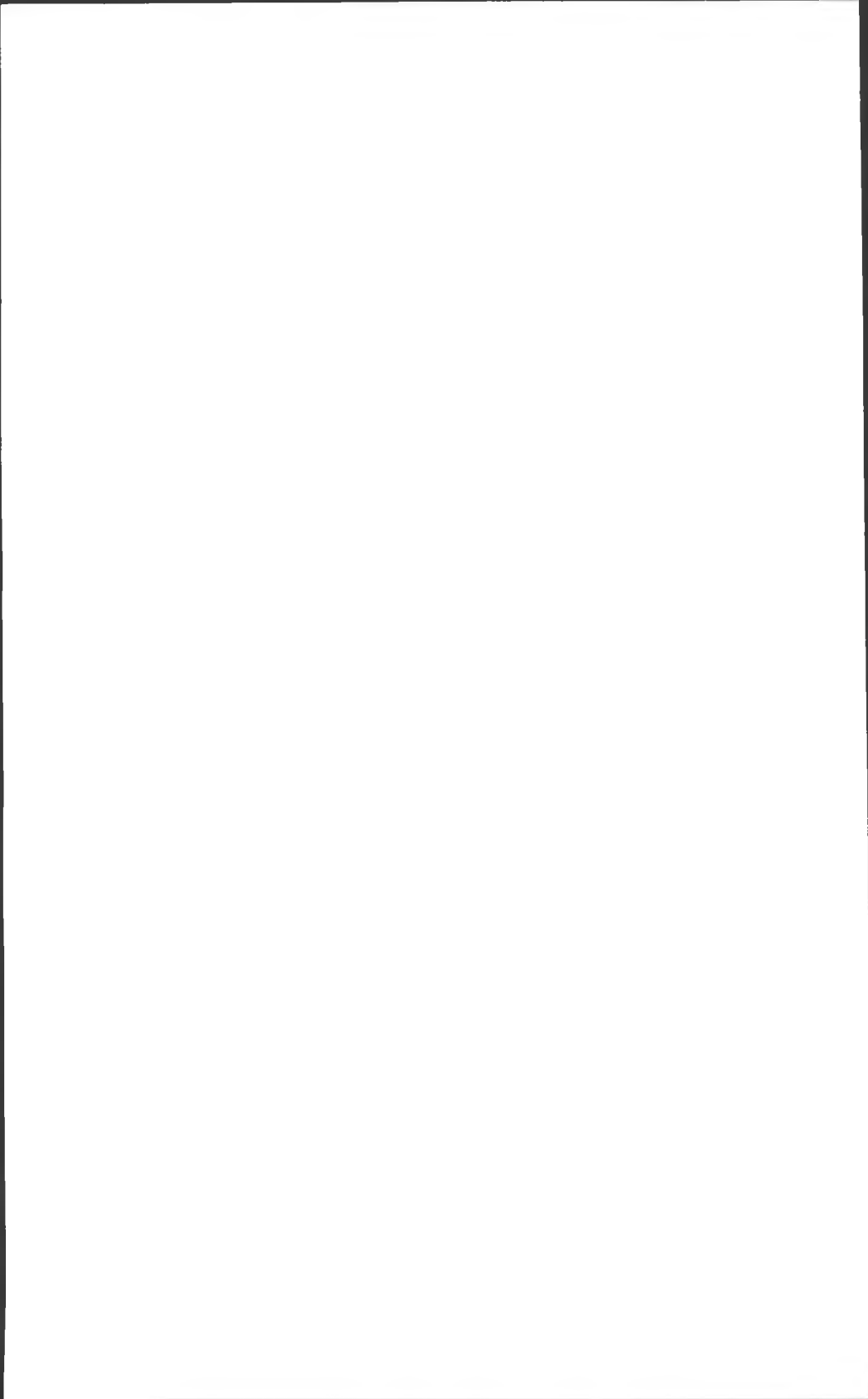
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**CORNELL UNIVERSITY**

**SUMMER SCHOOL**

**JUNE 30—AUGUST 13, 1965**

**AND OTHER PROGRAMS  
OF THE SUMMER SESSION**



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# CALENDAR

## REGULAR SUMMER SCHOOL SESSION, 1965

- June 30, Wednesday* Registration for the regular Summer School session: undergraduates, 8:30 a.m. to 11:30 a.m.; graduates and special students, 1:00 p.m. to 3:30 p.m., in Lynah Hall. Tuition and fees are due for payment at the Treasurer's Office, 260 Day Hall. Persons registering after this date without prior approval will pay a \$10 fee for late registration.
- July 1, Thursday* Instruction begins at the time and place announced for each course. Late registrants report to the Summer Session Office, B-20 Ives Hall, to complete registration.
- July 2, Friday* Last day for withdrawal from Summer School without payment of a fraction of tuition and fees.
- July 5, Monday* Last day for payment of tuition and fees at the Treasurer's Office, which closes at 4:30 p.m.
- July 9, Friday* Last day for making changes in registration *without payment of fee* at the Summer Session Office. A \$10 fee for change in registration will be charged after this date.
- July 21, Wednesday* Last day for making changes in registration. *No changes will be permitted after this date except for reasons beyond the control of the student.*
- July 26, Monday* Registration for the second period of any three-week unit courses at the Summer Session Office.
- August 12, Thursday* Final examinations begin; schedule on page 19.
- August 13, Friday* Summer School ends, 4 p.m.

***Be sure to bring this Announcement with you for use on registration day and throughout the Summer School.***

## GENERAL INFORMATION

CORNELL UNIVERSITY is situated in Ithaca, in the beautiful Finger Lakes region of upstate New York. In its Summer School, academic instruction at both graduate and undergraduate levels is offered by members of the faculties of the Graduate School, of the Colleges of Architecture, Arts and Sciences, Engineering, Agriculture, and Home Economics, and of the Schools of Education, Industrial and Labor Relations, and Hotel Administration.

This unification of the curricula and faculties of the several schools and colleges makes possible the adaptation of academic work to the special needs of students in the summer. Undergraduate courses are equivalent to required and elective collegiate courses in the academic year leading to the baccalaureate. Advanced courses, seminars, and informal study, treating topics of concern to students with special interests, are available. The program is designed with particular regard for what can be treated satisfactorily in a short term and in the summertime. The needs of teachers are met not only in the institutes, seminars, and professional courses in Education, but also in courses in a number of subject fields. A number of sessions, some of which operate concurrently with the Summer School session, are offered for students with special interests and whose attendance is limited to particular periods. For description of other sessions, see pages 45-54.

Classes in the summer provide the particular advantage of optimum size for close association between student and instructor. The median size class in the Summer School is about 12 students, with 70 per cent of all classes in the size range of 5 to 18 students.

All necessary facilities of the University are available to students registered in the Summer School: libraries, classrooms, and laboratories; residence halls, dining rooms, and cafeterias; health services and medical care; counseling services; student union, chapel, playing fields, and recreational areas.

## ADMISSION

The Summer School's objective is to place the facilities of the University at the disposal of persons who can use them to good advantage and for serious purposes during the summer period.

Admission of undergraduate or graduate students to the Summer School establishes no priority with respect to admission to the regular terms. Students seeking admission to Cornell undergraduate colleges should apply to the Office of Admissions, 247 Day Hall, by January first of the year in which entrance is desired.

Students are eligible for admission to the Summer School in the following categories:



## Undergraduates

This category includes all persons who are candidates in good standing for the Bachelor's degree and those precollege, high school graduates who have been accepted for admission to Cornell University or elsewhere. No other high school students will be accepted except in certain other programs of the Summer Session described on pages 45 and 46.

Undergraduates are required to preregister for a program of courses totaling between three and seven credit hours. A student who can devote full time to course work is expected to enroll for more than the minimum number of hours. A program of more than seven credit hours will be permitted only to students with high academic averages. Application for admission consists of completing the undergraduate application form found in the back of this Announcement, or which will be mailed on request. An undergraduate candidate for a degree at Cornell University must have his application approved by the appropriate officer of his school or college (see page 5).

*June 21, 1965, is the closing date for admission of undergraduates.*

High school graduates and undergraduate degree candidates should consult the appropriate official either in the college to which they have been admitted or in the college where they are now matriculated for advice in planning their summer study programs. This is recommended in order that they may be assured that the credit earned will be appropriate to their degree programs. Courses in Summer School carry credit equivalent in amount and value to that available in the comparable academic year courses offered at Cornell. Undergraduates are not permitted to register for audit except by permission of the Director of the Summer School.

## Graduates

This classification is only for candidates for advanced degrees at Cornell University or elsewhere. Application for admission to the Summer School should be made before June 15. A graduate student may register as late as July 1 but is advised to select courses by June 15 in order to ensure a place in classes. The graduate application form will be found in the back of this Announcement or will be mailed on request. Admission to the Summer School in this category does not constitute admission to the Graduate School of Cornell University as a candidate for an advanced degree.

A graduate student matriculated in the Graduate School of Cornell University may, upon the recommendation of his Special Committee chairman, register for as many as eight hours of credit. Six credit hours constitute a minimum program for residence credit. (See page 9 for information regarding admission to the Graduate School.)

A graduate student who is a candidate for a degree at an institution other than Cornell University, and who is planning to obtain credit toward this degree by means of his Summer School work, does *not* register in the Cornell Graduate School but only in the Summer School. Before registering he should arrange for the accrediting of his work by the institution from which he plans to take his degree.

## Special Students

A mature person who is not a candidate for an academic degree will be admitted to the Summer School in courses taken for credit for vocational or personal purposes. These courses may be elected at either the graduate or undergraduate level depending on the student's background. Such a person would apply for admission by completing the "special students" application form found in the back of this Announcement or mailed on request. A "special student" may apply for admission as late as June 30 but is advised to select courses by June 15 in order to ensure a place in classes. Programs of more than eight hours of credit must have the approval of the Director of the Summer Session.

High school students who do not classify as "undergraduates" (see page 3) are not eligible for admission to the Summer School as "special students."

## Application for Admission

Application for admission to the Summer School of 1965 must be made on an application form found in the back of this Announcement. Request for an additional copy should be addressed to the Director of the Summer Session. When requesting an application, please indicate whether for undergraduate, graduate, or special student status. In most cases the information called for on this form will be sufficient.

Registration coupons, necessary for registration in the Summer School, will be mailed to the applicant after favorable action on the application has been taken. Included is a Certificate of Admission.

## ACADEMIC CREDIT

All courses offered in the Summer School are assigned appropriate hours of credit. Students are not to register for any course work which normally cannot be completed by the end of the Summer School term.

In this Announcement each course is marked immediately after the title in one of three ways:

(U): These courses carry undergraduate credit. Students registered in the Graduate School of Cornell University will not receive credit toward advanced degrees for these courses unless such credit is specifically recommended by the committees in charge of their work.

(U,G): These courses are offered both at the graduate and undergraduate levels. Graduate students who are candidates for advanced degrees or who wish certification for work done at the graduate level must indicate at the time of registration their intention to complete the course at the graduate level and must be prepared to do any additional work that may be required. Students registered in "U,G" courses should consult with their instructors early in the session to see that the level is properly recorded. Accuracy of final grade reporting depends upon such action.

(G): These courses are intended primarily for students who are candidates for advanced degrees, for teachers, and for others who wish certification to accrediting agencies for work done at the graduate level. Undergraduates with adequate preparation may register for these courses only after receiving permission from the instructors in charge.

## Auditors

A graduate or special student who desires to attend a course or courses for no credit may register for such courses as an auditor. Such registration requires regular attendance in the class and completion of all required work except examinations. Undergraduates are not permitted to register for audit except by permission of the Director of the Summer School.

A mark of "V" will be recorded for satisfactory completion of a course. Tuition for auditing a course will be charged at the same rate as for credit.

## Credit toward Degrees at Cornell University

A student matriculated in an undergraduate school or college of Cornell University will be admitted to the Summer School only after the officer from the following list has approved and signed his application for admission.

College of Agriculture: Professor J. P. Hertel.

College of Architecture: Dean Burnham Kelly.

College of Arts and Sciences: Associate Dean G. F. Cronkhite.

College of Home Economics: The student's counselor.

College of Engineering: *Basic Studies*, Professor H. G. Smith; *Chemical*, Professor C. C. Winding; *Civil*, Professor N. A. Christensen; *Electrical*, Professor W. H. Erickson; *Industrial*, Professor B. W. Saunders; *Materials and Metallurgy*, Professor M. Burton; *Materials Sciences*, Professor A. L. Ruoff; *Mechanical*, Professor G. R. Hanselman; *Engineering Physics*, Professor T. R. Cuykendall.

School of Hotel Administration: Dean R. A. Beck.

School of Industrial and Labor Relations: Mr. D. P. Dietrich.

This approval will indicate that the school or college will accept credit in the designated courses as credit toward a degree.

## Grades

All course grades are reported on the basis of a numerical scale from 0 to 100. The only exceptions permitted are for registrations for audit and for those offerings for graduate students involving individual work such as in research and special problems. In the case of auditors the mark for satisfactory completion will be "V" ("Visitor") to be recorded on the official transcript. A mark of "Satisfactory" (S) or "Unsatisfactory" (U) may be used for graduate students registered for research and other individual work.

If a student is prevented, for medical or other reasons acceptable to the instructor, from completing the work in any course before the last day of the session, he may request the instructor to report his grade as "Incomplete." In such cases the instructor will report the mark as "Inc." *A mark of 50 will become the final recorded grade for the course if the work is not completed by January 1, 1966.* It is the student's responsibility to make such specific arrangements with his instructors. Students are not to register for any work which normally cannot be completed by the end of the Summer School term.

A student who drops a course without official change in registration will automatically receive a failing grade.

The colleges of Cornell University regard the grade of 60 as the lowest passing grade.

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Grades for courses studied by Cornell graduate and undergraduate students are automatically sent to their college offices. For all other students, a transcript of the academic record for study in the Summer School will be sent to the college of the student's choice only upon request directed to the University Registrar. Normally there are no grades, and no transcript is available for "non-credit" courses.

### REGISTRATION

Registration for the full Summer School session will take place on Wednesday, June 30, in Lynah Hall. The certificate of admission, sent to each pre-admitted student, will give the hour of the day at which he will be admitted to the Hall. Directions for registration procedure will be issued at the entrance. Students who, for any reason, have not received a certificate of admission will report to the Admissions table in Lynah Hall: undergraduates at 9 a.m.; graduates and specials at 1:30 p.m. Persons who fail to appear for registration in Lynah Hall on June 30, during the scheduled registration hours, will be charged a fee of \$10 for late registration unless the fee is waived through prior approval.

Students registering *only* for one or more Summer School unit courses scheduled to start after June 30 will do so on the date of the first class meeting in the course. Unless otherwise specified, the place of registration will be the Summer Session Office, B-20 Ives Hall, at a time which does not interfere with attendance in the class.

Formal registration is required for admission to any of the classes of the Summer School.

Registration for *Other Programs* (see pages 45 to 54) will take place at the time and place specified for each program.

### Changes in Registration

All changes in registration after Wednesday, June 30, must be made by appearing at the Summer Session Office, B-20 Ives Hall, as early as possible. (See below for penalty fees.) *No change in registration will be permitted after 4 p.m. on July 21 except for reasons beyond the control of the student.* When a change in registration involves enrollment in another course, the permission of the instructor of the new course is necessary.

Changes in registration include cancellation of a course, change from one course to another, change in graduate or undergraduate level, addition of a course to a program, change in credit hours, or change from credit to auditor's status in a course or vice versa.

*Changes in registration cannot be effected by notifying the instructor of a given course. Students must appear at the Summer Session Office in order to make program changes official.*

### Withdrawal from Summer School

A student may apply for withdrawal at any time. He must come to the Summer Session Office to do so. The Treasurer may refund a part of the tuition and general fee or cancel a part of the obligation which the student has incurred for

tuition, provided the reason for withdrawal is stated in writing and is satisfactory to the Treasurer and the Registrar. The student is required to pay 20 per cent of the term's tuition and general fee for each week or fraction of a week between the first registration day and the date of his certificate of withdrawal. There is no charge if withdrawal is made by Friday, July 2.

## TUITION AND FEES

Tuition and fees are due and payable at the Treasurer's Office in Day Hall on registration day, June 30. The last day for payment without penalty is Monday, July 5. A penalty of \$10 is charged if payment is made after that date. The Treasurer's Office closes at 4:30 p.m.

### Tuition

Tuition is charged according to the number of credit hours for which the student is registered. The rate of tuition is \$40 per credit hour. Summer School students permitted to elect one or more courses from a Special Program of the Summer Session (see pages 45-54) will be charged at the \$40 rate per credit hour.

### Fees and Deposits

All students in the Summer School session will pay, in addition to tuition, a general fee of \$5 per week which entitles them to medical and hospital services (see page 12), administration services, and student union membership. Fees for laboratories, field trips, and incidental expenses are charged in certain courses and are indicated by asterisks in the course descriptions. A student who finds it necessary to register after the regular registration day must pay a \$10 late registration fee. A student who wishes to make a change in program after 4 p.m. on July 9 must pay a \$10 fee. *No change in program will be permitted after 4 p.m. on July 21 except for reasons beyond the control of the student.*

### Graduate Registration Deposit

A deposit of \$28 must be made by every applicant for admission to the Cornell Graduate School after the applicant has received notice of acceptance, unless the candidate has previously matriculated as a student at Cornell University. The deposit is used to pay the matriculation fee and covers certain expenses incidental to graduation if the student receives a degree. The deposit is not refundable.

### Other Regulations Concerning Fees

Any student, graduate or undergraduate, who fails to pay his tuition, fees, and other indebtedness, or, if entitled to free tuition fails to claim it at the Treasurer's Office and pay his fees within the time prescribed by the University, will be dropped from the University. When in his judgment the circumstances in a particular case so warrant, the Treasurer may allow an extension of time to complete payments. For such an extension, the student will be assessed a fee of \$5. A reinstatement fee of \$10 will be assessed any student who is per-

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mitted to continue or return to classes after being dropped from the University for default in payments. For reasons satisfactory to the Treasurer and the Registrar, which must be presented in writing, the latter assessment may be waived in any individual case.

*The amount, time, and manner of payment of tuition, fees, or other charges may be changed at any time without notice.*

### Financial Aid

Normally students registered in the Summer School are not eligible for University financial aid. In special cases, however, when the applicant is a regular full-time student at Cornell and his Summer School program has the full approval of his faculty adviser, he will be considered for loan assistance.

There are no general University scholarships for Summer School study.

Opportunities for student employment during the summer session are so limited that students should not rely on this means of financing any part of their Summer Session expenses.

### Cashing of Checks

The Treasurer of the University accepts checks in settlement of charges payable at his office, but a rule of the Board of Trustees forbids him to cash any credit instrument, even to the extent of accepting a check or draft in amount greater than the sum due and returning the excess in cash. Students are therefore advised to open an account in an Ithaca bank as soon as they arrive in town, or else to provide themselves with travelers' checks, drafts on New York City banks, money orders, or other forms of credit instruments such as a bank will cash in the ordinary course of business.

## THE GRADUATE SCHOOL

The Graduate School is an administrative unit entirely separate from the administration of the Summer School. *Only candidates for advanced degrees at Cornell University are registered in the Graduate School in the summertime.* Students who take course work at the graduate level in the Summer School, but who are not candidates for advanced degrees at Cornell University, have no connection with the Graduate School.

### Credit for Advanced Degrees

Summer School credits may be used for fulfillment of requirements for the following advanced degrees, under regulations of the faculty of the Graduate School: Master of Arts (M.A.); Master of Science (M.S.); Master of Science for Teachers (M.S.T.); Master of Arts for Teachers (M.A.T.); Master of Education (M.Ed); Master of Industrial and Labor Relations (M.I.L.R.); Doctor of Education (Ed.D.); and Doctor of Philosophy (Ph.D.).

A program of six or more credit hours in the Summer School session, approved in advance and reported as acceptable by the Special Committee, is counted as two-fifths of a residence unit if the candidate has registered in both the Summer

School and the Graduate School. Requirements for Masters' degrees may, upon approval of the field, be completed solely during the summer period if instruction in the chosen major and minor subjects is offered. Only two residence units for study in the Summer School may be accepted in fulfillment of requirements for the doctorate. Upon recommendation by the Special Committee of a student and on approval by the Dean of the Graduate School, two-fifths of a unit of residence may be transferred for study in one preceding Cornell Summer School period if such study is attested to be an integral part of the graduate program subsequently undertaken.

## Admission

Students intending to become candidates for advanced degrees at Cornell should write to the Dean of the Graduate School, Sage Graduate Center, for application forms and for the *Announcement of the Graduate School*. Applications received before May 1 will be acted upon in time for the accepted candidate to register in the Graduate School on registration day, June 30. The Admissions Committee cannot give assurance that an application received after May 1 will receive the same consideration that it would receive if filed before this date.

## Registration Deposit

On admission to the Graduate School, the applicant is required to pay the sum of \$28 within twenty days of notification of admission, unless he has matriculated previously at Cornell (see also page 7).

## Registration

*Students approved for admission in the Graduate School must register in both the Summer School and the Graduate School.* Full information and proper forms for registering in the Graduate School are to be obtained at the Graduate School table in Lynah Hall on registration day. The registration must be completed within *one week* of registration day. To register, each candidate must file a Registration-of-Courses form properly approved by his Special Committee. Each *new* candidate must file a Nomination-of-Committee form.

*Such registration is regarded in the same fashion as registration for a regular semester and affects the deadlines for fulfillment of requirements.*

Candidates registered in the Summer School who were not registered in the preceding spring term, but who expect to continue as full-time graduate students in a succeeding fall or spring term, must arrange with the Dean of the Graduate school for permission to register in the regular term.

