

CORNELL UNIVERSITY  
ANNOUNCEMENTS

MARCH 12, 1963

SUMMER SCHOOL  
June 26-August 9, 1963

## SUMMER SESSION OFFICE

THE OFFICE of the Summer Session is in Room 115, Edmund Ezra Day Hall; the telephone number of the office and of the Director is AR5-5192. 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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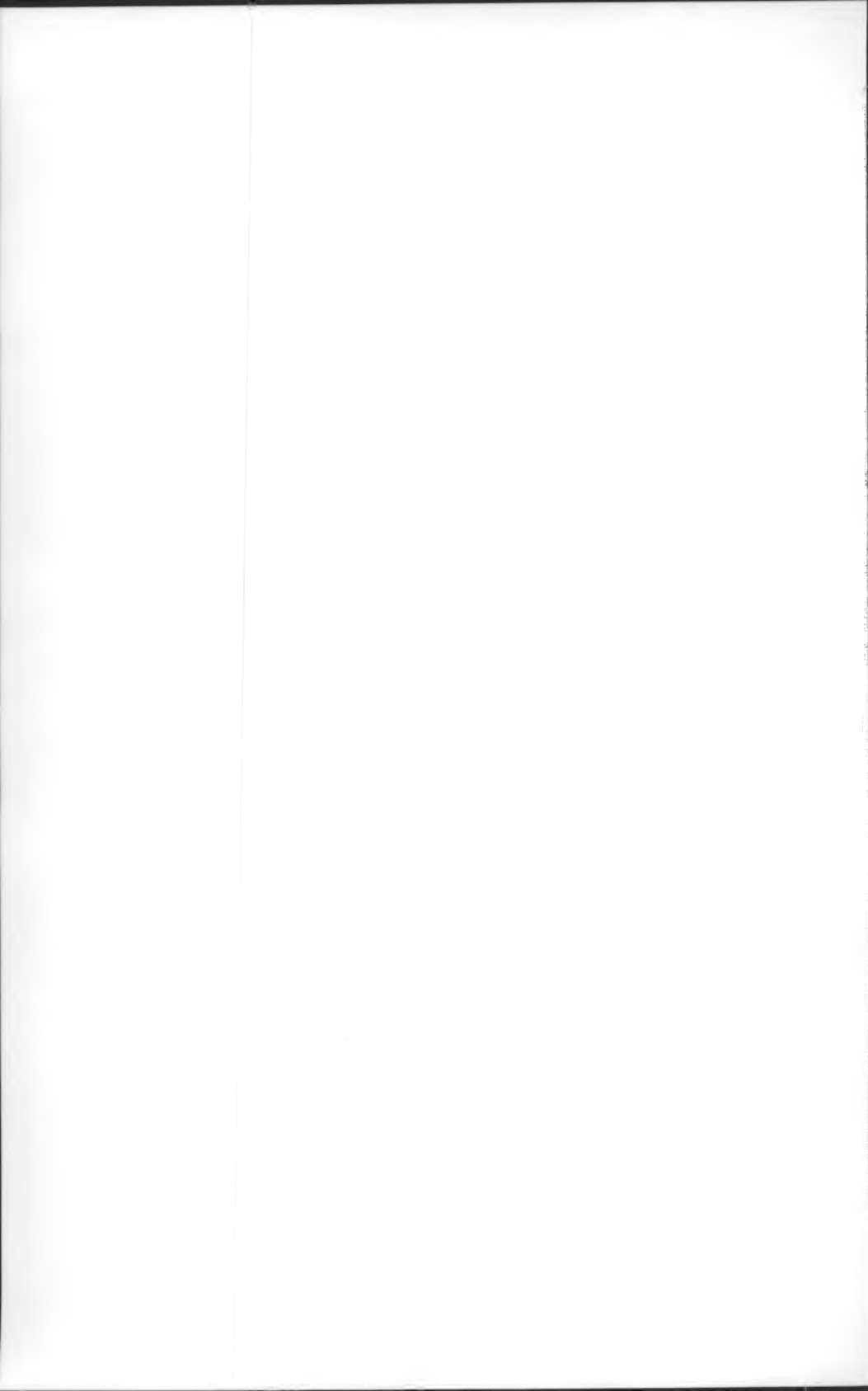
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*CORNELL UNIVERSITY ANNOUNCEMENTS*. Volume 54. Number 14. March 12, 1963. Published twenty-one times a year: twice in March, April, May, June, July, August, October, and December; three times in September; once in January and in November; no issues in February. Published by Cornell University at Edmund Ezra Day Hall, 18 East Avenue, Ithaca, New York. Second-class postage paid at Ithaca, New York.