## Completion of Requirements

Candidates for advanced degrees who expect to complete requirements and to take their final examinations at the end of the Summer School should call at the Office of the Graduate School not later than the third week of the session for the necessary instructions and forms.

## Candidates in the School of Education

Students interested in the degrees of Master of Education (M.Ed.), Master of Arts for Teachers (M.A.T.), or Doctor of Education (Ed.D.) should consult the *Announcement of the School of Education*, which may be obtained by writing to the Announcements Office, Day Hall. The faculty of the School of Education, functioning as a division of the faculty of the Graduate School, has special jurisdiction over these degrees.

## HOUSING AND DINING

### Housing

Rooms are available in University-operated housing units for all students registered in the six-week Summer School—both graduate and undergraduate men and women. A leaflet giving detailed information on housing, *Residence Halls for Men and Women*, will be mailed by the Office of the Summer Session after admission has been approved. Rooms are furnished with desk, desk chair, desk lamp, bookcase, reading chair, chest of drawers, bed, bed linens (laundered by the University), blankets, and bedspread. Individual rooms are cleaned weekly, including replacement of bed linens. Daily bedmaking is the responsibility of the occupants. The occupants also furnish their own towels and soap.

### UNDERGRADUATE WOMEN

All undergraduate women and women under twenty-one who are registered as special students are required to live and take their meals in a University residence hall. There will be a uniform charge of \$208 for board and room for the Summer School period.

There is a head resident in the dormitory who, in cooperation with the counseling staff of the Office of the Dean of Students, is responsible for the conduct and social life of the students. The dormitory opens at 6 a.m. daily and closes at midnight Sunday through Thursday, and at 1 a.m. Friday and Saturday.

### GRADUATE WOMEN

All graduate women and those special student women twenty-one and over may make application for accommodations in a graduate residence hall or make arrangements to live off campus.

The rates for the Summer School period are \$66 for single and \$48 per person for double accommodations. For periods of three weeks or less the rates are \$12 single and \$9 double per person per week or part of a week. All rates cover the cost of room only. There are no prescribed hours for the daily closing of the graduate dormitory.

### MEN STUDENTS

Single and double rooms will be available to both undergraduate and graduate men. Rates for the Summer School period are \$66 for single and \$48 per person for double accommodations. For periods of three weeks or less, the rates are \$12



single and \$9 double per person per week or part of a week. All rates cover the cost of room only.

Insofar as is practical, all men students are left to the regulation of their own affairs, subject to the University's general rules with regard to student conduct. There are no prescribed closing hours for men's dormitories.

#### OPENING-CLOSING DATES

Living units to be used during the Summer School session will open for occupancy on Tuesday, June 29; they will close at 2 p.m., Saturday, August 14. *Earlier or later occupancy will not be possible under any circumstances.*

#### APPLICATIONS FOR ROOMS

An application for a room assignment in a residence hall cannot be given consideration unless it is submitted on an official application form to the Department of Housing and Dining Services. Room application forms are distributed *only* by the Office of Summer Session and Extramural Courses *after* admission has been approved, and each student will automatically receive one with his Summer School registration coupons.

#### ASSIGNMENTS

Assignments for both men and women are made in order of receipt of application, and the earliest mailing date will be approximately May 15. Since requests for the Summer School period must take precedence over those for shorter periods, it may be impossible to forward actual assignments until ten days prior to short-course registrations.

#### ROOM DEPOSITS

A \$5 room deposit is required. A check or money order, drawn to the order of Cornell University, should be attached to the room application to ensure prompt action. *This deposit is not applied on the residence charge* but is refundable, less any miscellaneous charges on the student's account. Refunds will be made about September 15. This date applies even though the student terminates residence prior to the end of the Summer School.

Room deposits which accompany room applications will be refunded to those students who file with the Director of Housing and Dining Services written intention to withdraw the application, provided such notice is received by June 15. *The deposit will not be refunded on cancellations received after June 15.*

#### HOUSING FOR MARRIED STUDENTS AND OFF-CAMPUS HOUSING

The Off-Campus Housing Office in Day Hall is maintained by the Department of Housing and Dining Services. This office is a bureau of information only, maintaining files of voluntarily listed accommodations for the use of students who call at the office. Such lists cannot be mailed to prospective students.

Students wishing to sublet houses or apartments off campus, or married-student apartments operated by the University on campus, are advised to arrive in Ithaca

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in advance of registration in order to secure such quarters. Sublet rentals for the Summer School range from \$65 to \$175 a month.

There is normally an adequate supply of rooms available in off-campus locations for the Summer School. These rooms vary considerably in comfort, convenience, and safety. Before leasing a room careful consideration should be given such details as distance from campus and dining facilities, price, ventilation, sanitation, furnishings, and fire escapes. Arrival in Ithaca a few days in advance of registration will assure students of a better selection of off-campus rooms.

Information concerning married-student or off-campus accommodations will be mailed upon request. Address inquiries to the Department of Housing and Dining Services, Day Hall.

### Dining Services

The student union building, Willard Straight Hall, offers complete cafeteria and snack bar service as do Baker Cafeteria in University Hall I, Noyes Lodge on Beebe Lake, the Martha Van Rensselaer Cafeteria, and the Dairy Bar Cafeteria in Stocking Hall. Meals obtained in these places, or in the cafeterias, dining rooms, and restaurants near the campus, will cost approximately \$2 to \$3 a day.

## HEALTH SERVICES

The facilities of the student medical services are available to all students officially registered in the Summer Session as follows:

### *FOR REGULAR (SIX WEEKS) SUMMER SCHOOL STUDENTS:*

1. Unlimited visits to the Gannett Medical Clinic, 10 Central Avenue.
2. Hospitalization with medical care for two days at Tompkins County Hospital; a per diem charge, according to accommodations occupied, is made if hospitalization extends beyond two days.
3. Emergency surgical care. This is defined as initial surgical procedures which are necessary for the immediate welfare and safety of the patient.

### *FOR STUDENTS REGISTERED IN SPECIAL PROGRAMS:*

1. Same as (1) above for the period of registration.
2. Hospitalization based upon length of registration—none if less than three weeks; if more than three weeks, graduated up to fourteen days, the maximum based on the entire Summer Session of approximately three months.
3. Emergency surgical care. Same as (3) above except none for students registered for less than three weeks.

If a student elects to consult a private physician, the cost of this service is not covered by the health fee.

*Students who withdraw from the Summer Session terminate Health Services as of the withdrawal date.*

### Clinic Hours

Monday through Friday .....	9 a.m.—4:30 p.m.
Saturday .....	9 a.m.—12 noon
Sunday .....	10—11 a.m.

Physicians are on duty at the above hours except between 12 noon and 2 p.m. weekdays. Nurses are in attendance at all times during clinic hours.

## Emergency Service

On a limited basis with a nurse in attendance, the Gannett Medical Clinic will also be open 4:30 to 11 p.m. weekdays, 12 noon to 11 p.m. Saturdays, and 11 a.m. to 5 p.m. Sundays, for illnesses and accidents occurring after regular clinic hours. These extra hours are not intended for conditions that could be treated during the regular hours. Should illness or accident occur after 11 p.m. on a weekday or after 5 p.m. on a Sunday, students should call 272-6962 or 275-5211 for instruction.

A doctor is always available for calls of an emergency nature when an accident has occurred or when the student is too ill to come to the clinic or the hospital. (In the women's dormitories these calls should be made by the Head Resident whenever possible.) Telephone calls for this service should be made through the Gannett Medical Clinic, Ithaca 275-3493, *when the clinic is open (see hours above)*, Ithaca 272-6962 after clinic hours. This service is not designed to care for students in their rooms. A charge of \$5 in the daytime and \$10 at night is made for these calls.

## COUNSELING SERVICES

### Individual Counseling

The Office of the Dean of Students, 133 Day Hall, has a trained guidance and counseling staff to serve students in personal, educational, and social areas.

### Foreign Students

The International Student Office, 142 Day Hall, maintains a staff prepared to assist all students from other countries who may need information about living quarters, immigration matters, personal and social problems, or other questions.

## LIBRARIES

The University libraries in Ithaca comprise the Central Library, consisting of the Olin Library for graduate study and research and the Uris Library for undergraduate use, the Mann Library of Agriculture and Home Economics, the Fine Arts Library, the Business and Public Administration Library, the Engineering Library, the Library of the School of Hotel Administration, the Library of the School of Industrial and Labor Relations, the Law Library, and the Veterinary Library. In addition there are numerous department libraries in the separate schools and colleges.

The union catalog, the general collection of reference books and documents, the chief bibliographical publications, and the principal series of academy and learned society publications are located in the Olin Library. Specialized reference materials will be found in the various college, school, and department libraries. The Reference Department of the Olin Library and the library staffs of the college, school, and department libraries are prepared to assist students in the effective use of the libraries and in the location of research materials.

The total library resources on the Ithaca campus exceed 2,500,000 volumes. The number of periodicals, transactions, and other serials currently received is over 20,000.

In the course of their development the libraries have acquired and have built up a variety of special collections. Illustrative of these resources are collections on the American Civil War, Abolition and Slavery, Apiculture, Botany, China and Southeast Asia, Dante, English and French Revolutions, Freemasonry, History of Science, History of Superstition, Icelandic, Joyce, Kipling, Pascal, Petrarch, Shaw, Wordsworth, and Regional History, and the University Archives.

The privilege of borrowing books for home use is granted to all students who comply with the library regulations. Presentation of the official Summer Session Registration Certificate is required when borrowing books. Stack permits for the Olin and Mann libraries are issued to graduate students. Carrels in the stacks of the Olin, Mann, and Industrial and Labor Relations libraries are also available for assignment to graduate students upon application.

## **SPECIAL REGULATIONS**

### **Conduct and Scholarship**

The Summer School is administered under the same regulations governing conduct and scholarship which apply to all sessions of the University. Students are expected to familiarize themselves with dormitory and other rules and to abide by them.

The Cornell University student code states that the University expects that a Cornell student will conduct himself as a responsible member of society.

Disciplinary cases are referred to the Faculty Committee on Student Conduct for appropriate action. A student may be removed from the University if, in the opinion of the Committee, such action is in the University's best interests.

### **Automobile Regulations**

The University does not encourage student use of automobiles but recognizes that in certain cases there may be important reasons why a student needs an automobile. Any person registered in a program of the Summer Session who owns, maintains, or for his own benefit operates a motor vehicle in Tompkins County must do the following: (1) he must register the vehicle with the Traffic Bureau of the Safety Division at the time of Summer School registration, or within 48 hours after bringing it to Tompkins County during the term; (2) he must pay a fee of \$1 and display, as directed, a registration sticker; (3) he must be legally qualified to operate a motor vehicle in New York State; (4) the vehicle must be registered in New York State or legally qualified to be operated on the highways of New York State; (5) the vehicle must be effectively insured against public liability for personal injury and property damage for the minimum of \$10,000-\$20,000-\$5,000.

Motorcycles and motor scooters must be registered but may not be used on campus during class hours. Trailers, as family units, are not allowed on any University property. Students may not park on campus from 8 a.m. to 5 p.m., Monday through Friday, and from 8 a.m. to 1 p.m., Saturday, and from two days prior to the day of registration to the last day of examinations during the Summer Session.

Each student registered for any program in the Summer Session is required to complete the Safety Division coupon at the time of registration whether or not he has a vehicle. This is essential for the general safety and welfare of the student. The Safety Division Office is the only office on campus open twenty-four hours a day to which inquiries, in the event of an emergency, can be directed when other sources of information are closed.

The student's registration in the University is held to constitute an agreement on his part that he will abide by its rules and regulations with regard to traffic and parking or suffer the penalty prescribed for any violation of them. All privileges here indicated may be denied a student who is not in good standing.

Suspension of the privilege of operating a motor vehicle may be enforced by requiring the student to deposit his registration plates and certificate and his driver's license with the Safety Division of the University during the period of such suspension. Refusal to comply with such a request may result in the student's suspension from the University.

## THE WEEKLY BULLETIN AND CALENDAR

The Summer School *Weekly Bulletin*, issued and posted on each Saturday of the Summer School, contains not only all official notices but details of public events and also news about special activities on the campus. Copies may be obtained without charge at the desk in Willard Straight Hall, at the Summer Session Office, in the Martha Van Rensselaer Cafeteria, and in Noyes Lodge. Students are advised to secure copies regularly.

## EXTRACURRICULAR ACTIVITIES

The Summer Session, in cooperation with departments and agencies of the University, arranges a balanced extracurricular program of public events and recreation designed to enrich the campus experience of its students, especially those who are not at the University during the academic year.

### Willard Straight Hall

The University union building serves as a campus gathering point and a center for social, cultural, and recreational activities. It provides meal service; snacks for late afternoon and evening; lounges; rooms for student meetings; the University Theatre; a billiard and game room; a barber shop for men; a browsing library well stocked with books, periodicals, and newspapers; a craftshop; a music room; and an art lounge. On the upper floors of the Hall are sleeping rooms used principally by parents and guests of students, by alumni, and by guests of the University.

In addition to regular meal service, the Willard Straight dining department is equipped to serve informal parties, teas, receptions, private luncheons and dinners, and barbecues, and to provide picnic box lunches.

The Main Desk is a focal point for campus information and services. Newspapers, current magazines, postcards, candy, and cigarettes, as well as tickets to many campus functions are available. The daily tours of the campus originate here. Travel information and road maps may be procured from the desk.

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The Willard Straight Summer Session Committee arranges lectures, trips, nature walks, square dances, art exhibits, open houses, tournaments, luncheons with distinguished faculty, receptions, and dances. Students are encouraged to submit new program ideas, and to participate on the committee.

### Concerts

The Summer Session concert series will consist of five Thursday evening concerts. The dates are July 8, 15, 22, 29, and August 5. All concerts begin at 8:15 p.m. Performing artists will be announced.

### Religious Services

#### SAGE CHAPEL

Non-denominational services in the Protestant tradition are held in Sage Chapel throughout the academic year with visiting clergymen of various denominations preaching. During the Summer School period a similar series is provided in the chapel at 11 a.m. on the six Sundays, July 4–August 8, inclusive.

#### ANABEL TAYLOR HALL

Catholic Masses are scheduled every day during the Summer Session at 6:45 a.m. and 12 noon.

Jewish services are conducted at 8 p.m. Fridays and 9:30 a.m. Saturdays during the Summer Session.

Cornell United Religious Work, the University's division of religious affairs, has its headquarters in Anabel Taylor Hall. The University Chaplains, with offices in Anabel Taylor Hall, may be reached through the CURW Information Office, Room 118, Extension 4214.

#### SUMMER SCHOOL CHOIR

Music for the Sage Chapel services is provided by the Summer School Choir, Professor Thomas A. Sokol, Choirmaster, and by the Summer School Organist, Mr. George E. Damp. The Choir rehearses in Sage Chapel on Tuesday evenings at 7:15 p.m. and on Sunday mornings at 9:30. The first rehearsal will be held on Sunday, July 4. All students and other interested persons are invited to participate.

### Public Lectures

A varied program of lectures, open to students in the Summer School as well as to members of the University community at large, is a feature of the Summer Session. Admission is free.

### Summer Theatre

A resident producing company under the direction of the University Theatre staff will again offer weekly dramatic presentations illustrating varied trends in playwriting and production modes. Among performances during the past two summers have been such plays as Samuel Beckett's *Endgame*, Bertolt Brecht's

*Galileo*, Augustin Daly's *Under the Gaslight*, John Dos Passos' *U.S.A.*, Christopher Fry's *The Lady's Not for Burning*, James Joyce's *Finnegans Wake*, and John M. Synge's *The Well of the Saints*. The 1965 series of presentations will continue to satisfy the taste of discriminating playgoers as to both choice of material and standard of production. Dates of the performances, for which admission is charged, appear in the *Weekly Bulletin*.

The Summer Theatre program is coordinated with the course offerings in the Department of Speech and Drama (see page 43). Undergraduate and graduate credit is available to qualified students who enroll in Speech and Drama 383, Theatre Practice. Students enrolled in this course fulfill their laboratory requirements by working with the resident producing company. Related to Theatre Practice are such Speech and Drama courses as 286, Play Production; 375, The Motion Picture: A Survey; 393, American Drama and Theatre; and 396, Modern European Drama. Any of these latter courses may be taken separately. Any one of them taken in conjunction with Theatre Practice constitutes a full-course load of six credit hours.

Details of participation in the Summer Theatre program—for academic credit or on an extracurricular basis—may be obtained from Professor George McCalmon, Managing Director, Summer Theatre, 106 Lincoln Hall, Cornell University, Ithaca, New York 14850.

## Art Exhibits

### ANDREW DICKSON WHITE MUSEUM OF ART

Cornell's White Art Museum presents many loan exhibitions in addition to housing the University art collections for teaching purposes.

During the summer of 1965, selections from the Museum's Asian, contemporary, and graphics collection will be on view.

The Museum is open daily, except Monday, from 11 to 4:30; Sunday, from 2:30 to 5.

### FRANKLIN ART GALLERY

Exhibits by summer staff, including visiting artists-critics, will be on view in the Art Gallery in Franklin Hall. The gallery will be open from 8 a.m. to 5 p.m. Monday through Friday.

### VAN RENSSELAER ART GALLERY

Students and staff are cordially invited to visit the exhibits on display in the Housing and Design Art Gallery on the third floor of Martha Van Rensselaer Hall (Room 317). The Gallery is open Monday through Friday from 12 to 5.

## Sports

Softball diamonds on Upper Alumni Field, tennis courts conveniently situated around the campus, and the 18-hole University Golf Course on Warren Road are available for the use of Summer School students. A gorge at one end of Beebe Lake on the campus forms a natural swimming pool where two guards are on duty every day of the session from 1 to 6 p.m.

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Private lessons in golf, tennis, and swimming, and an intramural softball league are sponsored by the Department of Physical Education and Athletics.

The gymnasium in Teagle Hall offers facilities to male students for basketball, volleyball, and general workouts Monday through Friday from 9 a.m. to 6 p.m. Presentation of the official Summer Session Registration Certificate is required for admittance.

### GRUMMAN SQUASH COURTS

Facilities for squash and handball are available daily to male students. Participants must furnish their own game equipment. Presentation of the official Summer Session Registration Certificate is required for admittance.

### SWIMMING

Swimming facilities in Teagle Hall pool will be available for male students Monday through Friday each week from 12:30 to 3 p.m. Students will be admitted upon presentation of the official Summer Session Registration Certificate. A towel may be obtained upon presentation of the Registration Certificate.

### INTRAMURAL SOFTBALL LEAGUE

Groups or individuals who wish to participate in softball competition should see Mr. Glen Davis, 275-3557 or 275-3475.

### PRIVATE LESSONS

The Department of Physical Education and Athletics sponsors private lessons in golf, tennis, and swimming.

**TENNIS.** Hours to be arranged. Call Mr. Jerry Lace, 275-4320 or 273-3667.

**GOLF.** Hours and Instructor in charge to be announced. Call Mr. George Hall at the University Golf Course, 275-3361.

**SWIMMING.** Hours to be arranged. See Mr. Glen Davis at Beebe Lake, or call 275-3475 or 275-3557.

## Summer-Ithaca

A calendar of varied events of interest to summer residents and visitors to the Finger Lakes area is published by Summer-Ithaca, a community organization, and the Ithaca Chamber of Commerce. Cornell University cooperates in developing this program of events. The scope of activities includes theatre, concerts, lectures, films, exhibits, and recreation designed to appeal to a wide range of ages and interests. All events, many without charge, are open to Summer School students and add to the attractiveness of summer in Ithaca.



# CURRICULUM

THE COURSES of instruction are listed under departmental headings arranged alphabetically with few exceptions. For offerings in particular subject fields consult the Index. Because of demands that may be placed upon the instructing staff, it is occasionally necessary to substitute instructors for those named in the course descriptions. *The Director reserves the right to cancel any course for which, through unforeseen circumstances, satisfactory instruction cannot be provided.*

UNIT COURSES, more or less than six weeks in length, are indicated by a *u* following the course number, and their dates are given in the descriptions. (See page 7 for tuition charges.)

COURSES REQUIRING LABORATORY OR OTHER FEES are marked by asterisks. (\*)

CLASS SCHEDULES . . . In most courses of instruction, classes will meet five times a week, on each weekday except Saturday. Unless otherwise specified, all courses extend through the regular six-week session, June 30—August 13.

The hours of class meetings are specified in the description of each course. Courses carrying 2 credit hours meet daily for 50 minutes unless otherwise specified.

MEETING PLACES of courses are given in the course descriptions. Any changes in room assignments will be found in a supplementary announcement which will be distributed to students at the time of registration.

EXAMINATIONS . . . With a few exceptions, examinations will be held on Thursday, August 12, and Friday, August 13, at the hours indicated by the schedule below. The usual classrooms will be used unless a change is announced by the instructor. In courses in which no examination is to be given, an announcement to that effect will be made by the instructor; in such cases, the last meeting of each course will be held in the examination period for that course.

Deviations from the following schedule are permitted only if all class members and the instructor agree on the change and if no student in the class has a conflict in time.

*Examinations will be held as follows:*

8 o'clock classes, Thursday at 8.

9 and 9:30 o'clock classes, Friday at 8.

10 o'clock classes, Thursday at 10:30.

11 and 11:30 o'clock classes, Thursday at 2.

12, 12:30, and 1 o'clock classes, Friday at 10:30.

1:40 and 2 o'clock classes, Friday at 2.

## AGRICULTURAL ECONOMICS

(See Other Programs, page 46.)

## AGRICULTURAL EDUCATION

(See Other Programs, page 46.)

## AGRICULTURAL ENGINEERING

(See Other Programs, page 46.)

## ANTHROPOLOGY

**Anthro. 271. LIVING RACES OF MAN.** (U) 3 hours credit. M T W Th F 9:30-10:45. McGraw 305. Mr. KENNEDY.

A study of the formation, distribution and microevolution of biological varieties of contemporary human populations.

**Anthro. 301. CULTURAL ANTHROPOLOGY.** (U,G) 4 hours credit. M T W Th F 11-12:15. McGraw 305. Mr. KENNEDY.

A study and comparison of the types of learned, shared, and transmitted behavior patterns and ideas by means of which men of various periods and places have dealt with their environment, worked out their social relations with their fellow men, and defined their place in the cosmos. An inquiry into human nature and its expression in man's institutional and intellectual creations.

**Anthro. 332. ETHNOLOGY OF MIDDLE AND SOUTH AMERICA.** (U,G) 4 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 221. Mrs. DOBYNS.

A descriptive and analytical survey of contemporary native cultures of Middle and South America in terms of economic, social, political, and religious organization. Representative groups from all cultural areas are considered, ranging from such marginal peoples as the Tierra del Fuegians to such complex civilizations as the Inca.

**Anthro. 541. SEMINAR—MIDDLE AND SOUTH AMERICA.** (G) 2 hours credit. To be arranged. Goldwin Smith 221. Mrs. DOBYNS.

An analysis of the economic, social, political, and ideological aspects of contemporary Latin American culture in relation to current trends of change and modernization.

## ART

### Drawing, Painting and Sculpture

**Art 12. FIGURE DRAWING.** (U,G) 3 hours credit. M T W Th F 8-11. Franklin 316. Mr. ATWELL.

For both beginning and advanced students. Several different approaches to drawing the human being will be presented and varieties of drawing media encouraged. A model will be employed.

**Art 13. FIGURE PAINTING.** (U,G) 3 hours credit. M T W Th F 8-11. Franklin 316. Mr. ATWELL.

For both beginning and advanced students. Several different approaches to painting the human being will be presented. Oil, gouache,

or casein may be used. A model will be employed.

**Art 14. PAINTING AND DRAWING.** (U,G) 3 hours credit. M T W Th F 8-10. Franklin 200. Mr. BRACH.

Personal instruction for people with previous experience.

**Art 15. METHODS AND MATERIALS OF ART.** (U,G) 3 hours credit. M T W Th F 8-10. Franklin B-15. Mr. KAHN.

For both teachers and non-teachers interested in the techniques of the painter and the history of their use in various ways of building a painting through glazing, impasto, etc.

**Art 16. MOTIFS OF MODERN ART.** (U,G) 3 hours credit. M T W Th F 10-12. Franklin 200. Mr. BRACH.

A workshop program designed to explore the formal elements of the major movements of modern art from Cezanne through the Cubists to the present.

**Art 17. BASIC DRAWING AND COMPOSITION.** (U,G) 3 hours credit. M T W Th F 10-12. Franklin B-15. Mr. KAHN.

Space, color, and form in modern painting. Primarily for beginners. Lectures, exercises, and projects.

**Art. 18. SCULPTURE.** (U,G) 3 hours credit. M T W Th F 8-11. Foundry. Mr. KURHAJIC.

Individual assignments and criticism for students of all levels of experience.

**Art 19. METHODS AND MATERIALS OF SCULPTURE.** (U,G) 3 hours credit. M T W Th F 8-11. Foundry. Mr. KURHAJIC.

An introduction to the carving of wood and stone; casting and carving of concrete; optional work in other media.

## History and Appreciation

**Hist. of Art 204. INTRODUCTION TO RENAISSANCE AND MODERN ART.** (U,G) 3

hours credit. M T W Th F 11-12:15. Goldwin Smith 24. Mr. WAAGE.

A survey of the more important paintings and sculptures by the major artists in Europe and the United States from about A.D. 1400 to the present. Those artists will be treated who have proved to be the most pioneering and inventive and who therefore have had the greatest influence upon the subsequent course of art. The purpose is not only to make the student aware of this influence but, even more, to acquaint him with the individual styles of these masters so that he can identify their works upon sight. No practice of art is involved.

**Hist. of Art 263. TWENTIETH CENTURY ART.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 24. Mr. WAAGE.

Modern art, primarily painting, from the Post-Impressionists to the present. An attempt is made to explain why the modern movement of art arose in the first place; then the course of its development is traced in the works of the more talented and influential artists. Since the period under study is much shorter, a more precise and thorough treatment of the individual styles of the artists and of the formal, or aesthetic, qualities of their creations is possible than in Fine Arts 204. No art practice is involved.

## BACTERIOLOGY

**\*Bact. 201. GENERAL BACTERIOLOGY.** (U,G) 5 hours credit. Prerequisite, a beginning course in chemistry. Lectures, M T W Th F 1:45-3. Stocking 119. Laboratory, daily 3-5. Stocking 301. Mr. DUNICAN.

A general survey of the field of bacteriology, with fundamentals essential to further work in the field as well as the application of the basic principles of bacteriology in agriculture, home economics, industry, and public health. Fee, \$10.

**Bact. 202. GENERAL BACTERIOLOGY.** (U,G) 3 hours credit. Lectures, M T W Th F 1:45-3. Stocking 119. Mr. DUNICAN.

The lecture part of Course 101. Registration with permission of the instructor.

**\*Bact. 206. GENERAL BACTERIOLOGY LABORATORY.** (U,G) 2 hours credit. Prerequisite, a lecture course in introductory bacteriology. Laboratory, M T W Th F 3-5. Stocking 301. Mr. DUNICAN.

The laboratory part of Course 201. Fee, \$10.

## BIOCHEMISTRY

**Bioch. 400. GENERAL BIOCHEMISTRY.** (U,G) 4 hours credit. Prerequisite, organic chemistry. Lectures, M T W Th F 8-10. Savage 100. Mr. NEAL.

A basic course dealing with the chemistry of biological substances and their transformations in living organisms.

**\*Bioch. 401. GENERAL BIOCHEMISTRY.** (U,G) 2 hours credit. Prerequisite, quantitative analysis and, parallel, Course 400. Laboratory, M T W Th F 10-12:30. Savage 230. Mr. NEAL and assistants.

Laboratory practice with biochemical substances and experiments designed to illustrate chemical reactions which may occur in biological systems. Fee, \$20.

## BOTANY

**\*Bot. 101u. INTRODUCTORY BOTANY.** (U,G) 3 hours credit. *July 1–July 23.* Lectures, M T W Th F 9 and 2. Plant Science 143. Laboratory, M T W Th F 10–12:30. Plant Science 240, 242. Mr. GRIERSON and assistant.

Designed to give students an understanding of the growth and evolution of plants and their role in nature. Provides the basic knowledge necessary for those who intend to specialize in some aspect of plant science. Botany 101 is devoted to a study of growth in the flowering plants, with emphasis placed on structure, function, and reproduction. Fee, \$10.

**\*Bot. 102u. INTRODUCTORY BOTANY.** (U,G) 3 hours credit. *July 26–August 13.* Lectures, M T W Th F 9 and 2. Plant Science 143. Laboratory, M T W Th F 10–12:30. Plant Science 240, 242. Mr. MATTEI and assistant.

Botany 102 is concerned with the phyla of plants, with representative life cycles, and with a consideration of the importance of various

groups in the study of biological principles. The study of the evolution of the groups of plants is based on genetical and environmental mechanisms that control it. The classification and ecology of plants is introduced in several laboratory periods spent in the field. The scientific process, the growth of botanical knowledge, botanical principles and, particularly, the necessity of changing interpretations as new information is acquired are introduced throughout the course. Fee, \$10.

**\*Bot. 471. SPECIAL PROBLEMS IN BOTANY.** (U,G) 2 or more hours credit. Individual time of lectures and/or laboratories to be arranged. Members of the staff of the Department of Botany, the L. H. Bailey Hortorium, and the Laboratory for Cell Physiology, Growth, and Development.

Undergraduate and graduate students engaged in special problems or making special studies may register in this course with prior approval of staff member. Laboratory fee variable.

## CHEMISTRY

*Students and members of the teaching staff are required to wear either prescription glasses or safety glasses in all chemistry laboratories.*

**\*Chem. 103u. INTRODUCTION TO CHEMISTRY.** (U) 3 hours credit. *June 30–July 23.* Prerequisite: at least 2 units of mathematics. No prior course in chemistry is prerequisite, but one unit or more of secondary-school chemistry is recommended. Registration permitted only to students who register also for Chem. 104u. Lectures, M T W Th F 8–9:50. Baker 207. Recitation, M T W Th F 10–10:45. Baker 207, 302, 316, and 18. Laboratory, M T W Th F 10:45–1. Baker 150. Mr. BEACHLEY and assistants.

An introduction to chemistry, with emphasis on the important principles and facts of inorganic and organic chemistry. Texts: Sienko and Plane, *Chemistry* (2d ed.); Sienko and Plane, *Experimental Chemistry* (2d ed.). Fee, \$7.50.

**\*Chem. 104u. INTRODUCTION TO CHEMISTRY.** (U) 3 hours credit. *July 26–August 13.* Prerequisite: Chem. 103u or its equivalent. Lectures, M T W Th F 8–9:50. Baker 207. Recitation, M T W Th F 10–10:45. Baker 207, 302, 316, and 18. Laboratory, M T W Th F 10:45–1. Baker 150. Mr. BEACHLEY and assistants.

A continuation of Chemistry 103u. If passed

with a grade of 70, this course serves as a prerequisite for Chemistry 205 or Chemistry 353. Texts: as listed above for Chemistry 103u. Fee, \$7.50.

**\*Chem. 205. QUALITATIVE INORGANIC ANALYSIS AND IONIC EQUILIBRIUM.** (U, G) 4 hours credit. Prerequisite: Chemistry 104 with a grade of 70 or better, or its equivalent. Lectures, M T W Th F 8. Baker 22. Laboratory, any three hours daily between 9 and 1. Baker 50. Mr. HESTER and assistant.

Application of the theory of chemical equilibrium to the properties and reactions of the ions of selected elements, and the separation and detection of these ions in solution. Text: King, *Qualitative Analysis and Electrolytic Solutions*. Fee, \$10.

**\*Chem. 236. INTRODUCTORY QUANTITATIVE ANALYSIS.** (U,G) 4 hours credit. Prerequisite: Chemistry 205 or 108 or 116 or their equivalent. Required of candidates for the degree of A.B. with a major in chemistry. Lectures, M T W Th F 8. Baker 206. Laboratory, any three hours daily between 9 and 1. Baker 52. Mr. GOLD and assistant.

A study of the fundamental principles of quantitative chemistry. Laboratory experiments are designed to illustrate basic principles and practice of quantitative procedures. Text: Blaedel and Meloche, *Elementary Quantitative Analysis*. Fee, \$15.

**Chem. 276. INTRODUCTION TO PHYSICAL CHEMISTRY.** (U) 3 hours credit. Prerequisites: Chemistry 104 or 108 or 116, Mathematics 293, and Physics 223 or 225 or 227, or their equivalent. Lectures, M T W Th F 8-9:15. Baker 177. Mr. — and assistant.

A brief survey of physical chemistry for engineering students.

**Chem. 353. ELEMENTARY ORGANIC CHEMISTRY.** (U,G) 4 hours credit. Prerequisite: Chemistry 104 at a grade of 70, or 108 or 116, or their equivalent. Chemistry 355 must be taken concurrently with Chemistry 353. Primarily for students in the premedical and

biological curricula. The student should determine the entrance requirements for the particular medical school he wishes to enter. Lectures, M T W Th F 8-10. Baker 107. Mr. — and assistants.

An integrated study of aliphatic and aromatic organic compounds, their occurrence, methods of preparation, reactions, and uses. The relationship of organic chemistry to the biological sciences is stressed. Text: Morrison and Boyd, *Organic Chemistry*.

**\*Chem. 355. ELEMENTARY ORGANIC LABORATORY.** (U,G) 2 hours credit. Must be taken with Chemistry 353. Laboratory, M T W Th F 10-12:50. Baker 250. Mr. — and assistants.

Laboratory experiments on the preparation and reactions of typical aliphatic and aromatic organic compounds. Text: Adams, Johnson, and Wilcox, *Laboratory Experiments in Organic Chemistry* (5th ed.). Fee, \$15.

## CLASSICS

### Greek

**Greek 101. GREEK FOR BEGINNERS.** (U) 3 hours credit. M T W Th F 8-9:15 and 11-12:15. Goldwin Smith 124. Mr. SPOFFORD.

Introduction to Attic Greek. Must be taken with Greek 103.

**Greek 103. ATTIC GREEK.** (U) 3 hours credit. A continuation of Greek 101. Must be taken with Greek 101. Mr. SPOFFORD.

### Latin

**Latin 107. SELECTIONS FROM CICERO AND CATULLUS.** (U) 3 hours credit. Prerequisite, Latin 106 or two units of entrance Latin; may also be taken by those seeking qualification in Latin. M T W Th F 9:30-10:45. Goldwin Smith 120A. Mr. ROBERTSON.

A considerable amount of review in the fundamentals of Latin will be included in this course.

## CONSERVATION

(See Other Programs, pages 47, 48.)

## ECONOMICS

**Econ. 103. MODERN ECONOMIC SOCIETY.** (U) 3 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 260. Mr. McNULTY.

A survey of the existing economic order with particular emphasis on the salient characteristics of the modern American economy. The concentration is on explaining and evaluating the operation of the price system as it is modified and influenced by private organizations and government policy.

**Econ. 104. MODERN ECONOMIC SOCIETY.** (U) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 260. Mr. McNULTY.

Concentration on the determinants of aggregate economic activity. The main areas studied are the monetary and banking systems, the composition and fluctuations of national income, the major determinants of economic growth, all as influenced by monetary, fiscal and other policies.

**Econ. 311. INTERMEDIATE ECONOMIC THEORY.** (U,G) 3 hours credit. Prerequisite, 103 or its equivalent. M T W Th F 9:30-10:45. Goldwin Smith 264. Mr. RITCHIE.

Analysis of the pricing processes in a private enterprise economy under varying competitive conditions, and their role in the allocation of

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resources and the functional distribution of national income.

**Econ. 312. TRADE FLUCTUATIONS.** (U,G) 3 hours credit. Prerequisite, Economics 104 or its equivalent. M T W Th F 8-9:15. Goldwin Smith 234. Mr. HOLESOVSKY.

A study of the nature and causes of business recessions, revivals, and booms, and of general price trends, together with a consideration of various alternative methods of promoting business cycle stabilization and price stabilization. The approach will be partly historical, partly analytical.

**Econ. 351. PRIVATE ENTERPRISE AND PUBLIC POLICY.** (U,G) 3 hours credit. Prerequisite, Economics 103-104. M T W Th F 8-9:15. Goldwin Smith 264. Mr. RITCHIN.

The approach to public policy in a private enterprise system in the light of the economist's concepts of competition and monopoly. Economic bases for delineating the public and private sectors and the public regulatory function. An analysis and appraisal of the prevalence and effectiveness of competition in the American economy, with particular emphasis on the business organization; the price, production, and marketing policies; and the economic performance of a range of industries characterized by varying degrees of market concentration and government intervention.

**Econ. 361. INTRODUCTION TO INTERNATIONAL ECONOMIC THEORY AND POLICY.** (U,G) 3 hours credit. Prerequisite, Economics 103-104 or their equivalent. M T W Th F 11-12:15. Goldwin Smith 264. Mr. ZUPNICK.

A survey of the principles that have evolved as guides for the determination of international economic policies. Topics include balance of payments, foreign exchange, theory of trade

and tariffs, capital movements, and international adjustment mechanisms. Attention is paid to the historical evolution of principles, policies, and institutions from precapitalist origins to the present.

**Econ. 367. COMPARATIVE ECONOMIC SYSTEMS.** (U,G) 3 hours credit. Prerequisite, consent of the instructor. M T W Th F 9:30-10:45. Goldwin Smith 248. Mr. HOLESOVSKY.

Advanced discussion of selected topics: economic planning—methods and procedures; growth of gross national product and of industrial production; investment policies; changes in living standards; foreign trade; the Seven-Year Plan. Comparisons with West European countries and with the United States.

**Econ. 372. PROCESS OF ECONOMIC GROWTH AND DEVELOPMENT.** (U,G) 3 hours credit. Prerequisite, Economics 103-104 or consent of the instructor. M T W Th F 9:30-10:45. Goldwin Smith 234. Mr. ZUPNICK.

A consideration of various contributions by economists and others to an understanding of how societies grow and undergo institutional change. Quantitative and qualitative processes are distinguished but treated as closely interdependent. The problems and processes of the transition to modernism are contrasted with those of both older and newer societies of various modern types. Some possibilities of combining elements from economics and other fields to form a broad approach to economic development are explored.

**Econ. 417. INTRODUCTION TO MATHEMATICAL ECONOMICS.** (U,G) 3 hours credit. Prerequisite, Economics 311 and consent of the instructor. M T W Th F 11-12:15. Goldwin Smith 234. Mr. BRIDGE.

Application of elementary mathematical techniques to economic analysis.

## EDUCATION

The School of Education presents the following program to serve public and private school personnel and other persons interested in professional preparation and improvement. The following visiting faculty members will augment the regular faculty of the School in teaching the courses offered in the Summer School and in other special programs.

DR. GARTH BLACKHAM, Associate Professor of Education, Arizona State University, Tempe.

DR. CLYDE W. BRESFE, Director of Guidance, Athens Area Schools, Athens, Pennsylvania.

DR. L. DODGE FERNALD, JR., Chairman and Assistant Professor, Psychology Department, Bowdoin College, Brunswick, Maine.

DR. ANDREW HALPIN, Professor of Education, Washington University, St. Louis, Missouri.

DR. EDWARD HARRINGTON, Professor of Education, San Jose State College, California.

DR. JOSEPH JUSTMAN, Acting Director, Bureau of Education Program Research Statistics, Board of Education, Brooklyn, New York.

DR. JAMES I. MASON, Superintendent of Schools, Ithaca, New York.

## Administration and Supervision

**R.E. 561. THEORY AND PRACTICE OF ADMINISTRATION.** (G) 3 hours credit. M T W Th F 11-12:15. Warren 132. Mr. HALPIN.

A basic course in the theory and processes common to a variety of administrative positions both within the school system and elsewhere. Both the science and the art of administration are examined. Theory is employed in group analysis of case studies. This course is required for certification in administration.

**R.E. 562. SECONDARY SCHOOL PRINCIPALSHIP.** (G) 3 hours credit. M T W Th F 9:30-10:45. 320 Wait Avenue. Mr. MASON.

The responsibilities of the secondary school principal within the school building. Special attention will be given to the problems of the six-year high school.

**R.E. 563. ELEMENTARY SCHOOL PRINCIPALSHIP.** (G) 3 hours credit. M T W Th F 9:30-10:45. Warren 201. Mrs. EGNER.

Systematic treatment and discussion of problems of administration of staff, pupils, finances, and plant; deals with the responsibilities of the principal in his role as elementary school administrator.

**R.E. 565. PRINCIPLES AND PROCEDURES IN SUPERVISION.** (G) 3 hours credit. M T W Th F 11-12:15. Warren 37. Mr. PIERCE.

A basic course in the nature and scope of supervision; fundamental principles and various procedures will be considered. Open to those already in supervisory positions, either in school work or elsewhere, and experienced persons aspiring to become supervisors.

**Ed. 567. SCHOOL LAW FOR ADMINISTRATORS AND TEACHERS.** (G) 3 hours credit. M T W Th F 11-12:15. Warren 260. Mr. HIXON.

A study of school law with particular emphasis on New York State legislation, court decisions, opinions, and regulations which affect the schools of the state.

**R.E. 569. PERSONNEL ADMINISTRATION IN EDUCATIONAL INSTITUTIONS.** (G) 3 hours credit. M T W Th F 8-9:15. Warren 201. Mr. PIERCE.

Designed to provide an introduction to modern psychological and sociological perspectives of personnel administration. Three purposes are paramount: (1) to acquaint the student with a variety of ways of conceiving the problems of personnel administration; (2) to acquaint

the student with relevant research; and, (3) to develop some facility in the analysis of conceptual schemes and research projects.

**R.E. 668. SEMINAR IN EDUCATIONAL ADMINISTRATION.** (G) 3 hours credit. M T W Th F 8-9:15. Warren 132. Mr. HALPIN.

Planned for advanced students in administration. Major emphasis to be placed on the analysis of administrative theory and research from business, public, hospital, and industrial, as well as educational, administration.

## Agricultural Education

(See Other Programs, page 46.)

## Curriculum and Instruction

**Ed. 440E. THE TEACHING OF ENGLISH IN SECONDARY SCHOOLS.** (U,G) 3 hours credit. M T W Th F 12:30-1:45. Warren 232. Miss PEARD.

To meet teacher certification requirements and needs of experienced teachers. Emphasis on the teaching of reading, writing, and language.

**R.E. 441. CHILDREN'S LITERATURE.** (G) 3 hours credit. M T W Th F 8-9:15. Warren 260. Mr. HODGE.

Designed for graduate students; open to undergraduates with consent of instructor. A critical study of literature for children in elementary and secondary schools, considered in relation to historical, critical, and literary uses of literature with children. Offered only in the Summer Session.

**R.E. 444. MODERN VIEWS AND MEANS FOR THE TEACHING OF MATHEMATICS.** (G) 3 hours credit. M T W Th F 8-9:15. Warren 37. Mr. GEISELMANN.