**CORNELL UNIVERSITY**

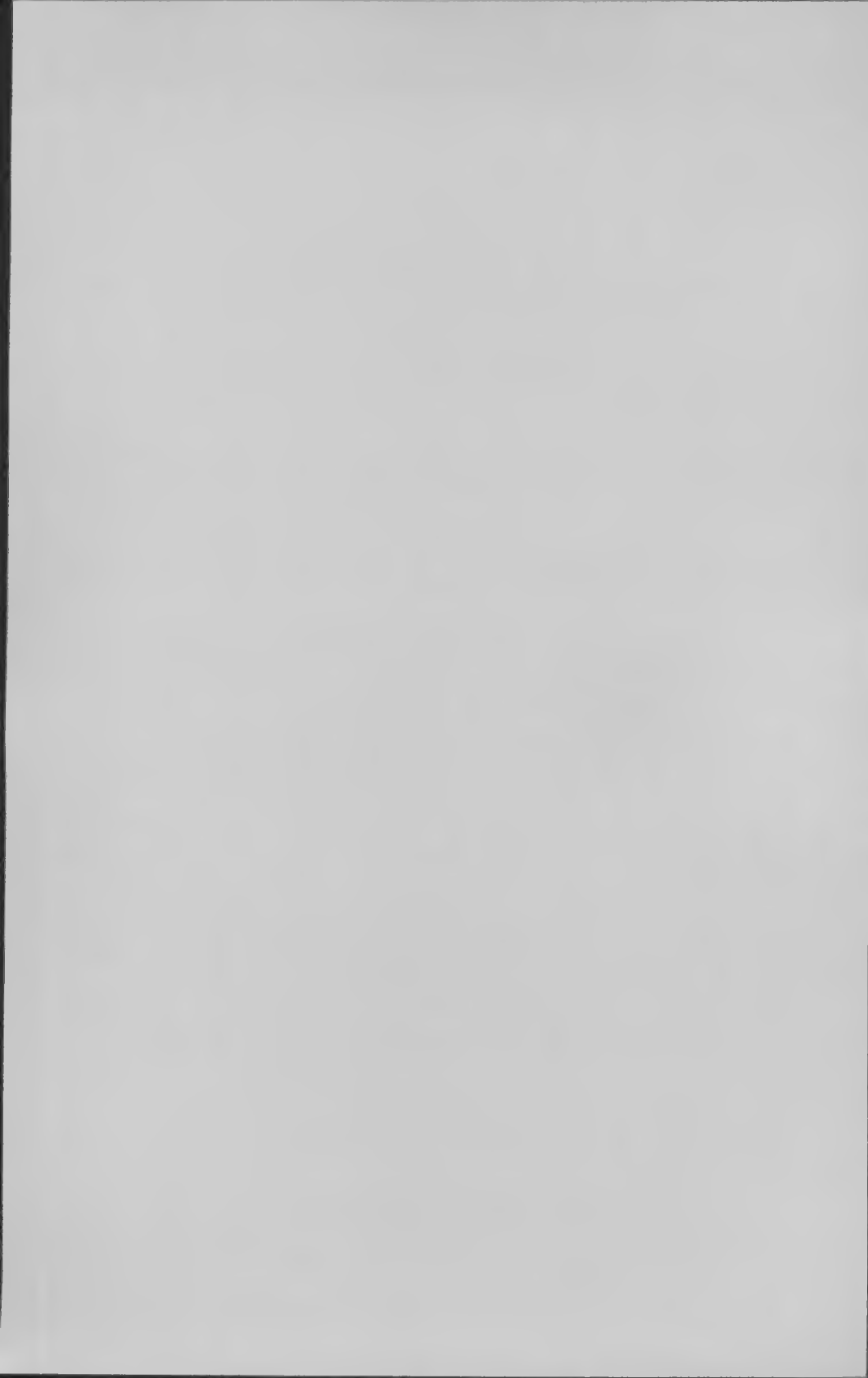
**SUMMER SCHOOL**

**JUNE 26-AUGUST 9, 1963**



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# CALENDAR

## REGULAR SUMMER SCHOOL SESSION, 1963

- June 26, *Wednesday* Registration for the regular Summer School session: undergraduates, 9 a.m. to 12 noon; graduate and special students, 1:30 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.
- June 27, *Thursday* Instruction begins at the time and place announced for each course. Late registrants report to the Summer Session Office, 115 Day Hall, to complete registration.
- June 28, *Friday* Last day for withdrawal from Summer School without payment of a fraction of tuition and fees.
- July 1, *Monday* Last day for payment of tuition and fees at the Treasurer's Office, which closes at 4:30 p.m.
- July 4, *Thursday* Holiday.
- July 5, *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 19, *Friday* 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 22, *Monday* Registration for the second period of any three-week unit courses at the Summer Session Office.
- August 8, *Thursday* Final examinations begin; schedule on page 19.
- August 9, *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 workshops, 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 professional workers other than teachers. For description of other sessions, see pages 47-55.

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, 239 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 48 and 49.

Undergraduates are required to preregister for a program of courses totaling between three and seven credit 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 degree at Cornell University must have his application approved by the appropriate officer of his school or college (see p. 5).

*June 20, 1963, 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.

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.

## 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 June 26 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. 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 26 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.

## Application for Admission

Application for admission to the Summer School of 1963 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 M. L. Hulse.

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; *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. Donald P. Dietrich and Mr. Floyd S. Irvin.

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 record 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" together with a conditional mark of 50 or less. *This will become the final recorded grade for the course if the work is not completed by January 1, 1964.* 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.

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

### REGISTRATION

Registration for the full Summer School session will take place on Wednesday, June 26, 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 26, 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 26 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, 115 Day 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.

### Changes in Registration

All changes in registration after Wednesday, June 26, must be made by appearing at the Summer Session Office, 115 Day Hall, as early as possible. (See below for penalty fees.) *No change in registration will be permitted after 4 p.m. on July 17 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, unless the withdrawal is made by Friday, June 28.

## TUITION AND FEES

Tuition and fees are due and payable at the Treasurer's Office in Day Hall on registration day, June 26. The last day for payment without penalty is Monday, July 1. 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 \$35 per credit hour. Summer School students permitted to elect one or more courses from a Special Program of the Summer Session (see pp. 47-55) will be charged at the \$35 rate per credit hour.

### TUITION SCHOLARSHIPS FOR TEACHERS

Teachers in public or private schools and colleges which are approved or accredited by state or regional agencies may apply for reduction of tuition (tuition scholarships) of \$10 per credit hour. Only those teachers not supported by grant funds or other comparable subsidy are eligible to apply.

The privilege of this scholarship will be granted only on approval of a formal application made to the Director of the Summer Session on a form provided on request. *Applications must be submitted for action prior to registration.* No late applications will be accepted.

### 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 health and infirmary 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 5 must pay a \$10 fee. *No change in program will be permitted after 4 p.m. on July 17 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

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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 permitted 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 student 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 University scholarships for Summer School study except the tuition scholarship for teachers referred to under *Tuition* on page 7.

### 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 (in exceptional instances, three) for study in the Summer School may be accepted in fulfillment of requirements for the doctorate. In order to help a student become acquainted with the School and faculty before entering candidacy, *the faculty allows the transfer of one Cornell Summer School period of residence earned prior to admission to candidacy upon recommendation of the Special Committee and approval of the Dean.*

## Admission

Students intending to become candidates for advanced degrees at Cornell should write to the Dean of the Graduate School, 125 Day Hall, 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 26. 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 matriculated 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 register in a succeeding regular term (other than extramural) for continuation of their candidacy, 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**

Rooms are available to both graduate and undergraduate men and women in University-operated housing units. A leaflet giving detailed information on housing, *Residential Halls for Men and Women*, will be mailed by the Office of the Summer Session after admission has been approved.

### **Residential Halls**

#### **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 dormitory. There will be a uniform charge of \$208 for board and room for the Summer School period.

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.

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 space in the graduate unit of Residential Halls 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. Rooms are completely furnished, including bed linen, with maid service provided Monday through Friday. 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. Rooms are completely furnished including bed linens, with maid service provided Monday through Friday.

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 25, at 3 p.m.; they will close at 2 p.m., Saturday, August 10. *Earlier or later occupancy will not be possible under any circumstances.*

#### APPLICATIONS FOR ROOMS

An application for a room assignment in Residential Halls cannot be given consideration unless it is submitted on an official application form to the Department of Residential Halls. 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 Residential Halls 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.*

### Off-Campus and Married-Student Housing

The Off-Campus Housing Office in Day Hall is maintained by the Department of Residential Halls. 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 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 Residential Halls, 223 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 and Noyes Lodge on Beebe Lake. The College of Home Economics operates a cafeteria in Martha Van Rensselaer Hall, and the Department of Dairy Industry offers cafeteria and soda bar service 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.
2. Hospitalization with medical care for two days at the 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 the registration.
2. Hospitalization based upon length of registration—none if less than three weeks; one day if three weeks but less than six weeks; if more than six weeks, graduated up to fourteen days, the maximum being for 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 from 9 a.m. to 12 noon and from 2 to 4:30 p.m. Nurses will be in attendance at all times during clinic hours.

After clinic hours, in the event of serious illness or accident when the Gannett Medical Clinic is closed, students may go directly to the Tompkins County Hospital, Trumansburg Road. This service is not intended for conditions that could have been treated at the clinic during the regular clinic hours noted above.

## Emergency Service

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 Medical Clinic, Ithaca AR5-4082, when the clinic is open, or Ithaca AR2-6962 after clinic hours. This service is not designed to care for students in their rooms. A charge of \$3 in the daytime and \$6 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 refer-

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ence materials will be found in the various college 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 2,300,000 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, Regional History, Shaw, and Wordsworth.

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 and study desks in the stacks of the Olin and Mann 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 Student Government rule concerning student conduct is:

"At all times and in all relationships a Cornell student should conduct himself in a decent and respectable manner. A Cornell student is expected to conduct himself with unfailing respect for the integrity of the individual and the best interests of the community."

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 or her 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 Home Economics 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 student union of Cornell University provides meal service, snacks for late afternoon and evening, lounges, rooms for student meetings, dancing, the University Theatre, a billiards and games room, a barber shop for men, a browsing library well stocked with books of general interest, 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.

The Willard Straight Summer Student Committee arranges for informal talks, recorded music programs, recreational folk and square dancing, open houses, dances, games, art exhibits, and other recreation and entertainment. Membership on this committee is open to all students.

## Concerts

The Summer Session concert series will consist of six concerts. The dates are Monday, July 8; Tuesday, July 9; Wednesday, July 10; Thursdays, July 18 and 25, and August 1. All concerts begin at 8:15 p.m. Performing artists will include Luigi Tagliavini, organist; Paul Doktor, violist; Yaltah Menuhin and Martin Canin, pianists; Rudolph Kremer, harpsichordist; and John Hsu, gambist.

## Religious Services

### SAGE CHAPEL

Religious services are conducted in Sage Chapel throughout the academic year by visiting clergymen of various denominations. During the Summer School period a similar series is provided in the chapel at 11 a.m. on the six Sundays, June 30–August 4, inclusive.

### ANABEL TAYLOR HALL

Throughout the academic year Catholic Masses and Protestant and Jewish services are held in Anabel Taylor Hall. Catholic Masses are scheduled every day 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 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 directed by Rudolph Kremer, University Organist. The choir rehearses in Sage Chapel one evening each week, the dates to be announced. 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.

## Summer Theatre

A new feature of the Summer Session, a resident producing company under the direction of the University Theatre staff, will offer two alternating series of weekly dramatic presentations stressing recent trends in playwriting and production modes. Performances will be given in Drummond Studio, Lincoln Hall. Dates of the performances, for which admission is charged, will appear in the *Weekly Bulletin*.

Although the resident company will form the nucleus for Summer Theatre presentations, acting and production opportunities will be open to students regularly enrolled in the Summer Session. The Summer Theatre program will be related to course offerings in the Department of Speech and Drama (see page 45), and students enrolled in Speech and Drama 383, Theatre Practice, will fulfill their laboratory requirement by working with the resident company. Details of participation—in acting and various phases of production—may be obtained from Professor Marvin A. Carlson, Department of Speech and Drama, 216 Lincoln Hall, Cornell University, Ithaca, New York.

## Films

Noteworthy European and American films are presented by the University Theatre during the Summer School. Admission is charged.