Open to experienced teachers and supervisors only. Attention will be given to recent developments in mathematics education and to various proposals for curriculum revision. Materials and practical techniques for effective teaching of mathematics in elementary and secondary schools will be considered. Special interests of students will serve as a guide for the further selection of topics. A mathematics laboratory will be provided for use by students in the course.

**R.E. 447. JUNIOR HIGH SCHOOL EDUCATION.** (U,G) 3 hours credit. M T W Th F 2-3:15. Warren 232. Mr. VARS.

A study of educational programs for young adolescents in light of the history, status, and

philosophy of the junior high school. Examines organizational patterns such as block-time and core, ungraded programs, and team teaching, and surveys current developments in subject fields, guidance, and extracurricular programs at the junior high level.

**Sp.&Dr. 231. SPEECH FOR THE CLASSROOM TEACHER.** (See page 43.)

## Educational Psychology and Measurement

**R.E. 417. PSYCHOLOGY OF ADOLESCENCE.** (U,G) 2 hours credit. M T W Th F 1. Warren 160. Mr. ANDRUS.

Designed especially for secondary school teachers (grades 7-12) and guidance counselors, but applicable to all adults who work with with adolescents. The major objectives include: (1) an examination of the interrelationships among the five major areas of an adolescent's development: physical, intellectual, moral, social, and emotional; (2) an understanding of some of the major problems of adolescence; (3) acquaintance with research on adolescent development; (4) implications for the public school as the one social institution which directly influences the development of the individual as a social personality. This course applies toward the certification of secondary school teachers and guidance counselors.

**R.E. 453. INTRODUCTION TO EDUCATIONAL STATISTICS.** (U,G) 3 hours credit. M T W Th F 8-9:15. Plant Science 141. Mr. JUSTMAN.

A study of common statistical procedures encountered in educational literature and research. Includes the computation and interpretation of descriptive measures and tests of significance.

**R.E. 511. EDUCATIONAL PSYCHOLOGY.** (G) 3 hours credit. Prerequisite, a course in educational psychology or permission of the instructor. Designed for students with teaching experience. M T W Th F 11-12:15. Warren 201. Mr. BLACKHAM.

Includes consideration of basic theoretical issues and relevant evidence in respect to learning, perception, cognition, motivation, ability structure, and attitudes. Trends in thinking and research most likely to influence educational policy will be the focal points for intensive reading and class discussion.

**Ed. 555. USE AND INTERPRETATION OF TESTS IN GUIDANCE AND PERSONNEL**

**ADMINISTRATION.** (G) 3 hours credit. Lectures, M T W Th F 8. Laboratory, third hour to be arranged. Warren 160. Mr. ANDRUS.

Open to students in guidance or personnel administration and to classroom teachers who expect to work with standardized group tests. Deals with the historical development, use, and interpretation of aptitude tests as a basis for guidance and selection in public schools, colleges, and/or industry. Designed to meet the New York State certification requirement for guidance counselors.

**R.E. 613. SEMINAR IN EDUCATIONAL PSYCHOLOGY: BEHAVIOR PROBLEMS IN THE SCHOOL.** (G,U by permission) 3 hours credit. M T W Th F 9:30-10:45. Warren 232. Mr. BLACKHAM.

Designed to deal with the application of certain principles of educational psychology and guidance toward the development of a clearer understanding of adjustment problems of school-age pupils, both elementary and secondary. Emphasis will be on the identification of students with special needs in the areas of social and emotional problems and developing remediation programs for these students leading to more satisfactory adjustment within the school situation. Attention will be given to the potential "drop-out," aggressive behavior, withdrawn behavior (school phobia), and general "problem" behavior. Special attention will be given to theoretical explanations as well as specific diagnosis of causes for observed behavior.

## Guidance and Personnel Administration

**R.E. 582. EDUCATIONAL AND VOCATIONAL GUIDANCE.** (G) 2 hours credit. M T W Th F 12. Warren 160. Mr. BRESEE.

An introductory survey course which deals with the theory and practice of guidance in public schools. Designed to meet the needs of teachers, administrators, and prospective counselors. Required for provisional certification in guidance.

**R.E. 584. GROUP TECHNIQUES IN GUIDANCE.** (G) 2 hours credit. M T W Th F 9. Warren 160. Mr. FERNALD.

Theory of group guidance. Methods and materials for presenting orientational, occupational, and educational information to students. Multiple counseling. Appropriate for teachers, and required for provisional guidance certification.



**R.E. 586. ORGANIZATION AND ADMINISTRATION OF GUIDANCE PROGRAMS.** (G) 2 hours credit. M T W Th F 10. Warren 160. Mr. BRESEE.

Principles and practices in planning and conducting a guidance program and other pupil personnel services. One of the courses required for permanent certification in guidance in New York State.

**R.E. 588. CASE STUDIES IN COUNSELING.** (G) 2 hours credit. Prerequisites, Courses Ed. 555, R.E. 582, R.E. 583, and R.E. 585, or their equivalent. M T W Th F 11. Warren 160. Mr. FERNALD.

An advanced course in counseling in which actual cases are used for demonstration and discussion purposes. Principles and techniques of case study work, referral, and other counseling procedures. Required for permanent certification in guidance in New York State.

*See also course offerings in Educational Psychology and Measurement, Mental Health, and Psychology.*

*Guidance courses tentatively scheduled for the 1966 Summer School: Educational and Vocational Guidance, Counseling, Occupational and Educational Information, Practicum in Measurement and Appraisal for Counselors.*

## History, Philosophy and Sociology of Education

**Ed. 472. PHILOSOPHERS ON EDUCATION.** (U,G) 3 hours credit. M T W Th F 8-9:15. Warren 232. Miss PEARD.

Selected writings of such philosophers as Plato, Descartes, Rousseau, and Dewey will be examined in their own right and for the light they throw on the persistent problems in education.

**R.E. 574. HISTORY OF EDUCATION IN THE MODERN PERIOD.** (G,U by permission) 3 hours credit. M T W Th F 11-12:15. Warren 232. Mr. COHEN.

A history of American education from the beginning of the 17th century to the present, with emphasis on the interrelationships of social thought on educational policies and programs.

**Soc. 341. EDUCATIONAL SOCIOLOGY.** (U,G) 4 hours credit. Prerequisite, Soc. 101 or consent of the instructor. M T W Th F 9:30-10:45. Goldwin Smith 120.

An examination of educational institutions in the context of contemporary culture and society, emphasizing the dynamics of school-community relationships. The study of educational institutions as social systems will also be included.

## Home Economics Education

**H.E. Ed. 407. THESIS AND RESEARCH.** (G) Credit and hours to be arranged. Registration with permission of the instructor. Van Rensselaer East Wing 5. Department staff.

**H.E. Ed. 435u. METHODS AND MATERIALS IN TEACHING HOME ECONOMICS.** (*See Other Programs, page 50.*)

**H.E. Ed. 437u. ADULT EDUCATION.** (*See Other Programs, page 51.*)

**H.E. Ed. 478. RESEARCH IN EDUCATION.** (G) 1 hour credit. M W F 12. Van Rensselaer East Wing 5. Miss HELTZEL.

For degree candidates in home economics education. Planned to acquaint students with some of the research in the field. It is suggested that students take this course soon after they matriculate in the Graduate School.

**H.E. Ed. 530u. TEACHING FOR GENERALIZATION IN HOME ECONOMICS.** (*See Other Programs, page 51.*)

## Reading and Study Skills

**\*Ed. 7u. COLLEGE READING AND STUDY SKILLS.** (U,G) Noncredit. July 5-August 6. M W F 2. Reading-Study Center, ILR Building E. Mr. D'ELIA.

The aim is the improvement of reading and study skills. In the area of *study skills*, students receive instruction on how to read and master the textbook assignments, to take notes on textbooks and lectures, to prepare for and take examinations, and to schedule their time. In the area of *reading*, students learn to improve both their reading comprehension and reading speed. Comprehension topics include: how to recognize organizational patterns; how to distinguish organizational patterns; how to distinguish main ideas from supporting materials; how an author clarifies his organization through the use of transitions, introductions, and summaries; how to determine the author's tone and intention; and how to detect bias. As part of their training in speed-reading, students will work with speed-reading machines in the reading laboratory.

Students may register for this special course in Lynah Hall on registration day. A fee of \$52.50 will be payable at this time. For additional information, address Professor Walter Pauk, Director, Reading-Study Center, 101 ILR Building E, Cornell University, Ithaca, New York 14850.

## Science Education

**\*R.E. 407. THE TEACHING OF ELEMENTARY SCHOOL SCIENCE.** (U,G) 3 hours credit. Open to seniors and graduate students. Lectures, M T W Th F 9:30-10:45. Practical exercises, M 3-5 and one other period to be arranged. Stone 7. Mr. McBRIDE.

The content and methods of elementary school science and nature study, with field work and laboratory experience useful in classroom and camp. Designed particularly for those who are preparing to teach or supervise elementary science or nature study. Fee, \$1.

**\*R.E. 426. FIELD NATURAL HISTORY.** (U,G) 3 hours credit. Open to juniors, seniors, and graduate students, and others with instructor's permission. Limited to 20 students. Lectures, T Th 1:30-3. Stone 7. Field trips, T Th 3-5:30, will begin with the first meeting. Mr. HARRINGTON.

Devoted to studies of local plants, animals, and the biological and physical environment including ecology and relations to humans. Applications to teaching science and conservation are emphasized. Fee, \$1.

**R.E. 507. METHODS OF TEACHING SCIENCE IN SECONDARY SCHOOLS.** (U,G) 3 hours credit. Prerequisite, R.E. 411 or the equivalent, or concurrent registration in R.E. 511. For seniors and graduate students. Lectures, M T W Th F 8-9:15. Laboratory, W 3-5. Stone 7. Mr. M. BRUCE, JR.

A consideration of problems of selection and organization of subject matter, of choice and use of materials, and of methods of teaching sciences at the secondary school level. Development of instructional materials will be an important part of this course.

## Research and General

**R.E. 499. INFORMAL STUDY IN EDUCATION.** (U) Credit as arranged. Members of the staff of the Department of Rural Education.

**Ed. 499S. INFORMAL STUDIES IN EDUCATION.** (U) Credit as arranged. Members of the staff of the School of Education.

**R.E. 500. SPECIAL STUDIES IN EDUCATION.** (G) Credit as arranged. Members of the staff of the Department of Rural Education.

Students working on theses or other research projects may register after consulting with the staff members concerned.

**Ed. 500S. SPECIAL STUDIES IN EDUCATION.** (G) Credit as arranged. Members of the staff of the School of Education.

Students working on theses or other research projects may register after consulting with the staff members concerned. Limited to graduate students registered in the endowed division of the School of Education.

**R.E. 599. EDUCATIONAL RESEARCH METHODS.** (G) 2 hours credit. Recommended for Master's degree candidates. M T W Th F 10. Comstock 145. Mr. JUSTMAN.

Consideration of basic educational research methods, problem selection, the research plan, selection of techniques and procedures, and the preparation of the research report.

## Other Programs for Teachers

*Agricultural Education.* (See page 46.)

*Area Study Programs for Secondary School Teachers.* (See pages 47, 48.)

*Brass Symposium and Workshop.* (See page 48.)

*Financial Institutions Seminar.* (See page 49.)

*Home Economics Education.* (See page 50.)

*Food and Nutrition.* (See page 50.)

*Household Economics and Management.* (See pages 36 and 51.)

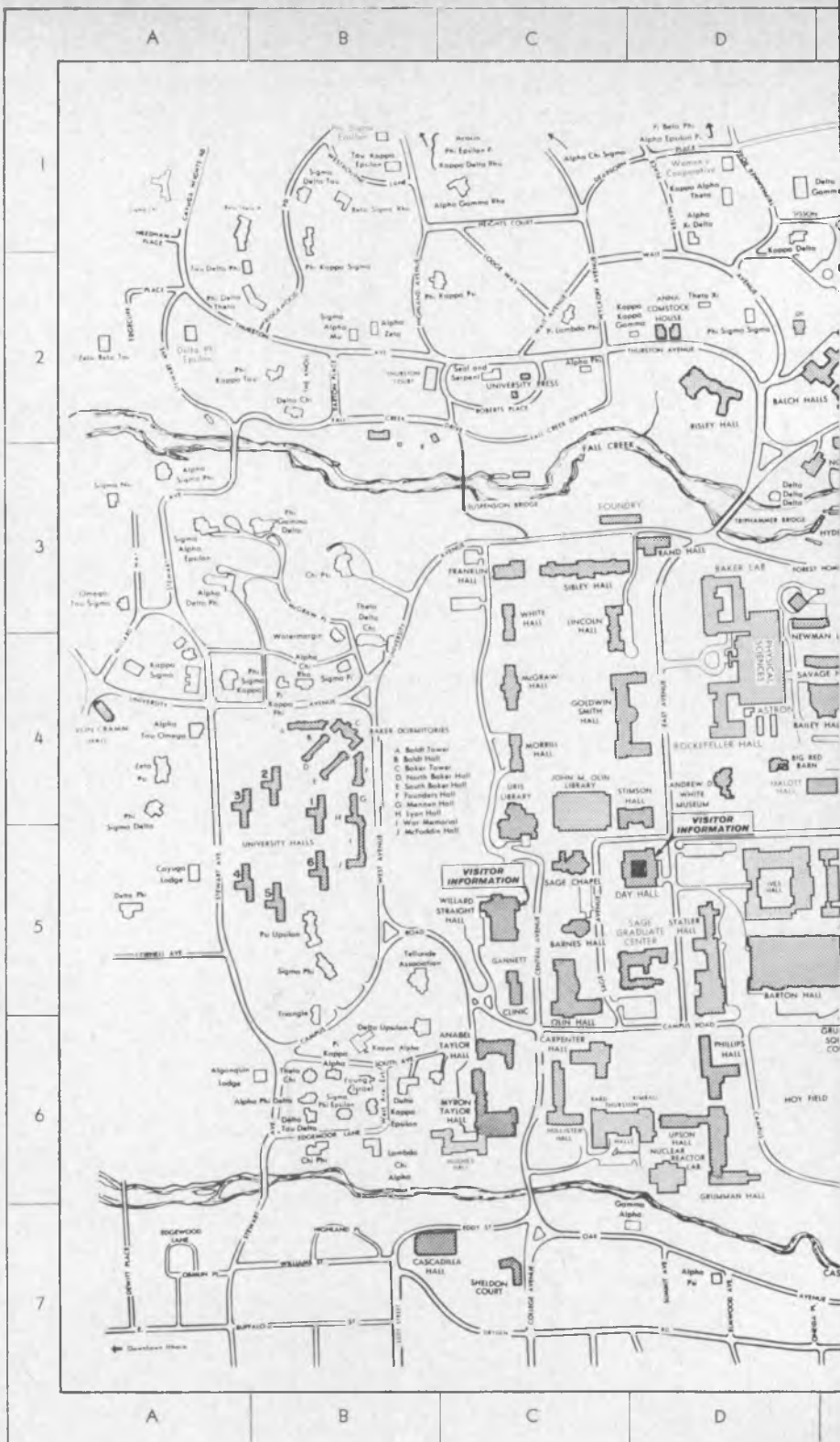
*Institution Management.* (See page 50.)

*Textiles and Clothing.* (See pages 37 and 52.)

*Also see Other Programs, pages 45 to 54 for those programs scheduled at the time of going to press. Inquiries about additional programs are invited.*

## KEY TO THE CAMPUS MAP ON THE PAGES FOLLOWING

- Alumni (Athletic) Fields F5  
 Artificial Breeders H7  
 Astronomy D4; Fuertes Observatory F2  
 Bacon Athletics Cage E6  
 Bailey Hall D4, auditorium  
 Baker Dormitories B4, men's residences  
 Baker Laboratory D3, chemistry  
 Balch Halls D2, women's residences  
 Bard Hall C6, eng. phys., materials science  
 Barnes Hall C5, campus store, auditorium  
 Barton Hall D5, military training, Safety Div.  
 Big Red Barn D4, alumni center  
 Caldwell Hall E4, agronomy  
 Campus Store C5, Barnes Hall  
 Carpenter C6, engineering library & admin.  
 Cascadilla Hall B7  
 Collyer Boat House, Cayuga Lake Inlet  
 Comstock Hall E4, entomology, limnology  
 Comstock House D2, women's residence  
 Cornell Quarters G7, student families  
 Crescent E6, football stadium  
 Dairy Bar Cafeteria (Stocking Hall) H5  
 Day Hall D5, administration  
 Dickson Hall E2, women's residence  
 Donlon Hall E1, women's residence  
 Educ. Placement D2, 320 Wait Av.  
 Fernow Hall F4, conservation  
 Filter Plant J4  
 Food Storage and Laundry F7  
 Foundry, architecture studio C3  
 Franklin Hall C3, Asian Studies, art  
 Gannett Medical Clinic C5  
 Goldwin Smith Hall C4, arts and sciences  
 Golf Course H2  
 Graphic Arts Services G6  
 Greenhouses F4, H4  
 Grumman D6, aero. engineering  
 Grumman Squash Courts E6  
 Hasbrouck Apts. G1, student residences  
 Heating Plant F6  
 High Voltage Lab. H7, 909 Mitchell St.  
 Hollister Hall C6, civil engineering  
 Hoy Field D6, baseball  
 Hughes Hall C6, law student residence  
 Hydraulic (Applied) Laboratory E3  
 Ind. & Labor Relations Conference Ctr. E5  
 Ives Hall D5, industrial & labor relations, summer session & extramural courses, Univ. personnel office  
 "Japes" E2, recreation; meetings  
 Judging Pavilion H5  
 Kimball Hall D6, materials processing  
 Library (McGraw) Tower C4  
 Lincoln Hall C3, music, speech & drama  
 Lynah Hall E5, ice skating  
 Malott Hall D4, business & public admin.; hospital admin.  
 Mann F4, agricultural-home economics library, Finance Office, Bailey Hortorium  
 McGraw Hall C4, geology, geography, sociology, anthropology  
 Minns Garden E4  
 Moakley House H2, recreation center, golf  
 Morrill Hall C4, modern languages, psychology  
 Morrison Hall H5, animal husbandry  
 Newman Hall E2, women's phys. ed.  
 Newman Laboratory D3, nuclear studies  
 Noyes Lodge E3, recreation, cafeteria  
 Nuclear Reactor Laboratory D6  
 Olin Hall C6, chemical engineering  
 Olin (grad. & research) Library C4  
 Ornithology, Sapsucker Woods Rd. via Warren & Hanshaw Rds., H1-2  
 Phillips D6, elec. eng., radiophysics & space res.  
 Physical Sciences Building D4  
 Plant Science Building E4  
 Pleasant Grove Apts. F1, student families  
 Poultry Research F4  
 Poultry Virus Disease Laboratory J5  
 Radiation Biology Lab., Warren Rd. H2  
 Rand D3, Computing Ctr.  
 Rice Hall F4, poultry husbandry  
 Riding Hall and Stables F6  
 Riley-Robb Hall G5, agricultural engineering  
 Risley Hall D2, women's residence  
 Roberts Hall E4, agriculture administration  
 Rockefeller Hall D4, physics  
 Rose Gardens, road to, J3  
 Sage Chapel C5  
 Sage Graduate Center D5  
 Savage Hall D4, nutrition  
 Schoellkopf Field and Hall E6, athletics  
 Service Building F7  
 Sibley Hall C3, architecture, history, govt.  
 Statler Hall D5, hotel administration  
 Stimson Hall D4, zoology  
 Stocking G5, dairy & food sci., bacteriology  
 Stone Hall E4, education  
 Suspension Bridge C3  
 Taylor (Anabel) Hall C6, interfaith ctr.  
 Taylor (Myron) Hall C6, law  
 Teagle Hall E5, men's physical ed. & sports  
 Thurston Court B2, student residences  
 Thurston Hall C6, theoretical & applied mechanics  
 Toboggan Lodge E3, recreation  
 Triphammer Bridge D3  
 University Halls B5, men's residences  
 University Press C2  
 Upson Hall D6, mechanical engineering  
 Uris (Undergraduate) Library C4  
 U. S. Nutrition Laboratory H4  
 Van Rensselaer Hall E4, home economics  
 Vegetable Gardens G7  
 Veterinary College J4  
 Veterinary Virus Research Laboratory H7  
 Visitor Information C5 and D5  
 von Cramm Scholarship Hall (men) A4  
 Warren E4, agric. economics, rural sociology  
 White Hall C3, mathematics  
 White Museum of Art D4  
 Willard Straight Hall C5, student union  
 Wing Hall G5, biochemistry



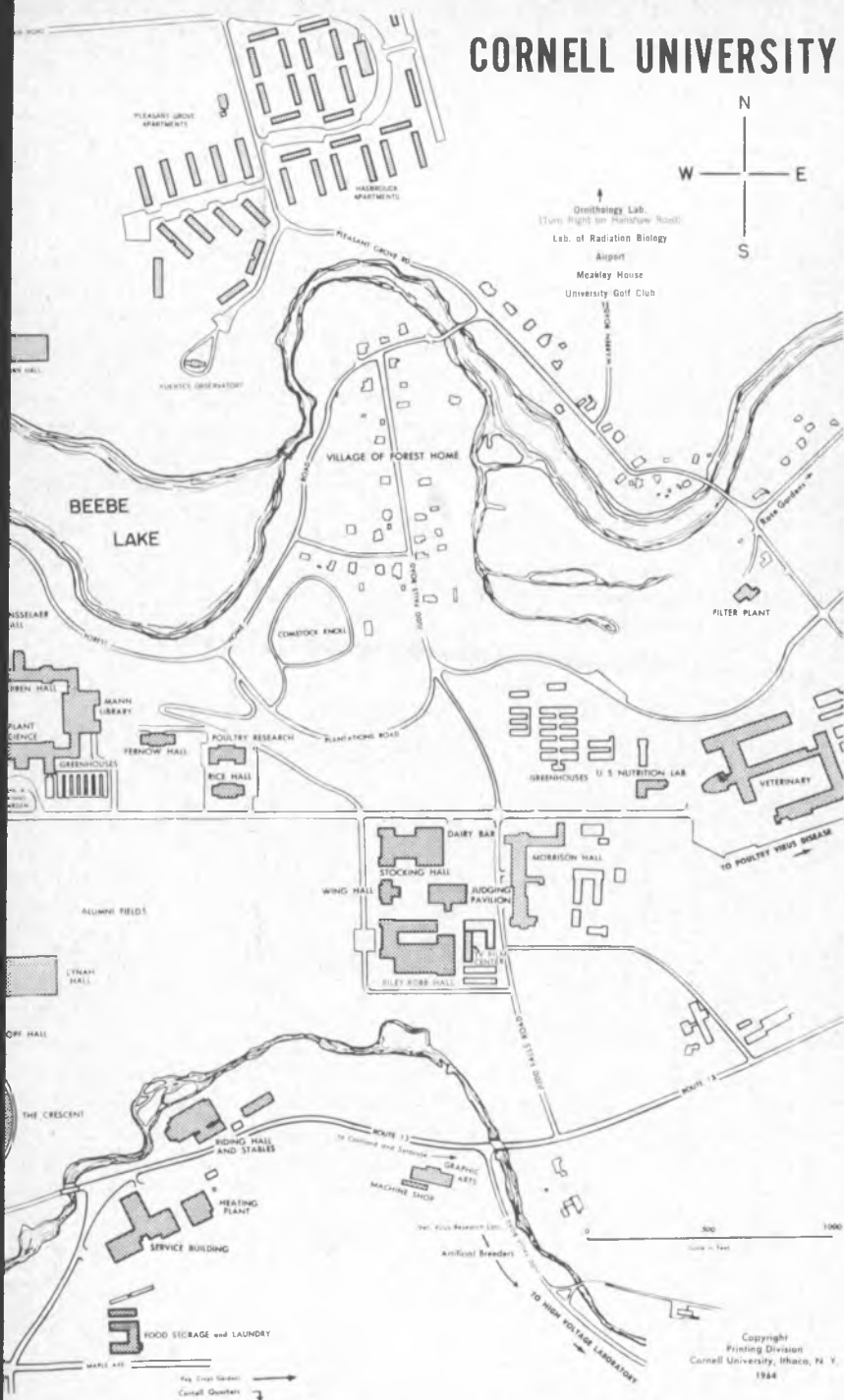
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# CORNELL UNIVERSITY



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## ENGINEERING

### Civil Engineering

Engr. 2902. **ENGINEERING LAW.** (U) 3 hours credit. Lectures M T W Th F 8-9:15. Hollister 114. Mr. BLESSIS.