## Andrew Dickson White Museum of Art

Cornell's White Art Museum houses the University art collections and presents loan exhibitions as well.

Recent summer exhibitions have included the Museum's permanent collection as well as outstanding loan exhibitions. The summer visitor to the Museum in 1963 will find major traditional and contemporary works from the collection and a loan exhibition of American art. Paintings by visiting instructors during the summer program will also be featured.

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

## Sports

Softball diamonds on Upper Alumni Field, tennis courts conveniently situated around the campus, and an 18-hole 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.

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

Opportunity will be available each week, on an evening to be announced, for both men and women to swim in the Teagle Hall pool. Students will be admitted upon presentation of official Summer Session Registration Certificate. Swimmers will supply own swim suits (bathing caps optional). A towel may be obtained upon presentation of registration certificate.

### INTRAMURAL SOFTBALL LEAGUE

Groups or individuals who wish to participate in softball competition should see Mr. Sam MacNeil, AR5-4320 or AR 3-0122.

### PRIVATE LESSONS

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

TENNIS. Hours to be arranged. (Instructor to be announced.)

GOLF. Hours to be arranged. Call Mr. George Hall at the University Golf Course, AR5-3361.

SWIMMING. Hours to be arranged. See Mr. Sam MacNeil at Beebe Lake, or call AR5-4320 or AR3-0122.

## 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 may be necessary to substitute instructors for the ones 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 26–August 9.

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 8, and Friday, August 9, 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 EDUCATION

(See Other Programs, page 49.)

## ANTHROPOLOGY

**Anthro. 301. CULTURAL ANTHROPOLOGY.** (U,G) 4 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 225. Mrs. DOBYNS.

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. 312. CULTURE AND PERSONALITY.** (U,G) 4 hours credit. Prerequisite, one course at the 100 or 200 level in anthropology, sociology, psychology, zoology, or their equivalent. M T W Th F 11-12:15. Goldwin Smith 227. Mrs. DOBYNS.

The study of the individual in his society, emphasizing the relationship between social structure, cultural context, and human behavior. Attention is given largely to the study of personality, "normal" and "abnormal," in non-Western societies.

## ART

### Drawing, Painting, Sculpture, and Printmaking

In addition to the classes described below, there will be group discussions, exhibitions, and lectures involving the staff and student groups. These will be scheduled for the convenience of all involved.

**Art 11. STUDIO ONE.** (U,G) 3 hours credit. Open to advanced students only. M T W Th F 1-4. Franklin 216. Mr. CAJORI.

The purpose of Studio One is to provide the opportunity for experienced painters to work in close personal contact with a well known and outstanding painter.

**Art 12. STUDIO TWO.** (U,G) 3 hours credit. Open to intermediate students. M T W Th F 1-4. Franklin 224. Mr. CAJORI.

The purpose of Studio Two is to provide the opportunity for those with some experience to work in close personal contact with a well known and outstanding painter.

**Art 13. 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 14. 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 15. METHODS AND MATERIALS OF ART.** (U,G) 3 hours credit. M T W Th F 1-4. Franklin 200. Mr. KAHN.

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

**Art 16. METHODS AND MATERIALS OF ART.** (U,G) 3 hours credit. M T W Th F 1-4. Franklin M 125. Mr. KAHN.

Various printmaking techniques—relief, intaglio, etc., are explored. Both beginning and advanced students are given personal instruction.

**Art 17. SCULPTURE.** (U,G) 3 hours credit. M T W Th F 8-11. Franklin Basement. Mr. COLBY.

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

**Art 18. METHODS AND MATERIALS OF SCULPTURE.** (U,G) 3 hours credit. M T W Th F 8-11. Franklin Basement. Mr. COLBY.

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

## History and Appreciation

**Fine Arts 102. 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.

**Fine Arts 507. 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 102. No art practice is involved.

## BACTERIOLOGY

**\*Bact. 1. 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. SCALETTI and assistant.

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

The lecture of Course 1. Registration with permission of the instructor.

**\*Bact. 6. 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. SCALETTI and assistant.

The laboratory part of Course 1. Fee, \$10.

## BIOCHEMISTRY

**Bioch. 101. 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. 102. GENERAL BIOCHEMISTRY.** (U,G) 2 hours credit. Prerequisite, quantitative analysis and, parallel, Course 101. 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. 1u. INTRODUCTORY BOTANY.** (U,G) 3 hours credit. *June 26 to July 19.* 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 spe-

cialize in some aspect of plant science. Botany 1 is devoted to a study of growth in the flowering plants, with emphasis placed on structure, function, and reproduction. Fee, \$10.

**\*Bot. 2u. INTRODUCTORY BOTANY.** (U,G) 3 hours credit. *July 22 to August 9.* 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.

Botany 2 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. 171. 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.

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

## CHEMISTRY

**\*Chem. 105u. GENERAL CHEMISTRY.** (U) 3 hours credit. *June 26 to July 19.* Prerequisite, at least 2 units of mathematics. Lectures and recitations, M T W Th F 8-10. Baker 207. Laboratory, daily 10-1. Baker 150. Mr. REYNOLDS and assistants.

For those students who intend to take more chemistry, this course serves as a prerequisite to more advanced courses. Secondary school chemistry is not a prerequisite. The course may also be elected by students who do not intend to take more chemistry. The important chemical principles and facts will be covered, with attention to the scientific method, the quantitative aspects and techniques which are important for further study of chemistry, and the relation of chemistry to the other fields of knowledge and to everyday life. Registration permitted only to students who register also for 106u. Texts: Sienko and Plane, *Chemistry*; Sienko and Plane, *Experimental Chemistry*. Fee, \$7.50.