Basic features of laws and practices relating to contracts, torts, agency, property, water rights, business organizations, sales, insurance, labor, governmental regulation of business, negotiable instruments, workmen's compensation, patents, ethical responsibilities of the engineer; term paper comparative analysis of the legal principles which affected the court decisions in some actual cases.

### Electrical Engineering

Engr. 242. **ELECTRICAL SCIENCE II.** (U) 3 hours credit. Prerequisite, Engineering 241. Lectures, M T W Th F 10. Recitation-computation. M W 2-4:30. Phillips 219.

The basic principles of electric and magnetic fields and circuits for steady fields, voltages, and currents. The relaxation and steady-state behavior of simple systems. Emphasis is placed on understanding of the physical concepts.

### Engineering Industrial Cooperative Program

(See Other Programs, page 49.)

### Engineering Mechanics

Engr. 212. **MECHANICS OF RIGID AND DEFORMABLE BODIES II.** (U) 4 hours credit. Prerequisite, 211 or equivalent. Lectures and recitations, computing-laboratory, M T W Th F, 11-12:15, T Th 2-4:30. Thurston 203.

Inelastic behavior: Energy methods in mechanics. Principles of particle dynamics. Theory of oscillations. Kinematics of rigid body motion. Dynamics of systems of particles. Kinetics of rigid bodies. Text: Housner and Hudson, *Applied Mechanics, Dynamics*, 2d Edition.

In addition to the engineering courses listed above, the following required courses in the engineering curriculum at Cornell also may be of interest:

Chemistry 103u. (See page 22.)

Chemistry 104u. (See page 22.)

Chemistry 276. (See page 23.)

Mathematics 192. (See page 39.)

Mathematics 294. (See page 39.)

Physics 122. (See page 41.)

## ENGLISH

Lit. 201. **MASTERWORKS OF WESTERN LITERATURE.** (See page 38.)

Lit. 202. **MASTERWORKS OF WESTERN LITERATURE.** (See page 38.)

Engl. 305. **ADVANCED COMPOSITION.** (U, G) 3 hours credit. Prerequisite, satisfactory completion of a year's work in Freshman English. M T W Th F 9:30-10:45. Goldwin Smith 160. Mr. GREENBERG.

Mainly for sophomores and upperclassmen who desire to carry on work in expository writing. Practice in writing; individual conferences.

Lit. 312. **SOVIET LITERATURE.** (See page 38.)

Engl. 314. **MAJOR EIGHTEENTH-CENTURY**

**AUTHORS.** (U,G) 3 hours credit. M T W Th F 1:30-2:45. Goldwin Smith 164. Mr. LEVINE.

Readings in neoclassical poetry and prose, with emphasis upon selected works of Dryden, Swift, Defoe, Pope, Addison, and Steele.

Engl. 333. **MAJOR AMERICAN WRITERS OF THE NINETEENTH CENTURY.** (U,G) 3 hours credit. M T W Th F 1:30-2:45. Goldwin Smith 128. Mr. WASSERSTROM.

Critical study of selected works by Poe, Thoreau, Hawthorne, Melville, Twain, and James.

Engl. 338. **THE MODERN ENGLISH NOVEL.** (U,G) 3 hours credit. M T W Th F 8-9:15. Goldwin Smith 160. Mr. SALE.

Masterpieces of the early twentieth century: Conrad, *Nostramo*; Lawrence, *The Rainbow*

and *Women in Love*; Joyce, *Ulysses*; Forster, *A Passage to India*; Ford, *The Good Soldier*.

Engl. 343. **FORMS OF FICTION.** (U,G) 3 hours credit. M T W Th F 8-9:15. Goldwin Smith 128. Mr. SUKENICK.

Intensive study of shorter forms of fiction by Chekhov, Joyce, Kafka, Faulkner, and others.

Engl. 365. **CHAUCE: THE CANTERBURY TALES.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 162. Mr. FRENCH.

The study will be mainly literary, and confined to the Tales.

Engl. 368. **SHAKESPEARE.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 128. Mr. RUDIN.

An introduction to the works of Shakespeare, based on a selection of about twelve plays, including some of the major comedies, histories, and tragedies.

Engl. 382. **THE ENGLISH LANGUAGE.** (U, G) 3 hours credit. M T W Th F 8-9:15. Goldwin Smith 162. Mr. FRENCH.

The language, past and present; origins, derivations, and current problems and topics.

Engl. 385. **CREATIVE WRITING.** (U,G) 3 hours credit. Prerequisite, previous work in creative writing, or consent of the instructor. M T W Th F 9:30-10:45. Goldwin Smith 236. Mr. SUKENICK.

Discussion of students' fiction and poetry, with examination of models from contemporary literature.

Engl. 410. **ELIZABETHANS AND META-PHYSICALS.** (U,G) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 160. Mr. SALE.

A study of English poetry of the Renaissance, with emphasis on Spenser, Shakespeare, Donne, Jonson, and Marvell.

Engl. 424. **MAJOR VICTORIAN POETS.** (U,G) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 164. Mr. GREENBERG.

The poetry of Tennyson, Browning, and Arnold.

Engl. 449. **RECENT AMERICAN POETRY.** (U,G) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 156. Mr. READ.

Critical study of poems by Robinson, Frost, Lindsay, Sandburg, Williams, Stevens, Hart Crane, and others.

Engl. 485. **STUDIES IN MODERN LITERATURE.** (U,G) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 128. Mr. WASSERSTROM.

Inquiry into current movements in contemporary American criticism, poetry, fiction, and drama: Olson, Rexroth, Goodman, Mailer, Berryman, Burroughs, Creeley, Albee, Shapiro.

Engl. 920. **RESEARCH AND GUIDANCE.** (G) Hours and credit to be arranged. Mr. FOGEL.

For graduate students engaged in writing the M.A. essay or Ph.D. dissertation. Informal reports and conferences.

## FLORICULTURE

(See Other Programs, page 47.)

## FOREIGN LANGUAGES AND LITERATURES

High school students who have been admitted to a college for the coming academic year may take any language as undergraduate students. All students who have had no previous preparation in the language they elect will register for Course 101, except graduate students who may elect 151-2. Students who have taken previous course work in the language they elect will be placed in 101 or 102 on the basis of College Entrance Examination Achievement scores which they must make available before registration.

Non-Cornell students who cannot submit CEEB scores must supply transcripts showing amount

of language work done and report to the Division of Modern Languages for proper placement at the time of registration.

*All modern language courses are equivalent to those offered in the academic year.*

## French

**Fr. 101. FRENCH.** (U) 6 hours credit. Students who have previously studied any French must take the qualifying examination before registering for this course. Twenty hours of instruction each week. Morrill Hall. Mr. LEONARD and staff.

**Fr. 102. FRENCH.** (U) 6 hours credit. Students who have not completed French 101 must take the qualifying examination before registering for this course. Twenty hours of instruction each week. Morrill Hall. Mr. LEONARD and staff.

**Fr. 151u. FRENCH.** (G) 3 hours credit. For graduate students acquiring reading proficiency. *June 30 through July 23.* Twenty hours of instruction each week. Morrill Hall. Mr. LEONARD and staff.

**Fr. 152u. FRENCH.** (G) 3 hours credit. For graduate students acquiring reading proficiency. Prerequisite, French 151, or one year of college French, or two years of high school French. *July 26 through August 13.* Twenty hours of instruction each week. Morrill Hall. Mr. LEONARD and staff.

**Fr. 202. INTRODUCTION TO FRENCH LITERATURE.** (U) 3 hours credit. Prerequisite, for Cornell undergraduates, satisfactory qualifying examination; for others, 4 years of high school French or consent of the instructor. M T W Th F 11-12:15. Goldwin Smith 281. Mrs. PARRISH.

The object is to acquire a reading facility in French, while developing a critical appreciation of the literature. Some eight major novelists will be read, the works selected representing significant writings from the seventeenth century to the present. Depending on the level of oral proficiency, the class will be conducted in part or entirely in French.

**Fr. 353. THE NOVEL FROM 1857 TO 1900.** (U,G). 3 hours credit. Prerequisite, two semesters of a college course in French literature. M T W Th F 9:30-10:45. Goldwin Smith 281. Mrs. PARRISH.

The dominant literary doctrines of the period—realism and naturalism—and their expression. Extensive reading of the novelists of the period: Flaubert, Zola, Maupassant, Fromentin,

Huysmans, etc. Classroom discussions, written reports.

## German

**Germ. 101. GERMAN.** (U) 6 hours credit. Students who have previously studied any German must take the qualifying examination before registering for this course. Twenty hours of instruction each week. Morrill Hall. Mr. KUFNER and staff.

**Germ. 102. GERMAN.** (U) 6 hours credit. Students who have not completed German 101 must take the qualifying examination before registering for this course. Twenty hours of instruction each week. Morrill Hall. Mr. KUFNER and staff.

**Germ. 151u. GERMAN.** (G) 3 hours credit. For graduate students acquiring reading proficiency. *June 30 through July 23.* Twenty hours of instruction each week. Morrill Hall. Mr. KUFNER and staff.

**Germ. 152u. GERMAN.** (G) 3 hours credit. For graduate students acquiring reading proficiency. Prerequisite, German 151 or one year of college German or two years of high school German. *July 26 through August 13.* Twenty hours of instruction each week. Morrill Hall. Mr. KUFNER and staff.

**Germ. 201. MASTERPIECES OF GERMAN LITERATURE** (U) 3 hours credit. Prerequisite, for Cornell undergraduates, qualification in German or consent of the instructor; for others, 4 years of high school German or consent of the instructor. M T W Th F 8-9:15. Goldwin Smith 177. Mr. CONNOR.

The reading and study of notable works of German literature from the middle of the eighteenth to the middle of the nineteenth century. The selections will consist of works by Lessing, Goethe, Schiller, Hölderlin, Kleist, Brentano, Eichendorff, Mörike, and Heine. The class will be conducted partly in German; German will be used more as the course progresses.

**Germ. 202. MASTERPIECES OF GERMAN LITERATURE.** (U) 3 hours credit. Prerequisite, for Cornell undergraduates, German 201; for others, 4 years of high school German



or consent of the instructor. M T W Th F 9:30-10:45. Goldwin Smith 177. Mr. CONNOR.

The reading and study of notable works of German literature from the middle of the nineteenth century to the present. The selections will consist of works by Keller, Meyer, George, Rilke, Hofmannsthal, Mann, Trakl, Benn, Kafka, Borchert, and Brecht. The class will be conducted mainly in German.

## Russian

**Russ. 101. RUSSIAN.** (U) 6 hours credit. Twenty hours of instruction each week. Morrill Hall. Mr. LEED and staff.

**Russ. 102. RUSSIAN.** (U) 6 hours credit. Prerequisite, Russian 101 or its equivalent. Twenty hours of instruction each week. Morrill Hall. Mr. LEED and staff.

**Russ. 151u. RUSSIAN.** (G) 3 hours credit. For graduate students acquiring reading proficiency. *June 30 through July 23.* Twenty

hours of instruction each week. Morrill Hall. Mr. LEED and staff.

**Russ. 152u. RUSSIAN.** (G) 3 hours credit. For graduate students acquiring reading proficiency. Prerequisite, Russian 151 or its equivalent. *July 26 through August 13.* Twenty hours of instruction each week. Morrill Hall. Mr. LEED and staff.

## Spanish

**Span. 101. SPANISH.** (U) 6 hours credit. Students who have previously studied any Spanish must take the qualifying examination before registering for this course. Twenty hours of instruction each week. Morrill Hall. Mr. SALTARELLI and staff.

**Span. 102. SPANISH.** (U) 6 hours credit. Students who have not completed Spanish 101 must take the qualifying examination before registering for this course. Twenty hours of instruction each week. Morrill Hall. Mr. SALTARELLI and staff.

## GEOLOGY

**\*Geol. 101. GENERAL GEOLOGY.** (U) 3 hours credit. Registration limited to 25 students. Lectures, M T W Th F 10-10:50. McGraw 165. Laboratory, T Th 1:30-4. McGraw 265. Mr. WELLS.

An introduction to earth science: mineralogy, lithology, geomorphology, glaciology, and

structural geology. Field trips during certain laboratory periods, and one all-day Saturday trip (probably July 24 or July 31).

The Ithaca region is particularly suited to field observation of geologic phenomena. Text: Putnam, *Geology*; Geology 101 and 102 Laboratory Manuals. Fee, \$10.

## GOVERNMENT

**Gov. 101. AMERICAN GOVERNMENT.** (U, G) 3 hours credit. M T W Th F 8-9:15. West Sibley 328. Mr. LARE.

A general introduction to American national government and politics. Emphasis will be placed on historical development, organization, powers, practical working, and problems of federalism.

**Gov. 203. INTRODUCTION TO POLITICAL THEORY.** (U, G) 3 hours credit. M T W Th F 9:30-10:45. West Sibley B-1. Mr. HEBERLE.

A survey of the development of Western political theory from Plato to the present. Readings from the work of the major theorists and an examination of the relevance of their ideas to contemporary politics will be stressed.

**Gov. 344. GOVERNMENTS AND POLITICS OF SOUTHEAST ASIA.** (U, G) 4 hours credit. M T W Th F 1:30-2:45. West Sibley 101. Mr. SILVERSTEIN.

Analysis of the organization and functioning of government and politics in the countries of Southeast Asia, with attention given to the nature of the social and economic environments which condition them.

**Gov. 355. AMERICAN POLITICAL THOUGHT.** (U, G) 4 hours credit. M T W Th F 11-12:15. West Sibley 101. Mr. LARE.

Survey of the development of American political thought, with emphasis on the origins and uses of ideas. Other kinds of thought—constitutional, social, religious, economic, educational, cultural—are considered in their relations to political thought.

**Gov. 372. INTERNATIONAL RELATIONS.** (U,G) 3 hours credit. M T W Th F 11-12:15. West Sibley 221. Mr. HORELICK.

An analysis of the basic issues, concepts, contents, and methods which characterize relations among states. Ideological, legal, military, and economic elements which may contribute to harmony and dissent will be discussed in terms of both international society and national foreign policies. The over-all frame of reference will consist chiefly of theories, practices, and institutions developed since World War II.

**Gov. 555. SEMINAR IN POLITICAL THEORY.** (U,G) 2 hours credit. Hours to be arranged. West Sibley 318. Mr. HEBERLE.

Plato's *Republic*.

**Gov. 572. SEMINAR IN INTERNATIONAL RELATIONS.** (G,U by permission) Open to graduate students and qualified undergraduates with consent of instructor. 4 hours credit. Hours to be arranged. Mr. HORELICK.

A detailed study of some contemporary problems in international relations.

**Gov. 644. SEMINAR IN POLITICAL PROBLEMS OF SOUTHEAST ASIA.** (U,G) 2 hours credit. W 11. West Sibley 318. Mr. SILVERSTEIN.

Special emphasis will be placed on the role of the military in the political process.

## HISTORY

**Hist. 316. HISTORY OF THE UNITED STATES, 1865 TO THE PRESENT.** (U,G) 3 hours credit. M T W Th F 8-9:15. W. Sibley B-1. Mr. McCORMICK.

A general survey of American history from Reconstruction to the present.

**Hist. 324. HISTORY OF CHINA DURING THE NINETEENTH AND TWENTIETH CENTURIES.** (U,G) 4 hours credit. M T W Th F 9:30-10:45. W. Sibley 328. Mrs. LUTZ.

A brief examination of Chinese tradition followed by an analysis of institutional and intellectual change in China during the nineteenth and twentieth centuries. China's response to imperialism, nationalism, and industrialism. Revolutionary change under communism.

**Hist. 384. HISTORY OF UNITED STATES FOREIGN RELATIONS, 1890 TO THE PRESENT.** (U,G) 3 hours credit. M T W Th F 11-12:15. W. Sibley B-1. Mr. McCORMICK.

The growth of American foreign policy and the relationship of changes in United States internal affairs to the evolution of foreign policy.

**Hist. 463. MODERN RUSSIAN HISTORY**

**FROM THE EARLY TWENTIETH CENTURY TO THE PRESENT.** (U,G) 4 hours credit. M T W Th F 11-12:15. W. Sibley 328. Mr. MACKENZIE.

Deals with the modernization of Russia during the past century in its political, economic, social, and ideological aspects. A comparison of developments in the late tsarist and Soviet periods and Russia's progress with that of Western Europe.

**Hist. 480. SEMINAR IN MODERN RUSSIAN HISTORY.** (G) 2 hours credit. M T W Th F 2. W. Sibley History Library. Mr. MACKENZIE.

Devoted to a more thorough study of some of the historical problems raised in History 463 and limited to graduate students who are enrolled in that course.

**Hist. 490. SEMINAR IN RECENT CHINESE HISTORY.** (G) 2 hours credit. M T W Th F 2. W. Sibley 221. Mrs. LUTZ.

A more intensive study of specific historical problems related to the modernization of China under the impact of the West. Open to graduate students currently enrolled in History 324 and to graduate students who have had previous course work on China.

## HOME ECONOMICS

### Food and Nutrition

(See Other Programs, page 50.)

### Home Economics Education

(See page 27 and Other Programs, page 50.)

### Household Economics and Management

**\*H.E.M. 407. THESIS AND RESEARCH IN HOUSEHOLD ECONOMICS AND MANAGEMENT.** (G) Credit and hours to be arranged.

Registration with permission of the instructor. Department staff. Fee will be dependent on the nature of the problem.

(See also *Other Programs*, page 51.)

## Institution Management

(See also *Other Programs*, page 50.)

## Textiles and Clothing

**\*T. & Clo. 403. SPECIAL PROBLEMS IN TEXTILES AND CLOTHING.** (G) Credit

and hours as arranged. Registration by permission. Department faculty.

For graduate students recommended by their chairmen and approved by the department head and the instructor for independent, advanced work. Students to assume any expense involved unless otherwise previously arranged. Fee dependent on nature of problem.

**\*T. & Clo. 407. THESIS AND RESEARCH.** (G) Credit and hours as arranged. Registration by permission of the graduate committee chairman and the instructor. Department faculty. Fee dependent on nature of problem.

(See also *Other Programs*, page 52.)

## HOTEL ADMINISTRATION

(See also *Other Programs*, page 52.)

## INDUSTRIAL AND LABOR RELATIONS

**I.&L.R. 100. LABOR IN AMERICAN SOCIETY.** (U,G) 3 hours credit. No prerequisites. M T W Th F 8-9:15. Ives 214. Mr. KORMAN.