**\*Chem. 106u. GENERAL CHEMISTRY.** (U) 3 hours credit. *July 22 to August 9.* Lectures and recitations, M T W Th F 8-10. Baker 207. Laboratory, daily 10-1. Baker 150. Mr. REYNOLDS and assistants.

A continuation of Chemistry 105u. Chemistry 105u or its equivalent is prerequisite for Chemistry 106u. Fee, \$7.50.

**\*Chem. 205. QUALITATIVE INORGANIC ANALYSIS AND IONIC EQUILIBRIUM.** (U, G) 4 hours credit. Prerequisite, Chemistry 106 or its equivalent. Lectures, M T W Th F 12-1. Baker 7. Laboratory, any three hours daily between 8 and 12. Baker 50. Mr. REYNOLDS and assistants.

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 114 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 252. Mr. GOLD and assistants.

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 106 or 108, Mathematics 193, and Physics 223 or 225 or 227 or their equivalent. Lectures, M T W Th F 8-9:15. Baker 177. Mr. LIND.

A brief survey of physical chemistry for engineering students.

**Chem. 353. ELEMENTARY ORGANIC CHEMISTRY.** (U,G) 4 hours credit. Prerequisite, Chemistry 106 and preferably 205 or 108, or 114 or their equivalent. Primarily for students in the premedical and biological curricula. Chemistry 355 must be taken with Chemistry 353. The student should determine the entrance requirements for the particular medical school he wishes to enter. Students may obtain six hours' credit by taking Chemistry 353 and 355. Lectures, M T W Th F 8-10. Baker 107.

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: Hansch and Helmkamp, *Organic Chemistry, An Outline*.

**\*Chem. 355. ELEMENTARY ORGANIC LABORATORY.** 2 hours credit. Must be taken

with Chemistry 353. Laboratory, M T W Th F 10-12:30. Baker 250.

Laboratory experiments on the preparation and reactions of typical aliphatic and aromatic

organic compounds. Text: Adams and Johnson, *Laboratory Experiments in Organic Chemistry*. Fee, \$15.

## CONSERVATION

(See Other Programs, pages 51, 52.)

## ECONOMICS

**Econ. 103. MODERN ECONOMIC SOCIETY.** (U) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 225. Mr. LIGGETT.

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 regulates production, distribution, and consumption, and 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 8-9:15. Goldwin Smith 256. Mr. LIGGETT.

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, Economics 103 or its equivalent. M T W Th F 11-12:15. Goldwin Smith 256. Mr. Dowd.

Analysis of the pricing processes in a private enterprise economy under varying competitive conditions, and their role in the allocation of 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 9:30-10:45. Goldwin Smith 256. Mr. Dowd.

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. 344. PUBLIC POLICY TOWARD LABOR.** (U,G) 3 hours credit. Prerequisite, Economics 104 or its equivalent. M T W Th F 11-12:15. Goldwin Smith 234. Mr. MONTGOMERY.

The philosophic basis and public policy and constitutional aspects of various public policies. Among the topics treated: legal and economic aspects and philosophic basis of government regulation of wages, particularly in the United States; problems of government-sponsored social security plans; changing conceptions of rights and prerogatives in the labor-relations area; common-law doctrines with respect to concerted action and labor's permissible self-help area; the antitrust acts and labor-management statutes; injunctions, damage suits, and right-to-work laws; policies designed to protect the public interest by avoiding, or minimizing the effects of, industrial disputes.

**Econ. 361. INTRODUCTION TO INTERNATIONAL ECONOMIC THEORY AND POLICY.** (U,G) 3 hours credit. Prerequisite, Economics 103 and 104 or their equivalent. M T W Th F 9:30-10:45. Goldwin Smith 264. Mr. STALLER.

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. 366. COMPARATIVE ECONOMIC SYSTEMS: SOVIET RUSSIA.** (U,G) 3 hours credit. Prerequisite, Economics 103 and 104 or their equivalent. M T W Th F 11-12:15. Goldwin Smith 264. Mr. STALLER.

Analysis of the principles, structure, and performance of the economy of the Soviet Union. Comparisons with free-market economies of Western Europe and the United States.

**Econ. 413. DISSENTING ECONOMIC DOCTRINES AND PROTEST MOVEMENTS.** (U, G) 3 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 234. Mr. MONTGOMERY.

A survey of economic doctrines of unorthodox or dissenting persuasion and a study of move-

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ments of social protest and of various types of economic organization that have been proposed or attempted. Among the matters considered are classical economic doctrines; the forerunners of Marx; Marxian theories and predictions; politics and economics of Collectivism, Anarchism, British Fabianism and the Welfare State, and Communism; pricing and resource-allocation problems in different types of economic organization.

**Econ. 565. CURRENT ECONOMIC PROBLEMS OF LATIN AMERICA.** (U.G.) 3 hours credit. Prerequisite, Economics 103 and 104 or their equivalent. T Th 3-5 and conference periods to be arranged. A term paper treating one of the five principal issues during the

progress of the course is required. Goldwin Smith 503. Mr. DAVIS.

The seminar focuses upon current economic issues in Latin America with special reference to: inflation and stabilization programs, balance-of-payments problems and import substitution, regional common markets and their implications for national economic policy, labor and social security legislation, and current tax reform proposals.

The logical framework provided by economic theory for the analysis of these problems will be set forth at some length and will be utilized to appraise the contemporary policy discussion that relates to the aforementioned issues.

## 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. CLYDE W. BRESEE, Director of Guidance, Athens Area High School, Athens, Pennsylvania.

Mr. LOUIS M. KLEIN, Superintendent of Schools, Harrison, New York.

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

Dr. JOHN E. MILHOLLAND, Professor of Psychology and Chief, Evaluation and Examinations Division, University of Michigan.

Dr. JOHN C. ROBERTSON, Professor of Education, New York University, New York City.

Mr. ANTHONY SCARANGELLO, Assistant Professor of Education, University of Delaware.

Dr. BETH SCHULTZ, Associate Professor, Department of Biology, Western Michigan University, Kalamazoo, Michigan.

## Administration and Supervision

**R.E. 219. PERSONNEL ADMINISTRATION IN EDUCATIONAL INSTITUTIONS.** (G) 3 hours credit. M T W Th F 9:30-10:45. 320 Wait Avenue. Mr. MASON.

The methods and principles of recruitment, selection, placement, maintenance, organization, and government of staff and employees are analyzed.

**R.E. 243. PRINCIPLES AND PROCEDURES IN SUPERVISION.** (G) 3 hours credit. M T W Th F 8-9:15. Plant Science 37. Mr. ROBERTSON.

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.

**R.E. 261. THEORY AND PRACTICE OF ADMINISTRATION.** (G) 3 hours credit. M T W Th F 8-9:15. 320 Wait Avenue. Mr. KLEIN.

A basic course in the theory and processes common to a variety of administrative positions within the school system and elsewhere. Both the science and the art of administration are emphasized; theory is employed in group analysis of case studies.

**R.E. 262. SECONDARY SCHOOL PRINCIPALSHIP.** (G) 3 hours credit. M T W Th F 11-12:15. 320 Wait Avenue. Mr. KLEIN.

Systematic treatment and discussion of the responsibilities of the secondary school principal in the administration of staff, pupils, finances, and plant.

**Ed. 267. SCHOOL LAW FOR ADMINISTRATORS AND TEACHERS.** (G) 3 hours credit. M T W Th F 8-9:15. Warren 101. 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.

## Tenth Annual Conference for School Administrators

The Tenth Annual Conference for School Administrators will be held during the fourth week of the Summer School, July 23-25. The 1963 conference will be a national conference on the Junior High School. The three-day session is designed primarily for chief school administrators, junior high school principals and counselors, and other educators specifically interested in this level of the educational program.

For further information, address: Vincent C. Nuccio, Co-ordinator, 320 Wait Avenue, Cornell University, Ithaca, New York.

## Agricultural Education

(See Other Programs, page 49.)

## Educational Psychology and Measurement

**R.E. 117. PSYCHOLOGY OF ADOLESCENCE.** (U.G.) 2 hours credit. M T W Th F 11. Warren 31. Mr. ANDRUS.

Designed especially for secondary school teachers (grades 7-12) and guidance counselors but applicable to all adults who work 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. 211. 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 101. Mr. DOWNING.

Special emphasis will be given to the topic of learning and its relationship to the teacher's problems.

**R.E. 216. PSYCHOLOGICAL FOUNDATIONS OF EDUCATION.** (U.G.) 3 hours credit. Primarily designed for students without teaching experience. M T W Th F 8-9:15. Warren 101. Mr. DOWNING.

Consideration is given to those psychological factors that relate to the learning process.

**R.E. 251. EDUCATIONAL MEASUREMENT.** (U.G.) 3 hours credit. Prerequisite, a course in educational psychology or permission of instructor. M T W Th F 9:30-10:45. East Roberts 223. Mr. MILHOLLAND.

A study of the construction and administration of achievement tests and the use of aptitude tests, achievement tests, and other measuring instruments in the classification and guidance of pupils and improvement of instruction.

**R.E. 253. INTRODUCTION TO EDUCATIONAL STATISTICS.** (U.G.) 3 hours credit. M T W Th F 8-9:15. Warren 160. Mr. MILHOLLAND.

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. 255. USE AND INTERPRETATION OF TESTS IN GUIDANCE AND PERSONNEL ADMINISTRATION.** (G) 3 hours credit. Lectures, M T W Th F 8. Warren 31. Laboratory, third hour to be arranged. 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.

## Elementary Education

Elementary education at Cornell is offered only at the graduate level. Students have a wide selection of courses during the Summer School in addition to courses designed to increase competence in elementary school teaching. (See offerings in biological sciences; the social sciences, government, history, sociology, anthropology; English; speech and drama; and the fine arts.) Teachers are also encouraged to select offerings in other divisions of the School of Education.

Courses in methods and materials designed specifically for the elementary school teacher are listed below.

**R.E. 107. THE TEACHING OF ELEMENTARY SCHOOL SCIENCE.** (See page 28.)

**R.E. 224. SOCIAL STUDIES IN THE ELEMENTARY SCHOOL.** (G) 3 hours credit. M T W Th F 8-9:15. Warren 201. Mr. LOWE.

The curriculum, methods, and materials in teaching social studies.

Sp. & Dr. 231. **SPEECH FOR THE CLASSROOM TEACHER.** (See page 45.)

Sp. & Dr. 355. **THE SPEECH-HANDICAPPED SCHOOL CHILD.** (See page 45.)

## Extension and Adult Education

**R.E. 212. APPLICATIONS OF PSYCHOLOGY TO PROBLEMS OF EXTENSION EDUCATION AND RURAL DEVELOPMENT.** (G) 3 hours credit. M T W Th F 11-12:15. Warren 201. Mr. R. L. BRUCE.

For students with experience in extension or other rural development work. Emphasis will be on applications of relevant insights from educational psychology, social psychology, and communications theory to the problems of promoting the adoption of practices.

## Guidance and Personnel Administration

**R.E. 282. EDUCATIONAL AND VOCATIONAL GUIDANCE.** (G) 2 hours credit. M T W Th F 12. Warren 31. 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. 284. GROUP TECHNIQUES IN GUIDANCE.** (G) 2 hours credit. M T W Th F 9. Warren 31. Mr. MINK.