A history of the position of workers in American society from colonial times to the present. Primarily intended to provide a broad view of the labor problem—its economic, social, and political sources, manifestations, and implications—through consideration of the conditions out of which present-day ideas and philosophies, institutional arrangements, and public policies regarding industrial and labor relations have arisen.

**I.&L.R. 250. SURVEY OF INDUSTRIAL AND LABOR RELATIONS.** (U,G) 3 hours credit. No prerequisites. M T W Th F 11-12:15. Ives 214. Mr. CARPENTER.

An analysis of the major problems in industrial and labor relations: labor union history, organization, and operation; labor market analysis and employment practices; industrial and labor legislation and social security; personnel management and human relations in industry; collective bargaining; mediation and arbitration; the rights and responsibilities of employers and employees; the major governmental agencies concerned with industrial and labor relations.

**I.&L.R. 451. MODERN INDUSTRY AND INDUSTRIAL AND LABOR RELATIONS.** (G) 3 hours credit. No prerequisites. M T W Th F 9:30-10:45. Field trips to be arranged. Ives 214. Mr. MESICS.

This course, designed for guidance counselors, school administrators, and social studies teachers, is an introduction to work processes and the role of the employee in modern industrial and business organizations. The nature of modern industry, formal and informal work organizations, and the characteristics of work in an environment of rapid technological change are examined. Also covered are the institution of the trade union movement; the changing work force structure and composition; theories of management organization and leadership. Field trips to work organizations are scheduled.

**I.&L.R. 462. MOTIVATION AND MORALE IN WORK ORGANIZATIONS.** (U,G) 3 hours credit. No prerequisites. M T W Th F 8-9:15. Ives 116. Mr. GRUENFELD.

The focus is on variables, such as supervision, participation, the work group, job content, wages and incentives, which determine an individual's job satisfaction and job performance. Factors which influence an individual's occupational choice are also related to the meaning of work.

**I.&L.R. 499. DIRECTED STUDIES.** (U) Credit to be arranged.

For individual research, conducted under the direction of a member of the faculty, in a special area of labor relations not covered by regular course offerings. Registration normally limited to upperclassmen who have demonstrated ability to undertake independent work.

**I.&L.R. 510. ECONOMIC AND SOCIAL STATISTICS.** (U,G) 3 hours credit. No prerequisites. Lectures, M T W Th F 9:30-10:45. Ives 116. Laboratory, two sessions each week, to be arranged. Mr. McCARTHY.

A non-mathematical course for graduate students in the social studies without previous training in statistical method. Emphasis will be placed on discussion of technical aspects of statistical analysis and on initiative in selecting and applying statistical methods to research problems. The subjects ordinarily covered will include analysis of frequency distributions, time series (including index numbers), regression and correlation analysis, and selected topics from the area of statistical inference.

**I.&L.R. 699. DIRECTED STUDIES.** (G) Credit to be arranged.

For individual research conducted under the direction of a member of the faculty.

## Special Non-credit Seminars and Workshops

In the summer of 1965 the School is again offering a series of one-week non-credit seminars and workshops. These units are designed for practitioners, and, consequently, each will give specific emphasis to an operational area in the field. A partial list of offerings follows: *Collective Bargaining, Programed Learning, and Industrial Training Techniques.*

A number of conferences and institutes will also be conducted by the School. A special announcement covering the summer program of the School, including details of cost and content, may be obtained by writing to the Director of On-Campus Programs, Extension Division, School of Industrial and Labor Relations, Cornell University, Ithaca, New York 14850.

## LITERATURE

**Lit. 201. MASTERWORKS OF WESTERN LITERATURE.** (U) 3 hours credit. M T W Th F 8-9:15. Goldwin Smith 164. Mr. RUDIN.

Informal discussion of selected great books of the Western tradition: *The Book of Job*, selected Greek tragedies, *The Aeneid*, *The Divine Comedy*, selected medieval romances, *King Lear*.

**Lit. 202. MASTERWORKS OF WESTERN LITERATURE.** (U) 3 hours credit. May be taken concurrently with Lit. 201. M T W Th F 11-12:15. Goldwin Smith 162. Mr. LEVINE.

Informal discussions of selected great books of the Western tradition: *Don Quixote*, *Paradise Lost*, selected plays of Molière, *Faust*, poems of Keats, *Madame Bovary*, short stories by Chekhov and Mann, poems of Yeats.

**Lit. 312. SOVIET LITERATURE.** (U,G) 4 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 124. Mr. HORWITZ.

An introduction to selected works of Russian literature from 1917 to date, examined as social and historical documents and as works of art.

**Russ. 421. SUPERVISED READING AND RESEARCH.** (U,G) 2 hours credit. Prerequisite, concurrent enrollment in Lit. 312 and permission of the instructor. Hours to be arranged. Mr. HORWITZ.

An examination of a series of topics dealing with the relation of Soviet literature to pre-revolutionary Russian literature and to Soviet society.

(See also English, page 32, and Other Programs, page 48.)

## MATHEMATICS

**Math. 111. ANALYTIC GEOMETRY AND CALCULUS.** (U) 3 hours credit. Prerequisite, three years of college preparatory mathematics. M T W Th F 8-9:15. White B-25.

Plane analytic geometry, differentiation and integration of algebraic functions, applications. Text: Thomas, *Calculus and Analytic Geometry*, Chaps. 1-5.

**Math. 112. ANALYTIC GEOMETRY AND**

**CALCULUS.** (U) 3 hours credit. Prerequisite, Mathematics 111 or the equivalent. M T W Th F 9:30-10:45. White B-1.

Differentiation and integration of algebraic, trigonometric, logarithmic, and exponential functions with applications. Plane analytic geometry. Related topics, including polar coordinates, parametric equations. Text: Thomas, *Calculus and Analytic Geometry*, Chaps. 6, 7, 9, 11, 12.

**Math. 113. ANALYTIC GEOMETRY AND CALCULUS.** (U) 3 hours credit. Prerequisite, Mathematics 112 or the equivalent. M T W Th F 11-12:15. White B-9.

Infinite series, solid analytic geometry, partial derivatives, multiple integrals. Text: Thomas, *Calculus and Analytic Geometry*, Chaps. 13-16.

**Math. 121. ANALYTIC GEOMETRY AND CALCULUS.** (U) 3 hours credit. Prerequisite, a thorough knowledge of trigonometry and exceptional aptitude for mathematics. Students must also register for Math. 122. M T W Th F 9-10:45 and 2-3:15. White B-15.

Emphasis on the mastery and techniques needed for further preparation in the sciences, including engineering and advanced mathematics. Mathematics 121 and 122 together treat the following topics: plane analytic geometry through conics; differentiation and integration of polynomials with applications to rates, maxima, volumes, pressures, etc.; differentiation and integration of algebraic, trigonometric, logarithmic, and exponential functions, with applications; related topics including polar coordinates, parametric equations, and vectors. Text: Agnew, *Calculus*.

**Math. 122. ANALYTIC GEOMETRY AND CALCULUS.** (U) 3 hours credit. Must be taken with 121. Prerequisite, current registration in 121. See description above under Math. 121.

**Math. 192. CALCULUS FOR ENGINEERS.** (U) 4 hours credit. Prerequisite, Mathematics

191 or its equivalent. M T W Th F 8-8:50 and 11-11:50. White 310.

Transcendental functions, technique of integration and multiple integrals, vector calculus, analytic geometry in space, partial differentiation, applications. Text: Thomas, *Calculus and Analytic Geometry*, Chaps. 6, 7, 12, 13, 14, 15.

**Math. 200. BASIC CONCEPTS OF MATHEMATICS.** (U) 3 hours credit. Prerequisite, Mathematics 122 or its equivalent. M T W Th F 9:30-10:45. White B-9.

Primarily for undergraduates, particularly for prospective teachers and those with a cultural interest in mathematics. Set theory, logic, axiom systems, the real number field, other simple algebraic structures, cardinal numbers.

**Math. 294. ENGINEERING MATHEMATICS.** (U) 3 hours credit. Prerequisite, 193. M T W Th F 8-9:15. White B-1.

Linear differential equations, quadratic forms and eigenvalues, differential vector calculus, applications.

**Math. 331. LINEAR ALGEBRA.** (U,G) 4 hours credit. Prerequisite, Mathematics 200 or 113 or the equivalent. M T W Th F 11-12:15. White B-25.

Vectors, matrices, and linear transformations. Affine and Euclidean spaces. Transformation of matrices. Eigenvalues. Emphasis on applications.

## MENTAL HEALTH

**M.H. 1. PRINCIPLES AND PRACTICES IN MENTAL HEALTH.** (U,G) 3 hours credit. Lectures, M T W Th F 10. Laboratory, T 2-4:30 and additional hours to be arranged. Phillips 317 Mr. WALDMAN.

Deals with some basic concepts of emotional adjustment, mental health, and illnesses; the more common behavioral and emotional disorders; current policies and practices with regard to referral, diagnosis, and treatment; the role of the teacher and parent in promoting mental

health. Emphasis is on attitudes and procedures related to adjustment problems in the school and community. Laboratory sessions will include mental health films and plays for educational purposes. Visits to various agencies dealing with mental health problems will be arranged at the mutual convenience of the students and the instructor. Attendance at these meetings is required.

Credit may be applied toward the provisional certificate for guidance counselors.

## MUSIC

**Music 31. BRASS SYMPOSIUM AND WORKSHOP.**

(See Other Programs, page 48.)

**Music 101. THE ART OF MUSIC.** (U,G) 3 hours credit M T W Th F 11-12:15. Lincoln 321. Mr. CAMPBELL.

An approach to the understanding and rational enjoyment of music. Offered especially for students who have had no technical training in the subject. Most of the outside work consists of listening to phonograph records.

**Music 103. BASIC TECHNIQUES OF MUSIC.**

## 40 SUMMER SCHOOL

(U,G) 3 hours credit. M T W Th F 9:30-10:45. Lincoln 321. Mr. MANDERNACH.

Ability to sing on pitch is required; some ability to play an instrument is desirable. Study of the fundamental techniques of music. Includes rhythmic, melodic, and harmonic dictation; sight singing; writing of melody and simple four-part writing; keyboard harmony; and listening to recorded masterpieces to develop the ability to analyze music. Application for this course must be submitted by June 15, 1965.

**Music 311. CHURCH MUSIC.** (U,G) 3 hours credit. M T W Th F 8-9:15. Lincoln 321. Mr. SOKOL.

Study of selected works from the principal traditions of Western church music, and study of the circumstances surrounding their composition and performance.

**Music 320u. UNITED STATES MUSIC.**

(See Other Programs, page 53.)

**\*Music 321. INDIVIDUAL INSTRUCTION IN ORGAN.** Without credit. One-hour lesson weekly (or two half-hours). Consent of instructor required. Mr. DAMP.

Fee for one-hour lesson weekly, \$45. Fees for an organ practice schedule: twelve hours weekly \$30; six hours weekly, \$15. Fees for a piano practice schedule: twelve hours weekly, \$10; six hours weekly, \$5.

**Music 331. SAGE CHAPEL CHOIR.** (U) 1 hour credit. Rehearsals Tues. evening 7:15-9 and Sun. morning 9:30. Sage Chapel. Mr. SOKOL. Membership in the choir is also open to students without credit, if desired.

**Music 411u. WORKSHOP IN COMPOSITION AND ANALYSIS.**

(See Other Programs, page 52.)

**Music 412u. COMPOSITION AND ANALYSIS.**

(See Other Programs, page 53.)

## PHILOSOPHY

**Phil. 110. INTRODUCTION TO LOGIC.** (U) 3 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 227. Mr. KRETZMANN.

Elementary formal logic, including investigations of the logic of statements, the logic of predicates, and the logic of terms, with equal emphasis on theory and on application. Text: Kretzmann, *Elements of Formal Logic*.

**Phil. 303. MEDIEVAL PHILOSOPHY.** (U,G) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 227. Mr. KRETZMANN.

The treatment of the problem of universals and the problem of truth in the writings of Augustine, Boethius, Anselm, Abelard, Aquinas, and Ockham. Texts: McKeon, *Selections from Medieval Philosophers*, Vols. I and II; Vignaux, *Philosophy in the Middle Ages*.

## PHYSICS

**\*Physics 105. TOPICS IN PRESENT-DAY PHYSICS.** (U,G) 3 hours credit. (Graduate credit limited to secondary school teachers in the sciences who already have baccalaureate degrees.) Prerequisites, 3 units of college-preparatory mathematics and a year-course in either college or high school physics. Consent of instructor required. M T W Th F 10-11:50. One two-hour lecture per week (usually on Mondays), one two-hour discussion meeting on each of three days of the week, and one meeting a week (usually Thursdays) either for additional lectures or to view and discuss pertinent instructional movies. Lectures in Rockefeller B. Movies in Rockefeller C. Mr. PETERSON.

Typical topics are: special relativity, quantum theory, elementary particles, wave-particle duality, X-ray diffraction and the solid state,

high-energy accelerators, physics of the upper atmosphere, cosmology, etc.

Except for the common Monday lectures and for the Thursday lectures or movies, students are subdivided into class-study groups according to interests, background preparation, etc. Three credit hours of Physics 105 and 3 of Physics 109 will satisfy the requirements of the College of Arts and Sciences at Cornell for the physical science sequence in Distribution I. Physics 105 is not the equivalent of Physics 101, 121, 201, or 207 of the academic year. Fee, \$5.

**\*Physics 109. GENERAL PHYSICS LABORATORY.** (U,G) 1 to 3 hours credit. (Graduate credit limited to secondary school teachers in the sciences who already have baccalaureate degrees.) Prerequisites, 3 units of college-

preparatory mathematics and a year-course in either college or high school physics. Laboratory open M T W Th F 2-4:30. Rockefeller 354.

Experiments are available in each of several fields and are assigned to fit the student's interests and background preparation. Students are encouraged to work individually with a minimum of supervision. Fee, \$5 per credit hour.

**\*Physics 122. INTRODUCTORY ANALYTICAL PHYSICS II.** (U) 3 hours credit. Prerequisite, Physics 121 and at least simultaneous registration in Mathematics 192, or consent of the instructor. Lectures, T Th 9:30-10:45. Rockefeller A. Recitations, M W F 9:30-10:45. Rockefeller 103. Laboratory, T Th 2-4:30. Rockefeller 252. Mr. NEWHALL.

Conservation of linear momentum, kinetic-molecular theory of gases, properties of solids and liquids, mechanics of rigid bodies, harmonic motion, and fundamentals of wave propagation. At the level of *Introductory Analytical Physics* (2d ed.), Parts I and II, by Newhall. Fee, \$5.

**\*Physics 207. FUNDAMENTALS OF PHYSICS.** (U) 4 hours credit. Prerequisite, Mathematics 111, or consent of the instructor. A first course for most college students majoring in a natural science or in mathematics; not for students who have completed Physics 101-102 or 121-122. Lectures M 12-1:15. Rockefeller C; T Th F 12-1:15, Rockefeller B. Recitations, M T W Th F 11-12, Rockefeller 109. Laboratory, T 2-5, Rockefeller 220. Mr. RAJARAMAN.

Emphasis is placed on the fundamental concepts of the various branches of physics as well as on the unity of the subject as revealed by the basic ideas common to all of physics. Analytical techniques are developed in problem and laboratory work. Topics: dynamics of particles, conservation laws, collisions, dynamics of fluids, sound waves, laws of thermodynamics, kinetic theory of gases. At the level of *Physics for Students of Science and Engineering* by Halliday and Resnick. Fee, \$5.

**\*Physics 208. FUNDAMENTALS OF PHYSICS.** (U) 4 hours credit. Prerequisites, Physics 207, Mathematics 112, or consent of instructor. Summer session students may obtain "advanced placement" in lieu of Physics 207 (and 4 hours credit for Physics 207 in the Cornell College of Arts and Sciences), or permission to register for both Physics 207 and 208, by passing a special advanced placement

examination administered by the Department of Physics at the start of the Summer Session. Lectures: M 8-9:15, Rockefeller C; T Th F 8-9:15, Rockefeller B. Recitations, M T W Th F 10-11. Rockefeller 109. Laboratory, Th 2-5. Rockefeller 220. Mr. RAJARAMAN.

Essentially a continuation of Physics 207. Topics: harmonic motion, electromagnetic waves, nature of and propagation of light, diffraction, interference, and the wave-particle properties of matter. Fee, \$5.

**\*Physics 309. INTERMEDIATE EXPERIMENTAL PHYSICS.** (U,G) 1 to 3 hours credit. Prerequisites, Physics 102, 109 or 208, and Mathematics 112, or consent of the instructor. Lectures and laboratory, M T W Th F 2-5. Rockefeller 354. Mr. CARVER.

Topics in experimental methods with selected experiments to suit the individual student's need. Experiments are offered in mechanics, errors and probability, electricity and magnetism, electronics, optics, and modern physics. Suitable as laboratory work to accompany Physics 436. Fee, \$5 per credit hour.

**\*Physics 361. INTRODUCTORY ELECTRONICS.** (U,G) 2 hours credit. Prerequisite, Physics 309 or 310, or consent of the instructor. Lectures and laboratory, M T W Th F 2-5. Rockefeller 362.

Principles of vacuum tubes, semiconductor devices, electronic circuits, and their operating characteristics; knowledge of methods and techniques invaluable to the student who plans experimental work in almost any field involving modern instruments. Fee, \$10.

**Physics 436. MODERN PHYSICS.** (U,G) 4 hours credit. Prerequisites, Physics 322 and Mathematics 214 or 222, or consent of the instructor. Lectures, M T W Th F 8-10. Rockefeller 109.

Selected topics in atomic, solid state, and nuclear physics; fundamental particles, atomic spectra, fundamentals of the quantum theory, the periodic table, X-rays, cosmic rays, properties of nuclei, and nuclear interactions. At the level of *Elementary Modern Physics* by Weidner and Sells and of *Principles of Modern Physics* by French.

#### ADVENTURES IN PHYSICS

June 30 to August 13.

A special program is available for selected high-ability secondary school students who have completed the eleventh grade. No credit. (See *Other Programs*, pages 45, 46.)

## PSYCHOLOGY

**Psych. 101. INTRODUCTION TO PSYCHOLOGY.** (U) 3 hours credit. M T W Th F 8-9:15. Morrill 340. Mr. MAAS.

An introduction to the scientific study of behavior and experience, covering such topics as perception, learning, motivation, emotion, personality, individual differences, social and applied psychology.

**Psych. 106. PSYCHOLOGY IN BUSINESS AND INDUSTRY.** (U) 3 hours credit. M T W Th F 11-12:15. Morrill 340. Mr. MORRIS.

Applications of psychological methods in

marketing, advertising and consumer behavior, personnel selection, interviewing, counseling, testing, methods of work, motivation and satisfaction in the industrial and business setting.

**Psych. 207. INTRODUCTION TO PERSONALITY AND SOCIAL PSYCHOLOGY.** (U) 3 hours credit. M T W Th F 9:30-10:45. Morrill 340. Mr. MACGREGOR.

Description and analysis of major consistencies in interpersonal behavior. Includes an over-all survey of principles and perspectives of the field, and a detailed analysis of several books.

## SOCIOLOGY AND RURAL SOCIOLOGY

**Soc. 101. MAN AND SOCIETY.** (U,G) 3 hours credit. M T W Th F 8-9:15. Morrill 240. Mr. ACKERMAN.

An introduction to the principal questions, perspectives, and methods of sociology. The focus of the course will be upon the processes which maintain the continuity and stability of society and contribute to its change. Detailed analyses will be made of institutions and organizations, socialization and social control. Emphasis will be given to contemporary research in these areas.

**Soc. 264. INTERGROUP RELATIONS.** (U,G) 3 hours credit. M T W Th F 8-9:15. Goldwin Smith 156. Mr. SCHIERMERHORN.

Identification and analysis of groups or social units (age, race, class, ethnic, language, religious, caste, regional, kin, etc.) in society; and the consideration of the problems in intergroup relations, prejudice, integration, accommodation, and national unity to which they give rise.

**Soc. 281. THE SOCIAL PSYCHOLOGY OF GROUPS.** (U,G) 3 hours credit. Prerequisite, a course in psychology or sociology. M T W Th F 11-12:15. White B-29. Mr. KOENIG.

Analysis of the structure of groups and group processes in terms of contemporary social psychology and sociological frames of reference. Survey of the findings of research which bear upon these frames of reference from field and laboratory settings and an analysis of observational, survey, and experimental methods of research bearing upon groups.

**Soc. 341. EDUCATIONAL SOCIOLOGY.** (See page 27.)

**Soc. 343. THE FAMILY** (U,G) 4 hours credit. Prerequisite. Sociology 101 or consent of the instructor. M T W Th F 9:30-10:45. Goldwin Smith 156. Mr. SCHIERMERHORN.

Note: Additional work in the form of a written or oral report or an occasional additional class meeting will be required because this course grants four hours of credit.

The family in various cultures, but particularly in American society, from the standpoint of its organization and relation to other social institutions. Emphasis is placed upon the family's major social functions—reproduction, maintenance, socialization, and the conferring of status—and upon the cyclical features of the family—courtship, marriage, parenthood, and dissolution.

**Soc. 351. THE SOCIOLOGY OF DEVIANCE.** (U,G) 4 hours credit. Prerequisite, any course in sociology or psychology. M T W Th F 11-12:15. Morrill 240. Mr. ACKERMAN.

Note: Additional work in the form of a written or oral report or an occasional additional class meeting will be required because this course grants four hours of credit.

Juvenile delinquency and lower-class gangs, rate-busting and chiseling, political apathy and negativism, are examined in the context of "action" theory. The psychological concepts of "sex-identity crisis," "dissonance," and "status-envy" are analyzed, along with the sociological concepts of "anomie" and "alienation."



**R.Soc. 550. INFORMAL STUDY IN RURAL SOCIOLOGY.** (G) Credit and hours to be arranged. Prerequisites, graduate standing and permission of the staff member who will supervise the study.

**R. Soc. 551. RESEARCH IN RURAL SOCIOLOGY.** (G) Credit and hours to be arranged. Prerequisites, graduate standing and permission of the staff member who will supervise the research.

## SPEECH AND DRAMA

**Sp.&Dr. 190. DIRECTED STUDY IN SPEECH AND DRAMA.** (U,G) 3 hours credit. Hours to be arranged. Open to undergraduates and graduates prepared for advanced studies in speech or drama and theatre. Permission of one of the instructors required for registration. Messrs. ALBRIGHT, McCALMON, and ROBERTSON.

Individual and informal seminar study of special topics concerning theory, history, or criticism of dramatic or rhetorical communication. Each student will be assigned to an adviser according to his special interest and, with the adviser's consent, will select a program of directed reading and research to be pursued individually or in collaboration with others.

**Sp.&Dr. 201. PUBLIC SPEAKING.** (U) 3 hours credit. M T W Th F 11-12:15. Lincoln Hall 204. Mr. BAKKE.

Designed to help the student communicate his ideas and convictions effectively in oral discourse. Study of basic principles of expository and persuasive speaking with emphasis on finding, evaluating, and organizing materials, and on simplicity and directness in style and delivery. Practice in preparing and delivering speeches of various types on current issues, and in chairmanship; study of examples; conferences.

**Sp.&Dr. 231. SPEECH FOR THE CLASSROOM TEACHER.** (U,G) 3 hours credit. M T W Th F 8-9:15. Lincoln Hall 204. Mr. BAKKE.

Designed to help teachers in elementary and secondary schools improve command of the speech skills and forms of communication they constantly use: oral exposition, group discussion, reading aloud, public speaking. Study of principles, constant practice, conferences on individual needs.

**Sp.&Dr. 286. PLAY PRODUCTION.** (U,G) 3 hours credit. M T W Th F 11-12:15. Lincoln Hall 301. Mr. CARLSON.

Principles and standard practice in play production, with emphasis on directorial viewpoints and objectives. Special attention to problems of organization, play selection, cast-

ing, and producing in school and community. Opportunities to observe rehearsals and performances of the Summer Theatre company. Students matriculated for a degree in Cornell University may offer this course as the equivalent of Speech and Drama 285.

**Sp.&Dr. 375. THE MOTION PICTURE: A SURVEY.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. Projection periods, T Th 1:30-3:30. Lincoln Hall 204. Mr. BENSON.

An introduction to the history and art of the film: its characteristic problems, devices, and development. Representative motion pictures, from *The Great Train Robbery* and Griffith's *The Birth of a Nation* or *Intolerance* to contemporary films of significance, will be studied. Students are urged to attend the film programs on the campus.

**Sp.&Dr. 383. THEATRE PRACTICE.** (U,G) 3 hours credit. M W F 1:30-4:00, and some evenings and other afternoons as required by production needs. Lincoln Hall B-9. Mr. McCALMON and staff.

An intensive laboratory course in acting and play production integrated with the Summer Theatre. Varied projects and special assignments in the systematic preparation of plays for public performance. This course is normally required of undergraduate and graduate students majoring in drama at Cornell University. To earn an additional three credit hours, a student may elect to take one of the following Speech and Drama course offerings: 286, Play Production; 375, The Motion Picture: A Survey; 393, Modern American Drama and Theatre; or 396, Modern European Drama.

**Sp.&Dr. 393. MODERN AMERICAN DRAMA AND THEATRE.** (U,G) 3 hours credit. M T W Th F 9:30-11. Lincoln Hall 302. Mr. ALBRIGHT.

The development of the American theatre in its varied forms and the appreciation of its native drama with emphasis on representative plays and playwrights since 1900. Special consideration will be given to the works of O'Neill, Williams, Miller, and Albee. Students matriculated for a degree at Cornell Univer-

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sity may offer this course as the equivalent of Speech and Drama 392.

**Sp.&Dr. 396. MODERN EUROPEAN DRAMA.** (U,G) 3 hours credit. M T W Th F 8-9:15. Lincoln Hall 302. Mr. CARLSON.

A critical study of the major trends in the European theatre since Ibsen. Certain influential theoretical works will be examined, but the emphasis will be on comprehension and analysis of some of the most significant plays of this period. Among the dramatists

studied will be Strindberg, Chekhov, Pirandello, Shaw, Brecht, Lorca, Anouilh, Genet, and Duerrenmatt. Lectures, papers, and discussion.

**SUMMER THEATRE.** Work in acting and in various phases of production open to those enrolled in courses in Speech and Drama and to other interested Summer Session students. Weekly public performances. Messrs. McCALMON, ROBERTSON, HERTHEL. No credit. (If credit is desired, see Speech and Drama 383, Theatre Practice.)

## ZOOLOGY

**\*Zool. 103u. GENERAL ZOOLOGY.** (U) 3 hours credit. June 30-July 23. Lectures, M T W Th F 9 and 11. Stimson G-25. Laboratory, M T W Th F 1-3:20. Stimson 102. Mr. MARKS and assistants.

A survey of the animal kingdom, observations and dissections of representative species, beginning with single-cell organisms up to vertebrate animals. Text: Storer and Usinger, *General Zoology*. Fee, \$7.50.

**\*Zool. 104u. GENERAL ZOOLOGY.** (U) 3 hours credit. July 26-August 13. Prerequisite, Zoology 103u or its equivalent. Lectures, M T W Th F 9 and 11. Stimson G-25. Laboratory, M T W Th F 1-3:20. Stimson 102. Mr. LEONARD and assistants.

A continuation of Zoology 103u. Emphasis placed on the biology of the vertebrate animals, including references to man. Various zoological principles such as evolution, development, and genetics will be considered. Text: Storer and Usinger, *General Zoology*. Fee, \$7.50.

*These courses stand as prerequisites to advanced zoological studies.*

**\*Zool. 321. COMPARATIVE ANATOMY OF VERTEBRATES.** (U,G) 3 hours credit. Prerequisite, a year course (6 hours) of college-level introductory zoology. Students must also register for Zool. 322. Lectures, M T W Th F 9. Stimson G-1. Laboratory, M T W Th F 10-12:30 and 1:30-4. Stimson 310. Mr. WARNER and assistants.

A thorough study and dissection of representative vertebrate types, including fish, amphibian, reptile, bird, and mammal, together with demonstrations of species other than the types dissected. Intended to give students an evolutionary background for the study and appreciation of the structure of higher vertebrates, including man. Fee, \$30.

**\*Zool. 322. COMPARATIVE ANATOMY OF VERTEBRATES.** (U,G) 3 hours credit. Must be taken with 321. Prerequisite, current registration in 321. See description above under Zool. 321.

## OTHER PROGRAMS OF THE SUMMER SESSION

*The following Special Programs are offered during the Summer Session period, June 15 to approximately September 15. Some occur during the period of the Summer School session, June 30 to August 13. Note the dates scheduled for each program. Other programs may be added before the Session begins. Inquiries are invited.*

*The Special Programs differ from the Summer School program in one or more features such as tuition rates, length of period, clientele to be served, application procedures, registration process, and otherwise. The variations are noted in the description of each program.*

*In certain programs it may be possible for a student registered in the Summer School to elect a course from a Special Program as part of his schedule. Likewise it may be possible for a student admitted to a Special Program to add a Summer School course to complete his study in the summer. In either case the Summer School tuition rate will apply for the elected course rather than the rate specified in the Special Program.*

*Applicants for admission to a Special Program do not use the form provided in the back of the Announcement to be used for admission to Summer School. Directions for requesting further information and application forms accompany the following descriptions of Special Programs.*

### **ADVANCED PLACEMENT PROGRAM FOR SECONDARY SCHOOL JUNIORS JUNE 30–AUGUST 13**

The Advanced Placement Program for Secondary School Juniors, open only to academically talented students who have completed the eleventh year in high school in June, 1965, is offered to enable college-bound students to achieve advanced placement in college.

The program offers college-level courses in each of ten options: bacteriology, botany, chemistry, French, German, Russian, Spanish, mathematics, physics, and zoology. In each option the student may earn a total of six hours credit to be recorded with the Registrar of Cornell University for subsequent transfer as desired. Each option requires the full time of the student for the six-week session.

Special provisions are made for housing, dining, and counseling services. The usual health services and all extracurricular activities provided in the Summer Session are made available. The total charge to each student is \$350 for all expenses except textbooks and personal expenses.

For further information and application forms, address: Director, Advanced Placement Program, Secondary School Juniors, B-20 Ives Hall, Cornell University, Ithaca, New York 14850. Request for application forms is to be made by February 20.

### **ADVENTURES IN PHYSICS FOR HIGH-ABILITY SECONDARY SCHOOL STUDENTS**

**Supported by the National Science Foundation**

**JUNE 30–AUGUST 13**

This program is designed for students who will have completed their eleventh grade. The program provides a superior opportunity in physics, both classroom and laboratory, to supplement the usual offerings in the secondary school. The specific objectives include:

(1) Imparting to the student some of the exciting adventure of physical science in our present-day culture,

- (2) Facilitating self-evaluation of the student's personal interests in science, and
- (3) Providing a meaningful first exposure to the academic atmosphere of college.

Selection is limited to students in the top 10 per cent of their class who will have completed a one-year course in high school physics or chemistry and three years of college-preparatory mathematics.

Students are housed in University dormitories, with counselor and health services provided. It is expected that most students will pay for their own instructional materials, subsistence, and personal expenses; however, if financial need is demonstrated, financial aid for subsistence and travel is available.

For further information and application forms, address: Dr. Thomas J. Peterson, Jr., Director, Adventures in Physics, 123 Rockefeller Hall, Cornell University, Ithaca, New York 14850.

## AGRICULTURAL EDUCATION JULY 12-30

Three-week unit courses in technical agriculture and agricultural education are being made available to teachers of agriculture. These courses may apply toward a Master of Education degree and/or to a teaching certificate. The three-week courses provide an opportunity for professional improvement without the need for extended leaves of absence from positions.

Graduate credit earned in three-week unit courses may be applied toward the residence requirement for only the Master of Education degree at Cornell. Students desiring to become candidates for this degree should register also in the Graduate School.

Registration for the three-week session will take place July 12, 1965, at a time and place to be announced.

Two one-week courses in technical agriculture are also available to teachers of agriculture. Registration for either or both of these courses will be in advance.

For further information, address Dr. J. P. Bail, 209 Stone Hall, Cornell University, Ithaca, New York 14850.

### July 12-30

**Ag.Ec. 329u. AGRICULTURAL BUSINESS MANAGEMENT.** (U,G) 2 hours credit. Lecture, M T W Th F 8-9:50 with two laboratories to be arranged. Warren 145. Mr. CARPENTER and staff.

Principles of business management applied to the operation of agricultural concerns that sell, process, or distribute agricultural products. Special attention will be given to marketing, merchandising, and salesmanship. The emerging role of Cooperatives in agricultural business will be covered.

**\*Ag.Eng. 405u. ADVANCED AGRICULTURAL METAL SHOP.** (U,G) 2 hours credit. Lecture and Laboratory, M T W Th F 10-11:50 and T Th 1-4:50. Riley-Robb 60, 64. Mr. LECHNER.

Designed primarily for teachers of vocational agriculture who have had some welding experience. Those who have had advanced instruction in welding should not enroll. Course content will include instruction and laboratory practice in general shop skills (depending on need of student), heat treatment of steel, advanced welding as related to farm machinery repair, and design or redesign and construction

of equipment or machines made of metal. (Student is advised to check with the Instructor before enrolling.) Fee, \$3.

**R.E. 433u. SPECIAL PROBLEMS IN AGRICULTURAL EDUCATION; THE GUIDANCE ROLE OF THE TEACHER OF AGRICULTURE.** (U,G) 2 hours credit. Experience as a teacher of agriculture or consent of instructor required. M T W Th F 8-9:50. Warren 37. Mr. SCARBOROUGH.

Exploration of the guidance role of teachers of agriculture, including tests of interest and aptitude. The agricultural occupations open to high school graduates will be surveyed along with determination of competencies needed to succeed in the occupations. Vocational maturity and vocational development as related to the study of agricultural occupations will be stressed.

**R.E. 630u. SEMINAR IN AGRICULTURAL EDUCATION.** (G) 2 hours credit. M T W Th F 10-11:50. Warren 37. Mr. SCARBOROUGH.

The seminar will be centered on current problems affecting the teaching of agriculture in the secondary school. Consideration will be given to such areas as experience programs for agricultural pupils, curricular offerings,

the role of agriculture in area vocational schools, cooperative board arrangements for providing agricultural instruction, policies at the local, state, and national level affecting agricultural education, and other problems as identified by the students and instructor.

**R.E. 499u. INFORMAL STUDY IN EDUCATION.** (U.G) Credit and hours as arranged. Consent of instructor required. Staff.

**R.E. 500u. SPECIAL STUDIES IN EDUCATION.** (C) Credit and hours as arranged. Prior approval of instructor required for registration. Staff.

Students working on theses or other research projects may register for this course.

## Special One-Week Courses (Advanced Registration Only)

### July 19-23

**\*Flori. 360u. LANDSCAPE DESIGN AND WOODY PLANTS.** (U.G) 1 hour credit. M T W Th F 9-3. Plant Science 37. Mr. MOWER, Mr. SCANNEL, and Mr. DWELLE. Limited to 20 students.

A consideration of the principles of landscape design and a study of trees, shrubs, and vines used in landscape planting as applied to the small residential property. Fee, \$4.

M T W Th F 8:30-4:30. Arnot Forest Laboratory. Mr. WINCH, Mr. DICKSON, and Mr. McNEIL. Limited to 25 students.

Designed to give the student the basic information necessary to implement sound management practices in a woodland tract. Field trips to woodlots will emphasize variations in value and potential. Actual practice in tree identification, log scaling, timber estimating, tree marking, and cutting in immature stands is given. The interrelationship of woodlot and wildlife management will be included.

### July 26-30

**Consv. 303u. WOODLOT MANAGEMENT AND CONSERVATION.** (U.G) 1 hour credit.

## AREA STUDY PROGRAMS FOR SECONDARY SCHOOL TEACHERS OF HISTORY AND THE SOCIAL SCIENCES

### JUNE 30-AUGUST 13

Combinations of courses in the social sciences have been arranged to provide area study programs dealing with China, Latin America, the Soviet Union, and Southeast Asia. The purpose in each program is to enable teachers to increase their knowledge and understanding as background for modernizing the range and scope of social studies education in the secondary school.

Each area of study will require the full time of the student for the six-week period and provides six hours of graduate level credit. The instructors for each area are authorities in their respective fields.

Summer training grants to defray cost of tuition and fees are available for New York State teachers of Social Studies.

The courses in each program are:

**CHINA PROGRAM:** History 324, *History of China During the Nineteenth and Twentieth Centuries*; and History 490, *Seminar in Modern Chinese History* (See page 00.)

**LATIN AMERICA PROGRAM:** Anthropology 332, *Ethnology of Middle and South America*; and Anthropology 541, *Seminar—Middle and South America*. (See page 00.)

**SOUTHEAST ASIA PROGRAM:** Government 344, *Governments and Politics of Southeast Asia*; and Government 644, *Seminar in Political Problems of Southeast Asia*. (See page 00.)

**SOVIET UNION PROGRAM:** History 463, *Modern Russian History from the Early Twentieth Century to the Present*; and History 480, *Seminar in Modern Russian History*. (See page 00.)

For further information and application forms, address: Director, Area Study Programs, B-20 Ives Hall, Cornell University, Ithaca, New York 14850. Please identify the area or areas of study desired.

## AREA STUDY PROGRAM FOR TEACHERS OF LITERATURE

**JUNE 30–AUGUST 13**

The following courses constitute a full program designed to prepare secondary school teachers of literature to include Russian literature in their instruction. Emphasis is on the literature of the Soviet period, examined as social and historical documents and as works of art.

Summer training grants to defray cost of tuition and fees are available for New York state teachers.

The courses are:

**Russ. 312, SOVIET LITERATURE.** (*For description, see page 38.*)

**Russ. 421, SUPERVISED READING AND RESEARCH** (a seminar). (*For description, see page 38.*)

For further information and application forms, address: Director, Area Study Program (Literature), B-20 Ives Hall, Cornell University, Ithaca, New York 14850.

## BRASS SYMPOSIUM AND WORKSHOP

**Offered by the Department of Music in cooperation with the  
New York Brass Quintet**

**JULY 5–16**

An intensive two-week program providing two hours of credit. Open to professional musicians, college teachers, music educators, undergraduates, and high school graduates of June, 1965, who qualify on the basis of training and experience in brass playing. Others may be admitted for audit.

The New York Brass Quintet is eminently qualified to fulfill the important dual role of artist-educator in establishing a much needed, and more immediate, liaison between the composer, performer, educator, and student for the furtherance of our musical culture.

For further information and application forms, address the Director, Brass Symposium and Workshop, B-20 Ives Hall, Cornell University, Ithaca, New York 14850.

**Music 31. SYMPOSIUM FOR BRASS.** (U,G)  
2 hours credit. Open for credit only to trumpet, French horn, trombone, and tuba players. Admission to the course for credit is limited to a proper distribution of instrumentation based upon formation of student quintets and ensembles. Others may register as auditors without class participation or personal attention. M T W Th F 9:30–12 and 1:30–4. Instruction provided by members of the New York Brass Quintet (Robert Heinrich and Ted Weis, trumpet; Barry Benjamin, French horn; John Swallow, trombone; Harvey Phillips, tuba).

Includes individual instrumental classes; seminars on brass chamber literature, composition and arranging, musical interpretation, musical performance, and the music profession; master classes on the separate instruments; and student ensemble and solo recitals.

Students must furnish their own instruments with the possible exception of tubas. A limited number of tubas are available through the Cornell University Music Department for a rental fee of \$2 for the period.

## CORNELL CONSERVATION WORKSHOP

**AUGUST 2–6**

Five days of lectures, demonstrations, and field trips on the facts, methods, and materials for teaching conservation. Open to teachers, administrators, youth leaders, and others interested in the wise use of natural resources. No academic credit is available. The New York State

Education Department will grant two units of in-service training credit to the participants in the workshop.

Participants are housed in cabins in Arnot Forest, Cornell's 4000-acre conservation training center, eighteen miles from the campus. Scholarships are available for qualified persons.

For further information and application forms, address: Dr. Richard B. Fischer, 3 Stone Hall, Cornell University, Ithaca, New York 14850.

## ENGINEERING INDUSTRIAL COOPERATIVE PROGRAM

**ADMISSION.** Selected courses of the regular curricula in the College of Engineering are offered in the summer to accommodate the schedule of Cornell students in the Cooperative Program. Within the enrollment capacity of each course other students may be admitted to these courses provided that they present satisfactory evidence of being prepared and a letter of authorization from a college or university in which they are enrolled. A schedule of courses to be offered will be available after March 1, 1965.

**CALENDAR.** Courses are scheduled in two separate but consecutive seven-week periods: first period, June 14–July 31; second period August 2–September 18.

**TUITION AND FEES.** Because the Cooperative Program's Summer Term is essentially a curriculum term in the College of Engineering, tuition and fees are not those of the 6-week Summer School but are based upon the regular tuition and fees for a semester in the academic year.

**REGULATIONS AND SERVICES.** In general the regulations described for the Summer School apply also to the Engineering Cooperative Summer Term.

Health services and library facilities are available during the Engineering Cooperative Summer Term.

**DOUBLE REGISTRATION.** Insofar as they can be scheduled, courses of the regular Summer School may be arranged for students admitted to the Engineering Cooperative Summer Term.

For applications address: Director of the Engineering Industrial Cooperative Program, Phillips Hall, Cornell University, Ithaca, New York 14850.

## FINANCIAL INSTITUTIONS SEMINAR AUGUST 16–27

Limited to twenty-five teachers in New York State schools. All participants will receive a full scholarship to defray charges for tuition, fees, room and board, and all instructional materials. The grant funds, in support of scholarships, are provided by local Savings and Loan Associations through the Savings Association League of New York State.

An intensive two-week seminar designed to increase the understanding of teachers about financial institutions and how they function to serve the family in its spending, borrowing, saving, and investing. Methods of teaching as well as instructional content will be included. Primarily for experienced teachers in junior and senior high schools in social studies, business education, home economics, and agriculture, or others who have opportunity to apply the knowledge gained in their classroom instruction. The full time of participants during the two weeks, five days a week, is required. Two hours of graduate level credit may be earned.

Financial institutions considered are savings and loan associations, various types of banks, consumer finance companies, credit unions, securities markets, and life insurance. Seminar topics also will include use of checking and savings accounts; investing in common stocks, mutual funds, and life insurance; and use of such types of credit as mortgage loans, installment credit, and personal loans.

For further information and application form, address: Director, Financial Institutions Seminar, B-20 Ives Hall, Cornell University, Ithaca, New York 14850.

Students will register for:

**H.E.M. 331. FINANCIAL INSTITUTIONS SEMINAR.** (U,G) 2 hours credit.

## UNIT PROGRAMS IN HOME ECONOMICS

The following programs, provided by the New York State College of Home Economics, are designed for persons who may be unable to attend the regular Summer School six-week session and who have particular interest in one or more of the separate departmental offerings. Participants will spend full time in each course selected.

Tuition is at the rate of \$40 per credit hour. The Summer Session fee is \$5 per week.