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. 286. ORGANIZATION AND ADMINISTRATION OF GUIDANCE PROGRAMS.** (G) 2 hours credit. M T W Th F 10. Warren 31. 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. 288. CASE STUDIES IN COUNSELING.** (G) 2 hours credit. Prerequisites, Courses R.E. 255, R.E. 282, R.E. 283, and R.E. 285, or their equivalent. M T W Th F 11. Warren 260. Mr. MINK.

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, Child Development and Family Relationships, Mental Health, and Psychology.*

Guidance courses tentatively scheduled for the 1964 Summer School: *Educational and Vocational Guidance, Counseling, Occupational and Educational Information, Practicum in Measurement and Appraisal for Counselors.*

## History, Philosophy, and Social Foundations of Education

**Ed. 294. PHILOSOPHERS ON EDUCATION.** (U,G) 3 hours credit. M T W Th F 11-12:15. 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. 295. COMPARATIVE EDUCATION.** (G,U by permission) 3 hours credit. M T W Th F 8-9:15. Warren 260. Mr. SCARANGELLO.

Description and analysis of several foreign national systems of education for the purpose of gaining valuable insights into our own educational issues and problems. Political, social, and cultural aspects of education will be compared. Emphasis will be placed on European education, but aspects of education in Asia, Africa, and Latin America will be considered. Topics include school organization and administration, selective education vs. education for all, church and state relations, race problems, juvenile delinquency, the status of teachers, education for under-developed nations, and education for international understanding.

**R.E. 297. HISTORY OF EDUCATION IN THE MODERN PERIOD.** (G,U by permission) 3 hours credit. M T W Th F 11-12:15. Warren 132. Mr. SCARANGELLO.

A survey of education from the beginning of the seventeenth century to the present, with emphasis on public education and on policies and problems.

**Soc. 356. SOCIOLOGY OF EDUCATION.** (See page 45.)

**Soc. 386. ADOLESCENT GROWTH AND SOCIALIZATION.** (See page 45.)



## Home Economics Education

**H.E. Ed. 403. SPECIAL PROBLEMS FOR GRADUATE STUDENTS.** (G) Credit and hours to be arranged. Van Rensselaer East Wing, 5. Department staff.

For graduate students recommended by their chairmen and approved by the instructor in charge for independent, advanced work.

**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. 433. TEACHING HOMEMAKING AT THE SECONDARY SCHOOL LEVEL.** (G) 2 hours credit. M T W Th F 11. Van Rensselaer East Wing 5. Miss MOSER.

Designed for students who have had experience in teaching homemaking in secondary schools. Consideration will be given to program planning, teaching procedures, materials, and other pertinent problems related to the teaching of homemaking at the secondary level. Opportunity will be provided for work on individual problems. Fee, \$2.

**\*H.E. Ed. 456u. CURRENT DEVELOPMENTS AND HOME ECONOMICS EDUCATION.** (See page 53.)

**\*H.E. Ed. 459. EVALUATION.** (G) 3 hours credit. M T W Th F 9:30-10:45. Van Rensselaer East Wing 5. Mrs. NELSON.

For high school and college teachers, administrators, extension agents, and educational research workers; students without experience in any of these professional positions are admitted by permission of the instructor. Basic principles of evaluation studied in relation to specific methods of appraising education programs or individual achievement. Opportunities will be given for constructing and using evaluation instruments. Fee, \$2.

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

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. Fee, \$1.

## Reading and Study Skills

**Educ. 7u. COLLEGE READING AND STUDY SKILLS** (U,G) Noncredit. July 1 to August 2. M W F 2 or 3. Reading-Study Center, 11.R Building E. Mr. ENGLISH.

For the past twelve years the Reading-Study Center has helped hundreds of Cornell students to do a better job academically by teaching them to read and study more efficiently.

The aim of this course is the improvement of reading and study skills in the areas of (1) *study skills*: students receive instruction on how to read and learn the textbook assignments, to take notes on textbooks and lectures, to prepare for and take examinations, and to schedule their time; (2) *reading*: students learn to improve both their reading comprehension and reading speed. Comprehension topics include: how to recognize organizational patterns; how to distinguish main ideas from supporting material; 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. Some time is spent each class hour with speed-reading films to help students extend their range of reading speed. 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 11.R Building E, Cornell University, Ithaca.

(See Other Programs, page 54.)

## Research and General

**R.E. 199. INFORMAL STUDY IN EDUCATION.** (U) Credit as arranged. Members of the staff of the Department of Rural Education.

**R.E. 299. EDUCATIONAL RESEARCH METHODS.** (G) 2 hours credit. Recommended for Master's degree candidates. M T W Th F 10. Comstock 145. Mr. MILLMAN and members of the staff.

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

**R.E. 300. SPECIAL STUDIES IN EDUCATION.** (G) Credit as arranged. Members of the staff of the Department of Rural Education.

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

**Ed. 500. 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 the staff members concerned.

## Science Education

**R.E. 107. THE TEACHING OF ELEMENTARY SCHOOL SCIENCE.** (U,G) 3 hours credit. Open to seniors and graduate students. Lectures, M T W Th F 9:30-10:15. Practical exercises M 3-5 and one other period to be arranged. Stone 7. Miss SCHULTZ.

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.

**\*R.E. 108. FIELD NATURAL HISTORY.** (U,G) 3 hours credit. Open to juniors, seniors, and graduate students, and others with instructor's permission. Limited to twenty students. Lectures, T Th 1:30-3:00. Stone 7. Field trip, T Th 3-5:30, will begin with the first meeting. Miss SCHULTZ.

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. 109. OUR PHYSICAL ENVIRONMENT.** (U,G) 2 hours credit. Open to juniors, seniors, and graduate students interested in public school teaching. M T W Th F 11-12:30. Stone 7. Mr. M. BRUCE, JR.