### Administrative Dietetics

*Offered by the Department of Institution Management*

**I.M. 527u. DIETARY EQUIPMENT SELECTION AND LAYOUT.** (G) 3 credit hours. July 5-23. M T W Th F 9-12 noon. Martha Van Rensselaer Hall. Miss CUTLAR.

Basic concepts guiding the selection and layout of dietary facilities in hospitals, schools, etc., will be considered. Special attention will be given to present trends and the impact of developing food service systems on planning dietary facilities for the future. Included will be review of current literature and research findings. Registrants may bring own planning problems to develop during the course.

The course is especially designed for college teachers who are preparing students for the field of administrative dietetics and for administrative dietitians currently employed in hospitals and in the national school lunch program. Early application is requested and will receive preference.

For further information and application forms, address: Director, Administrative Dietetics Program, B-20 Ives Hall, Cornell University, Ithaca, New York 14850.

### Food and Nutrition

*Offered by the Department of Food and Nutrition*

**F.&Ntr. 327u. RECENT TRENDS IN FOODS.** (U,G) 3 hours credit. July 5 to 23. Prerequisite, a college course in chemistry and food preparation. M T W Th F 9-11:30. Van Rensselaer 301. Miss MONDY.

Planned primarily for teachers, extension workers and dietitians who wish to increase their understanding of the principles and modern concepts of food preparation.

**FOOD AND NUTRITION.** (U,G) 3 hours credit. July 5 to 23. Prerequisite, a college course in nutrition. Lecture-discussion, M T W Th F 9-11:30. Van Rensselaer 117. Mrs. GIFT.

A study of food as a part of culture in the context of its sociological, psychological, economic, and biological meanings; investigation into the implications of this material for nutrition education programs.

**F.&Ntr. 303u. CULTURAL FACTORS IN**

### Home Economics Education

*Offered by the Department of Home Economics Education*

Two unit courses and a workshop will provide opportunities for home economics teachers, extension agents, supervisors, and directors of adult education to engage in concentrated study for a brief period of time.

For further information and application forms, address the Director, Home Economics Education Program, B-20 Ives Hall, Cornell University, Ithaca, New York 14850.

**H.E. Ed. 435u. METHODS AND MATERIALS IN TEACHING HOME ECONOMICS.** (G) 3 hours credit. July 26-August 13. M T W Th F 9:30-12:15. Van Rensselaer East Wing 5. Miss SNELL.

Planned for home economics teachers interested in studying and experimenting with a variety of teaching procedures and materials. Attention will be focused on the choice of various learning experiences in relation to the over-all



goals of the unit being taught and also to the background and ability level of the learners.

Criteria will be developed for the choice of texts and references, programed lessons, films, recordings and other materials to be used in teaching home economics.

**H.E. Ed. 437u. ADULT EDUCATION.** (G) 3 hours credit. *July 5-23. M T W Th F, 9:30-12:15.* Van Rensselaer East Wing 5. Miss PATTERSON.

An introductory course planned for teachers, administrators, directors of adult education, extension agents, parent educators, and others. Focused on the scope of adult education, program planning suited to adult learners, choosing teaching procedures and materials for adults, promotion of programs, philosophy and evaluation in adult education.

This course is accepted toward certification for Directors of Adult Education.

**H.E. Ed. 530u. TEACHING FOR GENERALIZATION IN HOME ECONOMICS.** (G) 3 hours credit. *July 26-August 13. M T W Th F, 9-4.* Van Rensselaer 117. Misses BRASETH and COOPER.

It is assumed that H.E. 530u will constitute a full load during this three-week period.

Discussion will focus on concepts and generalizations as elements of structure in home economics curricula; the nature of knowledge and of cognitive processes; bases for identifying the organizing ideas in a field; selection of appropriate teaching methods and resources when generalization is considered a primary goal of education. Group work will provide experience in identifying important ideas to be taught, developing plans for teaching toward both breadth and depth of understanding, and selecting or developing teaching materials.

Approximately one-third of the time will be available for work on specific projects of importance to individuals or small groups.

## Household Economics and Management

*Offered by the Department of Household Economics and Management*

Registration may be for one or more units as scheduled.

For further information and application forms, address the Director, Household Economics and Management Program, B-20 Ives Hall, Cornell University, Ithaca, New York 14850.

**\*H.E.M. 331u. PERSONAL FINANCE.** (U,G) 3 hours credit. *July 5 to July 23. M T W Th F 1-4.* (Class meets on the first day at 10-1.) Van Rensselaer 121. Mr. BIESDORF.

For teachers in secondary schools and colleges, extension workers, and those concerned with family financial counseling.

Allocation of income and management of personal finances during the life cycle of the family. An interdisciplinary approach in the presentation of the problems confronting consumers. The forces and institutions that influence the concepts held by consumers as well as their decision-making process toward expenditures and savings are investigated. Presentation and discussion of alternate solutions with case studies aiming at the development of useful techniques for the maximization of satisfaction with a given income in five major areas: budgeting; consumer credit, function, sources, and costs; planning of survivor benefits through savings and life insurance; com-

parative shopping for food; automotive transportation. Fee, \$5.

**\*H.E.M. 420u. PHYSICAL SCIENCE IN THE HOME.** (G) 3 hours credit. *July 26 to August 13. M T W Th F 8-9:30 and 1:30-3.* remainder of time to be spent in laboratory working on individual experiments. Van Rensselaer G19. Miss PURCHASE.

Of particular value to high school, college, and extension teachers interested in understanding ways in which the fundamentals of science are applied in home economics.

Composition of soil and principles involved in its removal. Reactions of polishes, waxes, detergents, and other cleaning supplies on household materials such as textiles, paint, wood, plastics, and floor coverings. Selected principles from the fields of physics and chemistry applied to laundering and other cleaning problems and to safe, efficient operation of household equipment. Fee, \$3.

## Textiles and Clothing

*Offered by the Department of Textiles and Clothing*

The following courses are designed for teachers of textiles and clothing in high schools, colleges, and extension, and for degree candidates who wish to earn undergraduate or graduate credit.

Students may register for either course or for both.

**T.&Clo. 391u. FAMILY CLOTHING CONSUMPTION.** (U,G) 3 hours credit. *July 5-23.* Prerequisites, a college course in economics and in sociology, or permission of instructor. Lecture-discussion, M T W Th F 9:30-12:30 and hours to be arranged. Van Rensselaer Hall 213. Mrs. BAUMGARTNER.

Influence of family composition, income, and occupation on family clothing expenditure; clothing consumption in relation to family goals and values; family clothing problems related to theories of consumer behavior, decision making, and management of resources.

**T.&Clo. 221u. ECONOMICS OF THE TEXTILE INDUSTRY.** (U,G) 3 hours credit. *July 26-August 13.* Prerequisites, a college course in textiles and in economics or in household economics and management, or permission of instructor. Lecture-discussion, M T W Th F 1-4 and hours to be arranged. Van Rensselaer Hall 121. Mr. BIESDORF.

Trends in production and consumption of textile fibers; structure of the textile industry and price determination; factors affecting supply and demand in the textile industry; textile trade fluctuations; international trade in textiles.

## HOTEL ADMINISTRATION

**JUNE 21-AUGUST 7**

In 1922, Cornell University established, with the cooperation and financial assistance of the American Hotel Association, a four-year course in hotel administration for high school graduates desiring to enter the administrative departments of the hotel business. Many hotel proprietors and managers who have been unable to take a four-year university course have asked for shorter courses with less formal entrance requirements.

To meet this demand, the Summer School work in hotel administration is given in unit courses, one to three weeks in length. A circular giving full details of these courses has been issued and will be sent upon request. For this circular, for other information about the work in this School, and for admission to these courses, address: Dean R. A. Beck, Statler Hall, Cornell University, Ithaca, New York 14850.

## MUSIC UNIT COURSES

**JULY 1-28**

The following courses are offered for persons interested primarily in music for professional or cultural reasons and who have only a limited time during the summer for study. Those who elect this opportunity for study will find the University and Ithaca environment a delightful place to combine their study with a unique variety of recreational and cultural opportunities.

Tuition is at the rate of \$40 per credit hour. A fee of \$5 per week is charged (see page 7 for items covered).

**Music 411u. WORKSHOP IN COMPOSITION AND ANALYSIS.** (U,G) 2 hours credit. *July 1-14.* M T W Th F 9:30-12:15. Lincoln 318. Mr. PALMER.

An intensive course in composition for those

with some experience in composition in the smaller forms. An attempt will be made to use contemporary materials best suited to the students' needs and capabilities. The plan is to read as many works as possible. Scores of shorter works will be examined as time permits.

to illustrate the use of some basic contemporary techniques by recent master composers.

The New York Brass Quintet will be in residence and they and the students working with them will be available for reading any works involving brass instruments.

**Music 412u. COMPOSITION AND ANALYSIS.** (U,G) 1 hour credit. *July 15-28.* M T W Th F 11-12:15. Lincoln 318. Mr. PALMER.

A continuation of Music 411u for students wishing to write additional works or to complete works begun in the previous two-week course. Class discussion and performance will be emphasized. The examination of contemporary scores will be continued with somewhat broader scope.

**Music 320u. UNITED STATES MUSIC.** (U,G) 1 hour credit, optional. *July 15-28.* M T W Th F 9:30-10:45. Lincoln 318. Mr. PALMER. A course dealing with the emergence of a United States musical tradition in the work of such composers as Charles Ives, Roy Harris, and Aaron Copland. The influence and significance of a national style. The influence of European music on U.S. composers. American popular and folk music will be considered relevant material. The American musical developments in the light of the larger contemporary scene in music.

The course may be taken a) for cultural reasons, without credit, by those without a technical knowledge of music, or b) as a credit course. Those taking the course for credit will do some analytical work with scores and write a course paper.

## SCHOOL DROP-OUT WORKSHOP

### Meeting the Needs of the Culturally Deprived Child

**AUGUST 2-13**

A two-week, intensive study of the problems presented by the culturally deprived child who becomes the potential drop-out, under-achiever, or reluctant learner. Instruction will include lectures, guest speakers, discussion periods, and demonstration of methods useful in meeting the needs of such children. Planned especially to serve guidance directors, classroom teachers, and school administrators.

Two hours of graduate level credit may be earned. For application forms and further information, address: Director, School Drop-Out Workshop, B-20 Ives Hall, Cornell University, Ithaca, New York 14850.

Students will register for:

**R.E. 610. SEMINAR IN GUIDANCE.** (G) 2 hours credit. Lecture and discussion, M T W Th F 9-11:30 and 1-2:30. Mr. KAPLAN.

## SHELL MERIT FELLOWSHIP PROGRAM

**JULY 5-AUGUST 13**

For teachers of chemistry, mathematics, and physics and a few selected supervisors of these subjects. Address inquiries to Professor Philip Johnson, Shell Merit Fellowship Program, Cornell University, Ithaca, New York 14850.

**Chem. 599. PROBLEMS IN CHEMICAL EDUCATION.** (U,G) 3 or 4 hours credit. Registration restricted to Shell Merit Fellowship holders. Lectures, M W F 10-11:50 and T Th 8-9:45. Laboratory, T 2-4:30 for those who elect 4 hours credit.

hours credit. Registration restricted to Shell Merit Fellowship holders. Lectures, M W F 8-9:30 and T Th 10:15-11:50. Laboratory, T 2-4:30 for those who elect 3 hours credit in Education. Field trips, Th afternoons. Messrs. JOHNSON and GEISELMANN.

**Ed. 606. SEMINAR IN SCIENCE AND MATHEMATICS TEACHING.** (U,G) 2 or 3

**Math. 223. BASIC CONCEPTS OF SECONDARY SCHOOL MATHEMATICS.** (U,G) 3 or

## 54 OTHER PROGRAMS

4 hours credit. Registration restricted to Shell Merit Fellowship holders. Lectures, M W F 10-11:50 and T Th 8-9:45. Laboratory, T 2-4:30 for those who elect 4 hours credit.

**Phys. 105. TOPICS IN PRESENT-DAY PHYSICS.** (U,G) 3 hours credit. Lecture, M W F 10-11:50 and T Th 8-9:45.

**Phys. 109. GENERAL PHYSICS LABORATORY.** (U,G) 1 hour credit. Laboratory, T 2-4:30 for those who elect 4 hours in Physics.

# FACULTY

JAMES A. PERKINS, A.B., Ph.D., President of the University.  
 WILLIAM R. KEAST, A.B., Ph.D., Vice President in charge of Academic Affairs.  
 THOMAS W. MACKESEY, B.Arch, M.C.P., Dean of the University Faculty and Vice Provost.  
 W. DONALD COOKE, Ph.D., Dean of the Graduate School.  
 FREDERICK H. STUTZ, Ph.D., Dean of the School of Education.  
 WILLIAM A. SMITH, Ph.D., Director of the Division of Summer Session and Extramural Courses.

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 H. DARKES ALBRIGHT, Ph.D., Professor of Speech and Drama.  
 HOWARD G. ANDRUS, Ph.D., Professor of Education.  
 ALLEN ATWELL, M.F.A., Associate Professor of Art.  
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 SOL COHEN, Ph.D., Assistant Professor of Rural Education.  
 DAVID CONNOR, M.A., Instructor in Romance Literature.  
 NORMAN D. DALY, M.A., Professor of Art.  
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 ARNOLD HORELICK, Ph.D., Rand Corporation, Santa Monica, California.  
 MARTIN HORWITZ, Ph.D., Instructor in Russian Literature.  
 JOSEPH JUSTMAN, Ph.D., Bureau of Education Program Research Statistics, Board of Education, Brooklyn, New York.  
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 KENNETH A. R. KENNEDY, Ph.D., Assistant Professor of Anthropology.

## 56 FACULTY

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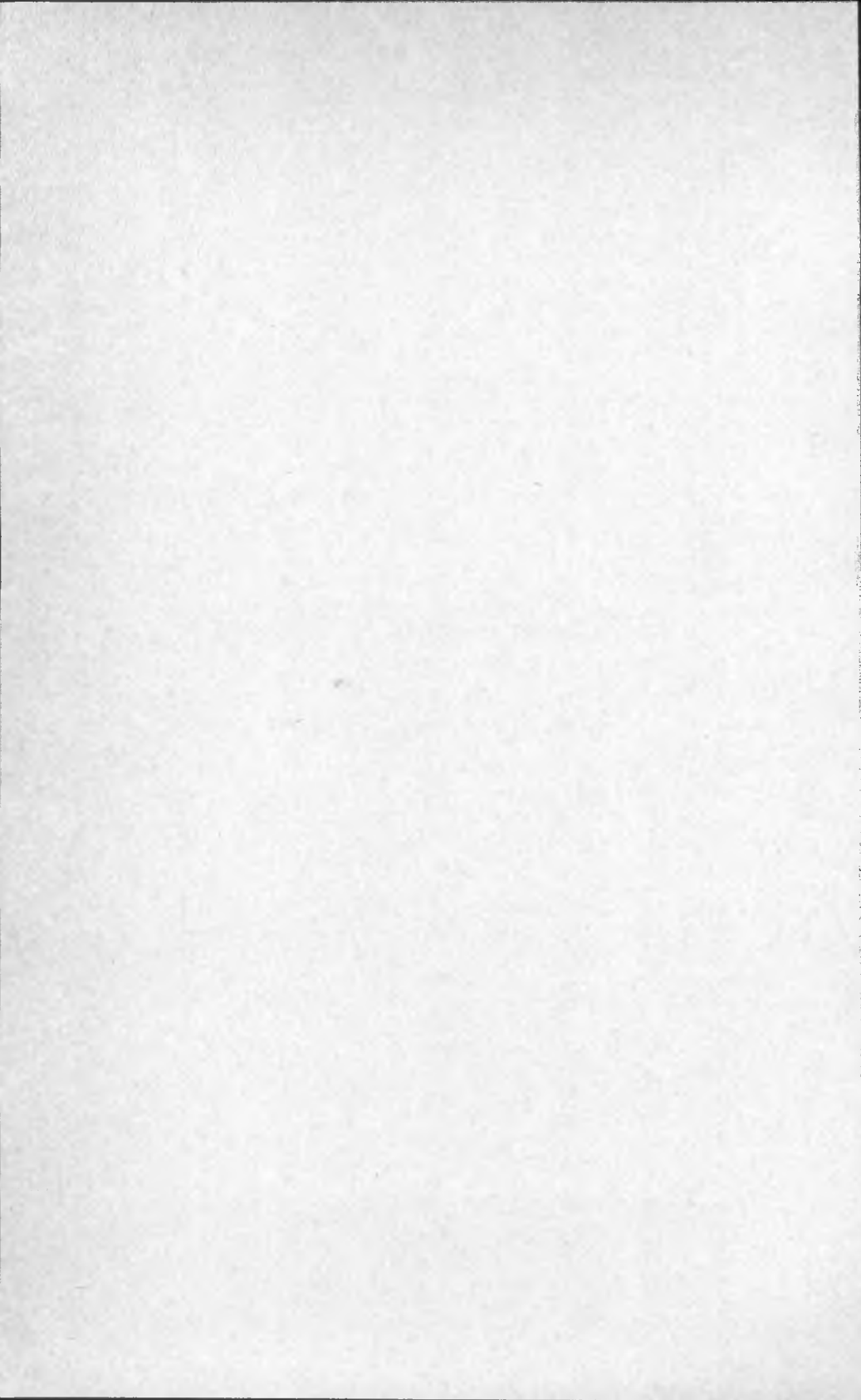
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**FOR UNDERGRADUATE STUDENTS ONLY**  
**CORNELL UNIVERSITY SUMMER SESSION—1965**  
**APPLICATION FOR ADMISSION AND COURSE PROGRAM**

(Due in Summer Session Office by June 21, 1965)

Mr.  
 Name Miss .....  
 Mrs. (Family Name) (First Name) (Middle Name)

Present  
 Mailing Address .....  
 (Street and No.)  
 .....  
 (City) (State)

Home  
 Address .....  
 (Street and No.)  
 .....  
 (City) (State)

State country of citizenship (if other than U. S.) .....

Name of your college and/or university .....

Check status which applies:

- ☐ Now a candidate in good standing for undergraduate degree  
☐ High school graduate accepted for admission  
*Falsification of this statement may result in denial of admission.*

**PREREGISTRATION FOR COURSES**

Students who can devote full time to study are expected to enroll for more than three credit hours. Programs of more than seven credit hours must be approved by the Summer Session Director. (See also reverse side of this form.)

List each course carefully, indicating the exact departmental abbreviation, course number, course title, credit hours, and class meeting time in the spaces provided below. (Undergraduates are not permitted to audit courses except by permission of the Director.)

Dept. Course Abbrev. No.	Course Title	Credit Meeting Hours Time
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

(Leave the following spaces blank)

Received	Recorded	Sent

**NOTE CAREFULLY**

Undergraduate applicants are urged to consult an appropriate official in the college either to which they have been admitted or where they are now matriculated in planning their course programs. Grades for courses studied by Cornell students are automatically sent to their college offices. For all other students, a transcript of the Summer School record will be sent to their college only upon request directed to the Registrar of Cornell University.

It is assumed that the student meets all the prerequisites stipulated in the description of each course included in his program. Discovery after the Session has started that the student lacks prerequisites will result in cancellation of the registration and possible withdrawal from the Session. Course descriptions are found only in the complete *Announcement of the Summer School, 1965* (not the preliminary Announcement).

If the institution in which you now are enrolled or to which you have been admitted is Cornell University, the following statement of approval must be completed by the appropriate University official (see page 5 of the *Announcement of the Summer School*).

The registration of the applicant for the courses listed on this application is approved as being applicable toward candidacy for the degree sought. (State any other condition of approval if needed.) .....

.....

Signature .....

Official Title .....

**Mail this application to:**

**(Due June 21, 1965)**

**Director, Summer Session**  
**B-20 Ives Hall, Cornell University**  
**Ithaca, New York 14850**

Mr.  
Name Miss .....  
Mrs. (Family Name) (First Name) (Middle Name)  
Address .....  
(Street and No.)  
.....  
(City) (State)  
State country of citizenship (if other than U. S.) .....

The courses listed below must be chosen from the *Announcement of the Summer School, 1965* (not the Preliminary Announcement). List courses carefully, indicating departmental abbreviation, course number, course title, credit hours, and meeting time in the spaces provided below.

Prior approval of this program assures you of a place in the classes listed below, but it is possible to change courses on registration day.

Please list *entire* program.

Dept.	Course		Credit	Meeting
Abbrev.	No.	Course Title	Hours	Time

.....

.....

.....

.....

Mail this application to the Director of the Summer Session, B-20 Ives Hall, Cornell University, Ithaca, New York, by June 15 to assure place in the classes.

(Leave the following spaces blank)

Received	Recorded	Sent

Check the appropriate item to indicate your *highest level of academic preparation*.

☐ Undergraduate—institution attended and degree if granted:

(Location)

(Degree)

☐ Now a candidate for a graduate degree at—

(Location)

(Year)

☐ Holder of advanced degree from—

(Location)

(Year)

**IF EMPLOYED IN AN EDUCATIONAL INSTITUTION,** complete the following—

**Teacher:** (check) Elementary School ☐; Jr. High School ☐; High School ☐; Jr. College ☐; College or University ☐.

(Location)

(Position and subject or grade)

**Administrator, Supervisor, or Other School Position:**

(Location)

(Title or position)

(Examples: Research chemist; freelance writer; copywriter; veterinarian; minister; development engineer; editor; salesman; etc.)

(Firm or Institution)

(Location)

(Title or position)

Request additional forms from: Director of the Summer Session, B-20 Ives Hall,  
Cornell University, Ithaca, New York. 14850.