A study of the commonplace machines and materials in our physical environment, and their effectiveness in demonstrating basic scientific principles. Frequent field trips and first-hand examination will be used in studying air, water, soil, light, and sound, as well as some elementary mechanical and electrical devices. Emphasis will be placed on the physical environment as an aid to teaching the physical sciences in the public schools.

**R.E. 207. METHODS OF TEACHING SCIENCE IN SECONDARY SCHOOLS.** (U,G) 3 hours credit. Prerequisite, R.E. 111 or the equivalent, or concurrent registration in R.E. 211. 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.

## Secondary Education

For students with a major interest in secondary school teaching, courses in secondary education as well as in teaching programs and techniques in the several fields will be offered. In addition, students are urged to carry supporting work in one of the teaching fields and in such fields as educational psychology, history, philosophy, and guidance.

**Ed. 130E. THE TEACHING OF ENGLISH IN SECONDARY SCHOOLS.** (U,G) 3 hours credit. M T W Th F 8-9:15. Warren 132. Miss PEARD.

To meet teacher certification requirements and needs of experienced teachers. Study of content and material appropriate to the teaching of English will be emphasized.

**Ed. 130S. THE TEACHING OF SOCIAL STUDIES IN SECONDARY SCHOOLS.** (U,G) 3 hours credit. M T W Th F 8-9:15. Warren 201. Mr. LOWE.

Planned to meet the needs of those preparing for certification as well as those more experienced teachers with interests in special problems. Instruction, curriculum work, evaluation, materials, and learning problems will be considered. Maximum opportunity for individual work on special problems will be afforded.

**R.E. 143. UNIFIED STUDIES IN THE SECONDARY SCHOOL.** (U,G) 2 or 3 hours credit. Prerequisites: social and psychological foundations and a course in secondary school methods. T Th 2-4 and one hour to be arranged. Warren 132. Mr. VARS.

Explores the integration of two or more subject fields in block-time, unified studies, or core programs at the junior or senior high school level. Deals with rationale, status, and trends; curriculum framework; the guidance role of the block-time teacher, and teaching methods particularly appropriate for block-time programs. Also considers administrative problems, and the implications for block-time of such newer educational developments as the Trump proposals, educational television, and programmed instruction.

The third hour of credit may be earned through an individual project approved by the instructor.

May be applied toward extending certification to another academic area, or toward the additional professional study required for permanent certification.

**R.E. 276. THE CURRICULUM OF AMERICAN SCHOOLS.** (G) 2 or 3 hours credit. M T W Th F 10. Warren 260. Mr. ROBERTSON.

A consideration of major problems, principles,

and techniques in determining the school curriculum. Relation of curriculum principles and trends to specific curriculum problems of concern to members of the class. Persons taking the course for three hours of credit are required to assume extra responsibility.

**R.E. 314. MODERN VIEWS AND MEANS FOR THE TEACHING OF MATHEMATICS.** (U,G) 3 hours credit. M T W Th F 11-12:15. Warren 37. Mr. GEISELMANN.

Attention will be given to the latest research in mathematics education and to recent proposals for curriculum revision, as well as to useful materials and practical methods for effective teaching of mathematics in the junior and senior high school. Special interests of the 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. 391. JUNIOR HIGH SCHOOL EDUCATION.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. Warren 132. Mr. VARS.

Examines education programs for young adolescents in the light of history, status, and philosophy of the junior high school. Includes guidance, articulation, exploration; general education programs such as block-time, core; and such recent developments as auto-instruction and team teaching.

**R.E. 394. SEMINAR IN JUNIOR HIGH SCHOOL EDUCATION.** (G) 1 hour credit. W 12:25-1:50 and alternate T. 320 Wait Avenue. Mr. M. JOHNSON, Jr.

Open only to interns in the Junior High School Project.

Consideration of various approaches to the professional growth of teachers and the improvement of educational programs at the junior high school level.

## Inter-University Project I

The following courses are restricted to students in the project. Each course is designed as experimental in nature. Independent study is encouraged.

**Ed. 111H. EDUCATIONAL PSYCHOLOGY.** (G) 1 to 4 hours credit. Hours to be arranged. Mr. RIPLEY.

**Ed. 244H. SOCIAL AND PHILOSOPHICAL FOUNDATIONS OF EDUCATION.** (G) 1 to 4 hours credit. Hours to be arranged. Mr. GOWIN.

## Other Programs for Teachers

Advanced Placement Workshop in English (see page 48).

Area Study Programs for Secondary School Teachers (see page 50).

Contemporary Issues and Practices in American Education (see page 51).

Field Studies in Natural Resources Conservation (see page 52).

Financial Institutions Seminar (see page 53).

Home Economics Education (see page 53).

## ENGINEERING

### Civil Engineering

**Engr. 2902. ENGINEERING LAW.** (U) 3 hours credit. Lectures M T W Th F 8-9:15. Hollister 314. Mr. BLESSIS.

Basic features of laws and practices relating to contracts, sales, negotiable instruments, property, insurance, workmen's compensation, agency, forms of business organizations, labor, government regulation of business, patents; ethical responsibilities of engineers; special emphasis on analysis of actual cases involving difficulties in construction contracts.

### 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 51.)

### Engineering Mechanics and Materials

**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 9:30-10:45. M W 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.

**Engr. 1155. APPLIED DIFFERENTIAL EQUATIONS.** (U) 3 hours credit. Prerequisite, Math 113 or equivalent. Lectures and recitations, M T W Th F 8-9:15. Thurston 203.

Theory of first order equations; first and higher order equations, properties of linear differential equations; linear differential equations with constant coefficients; simultaneous linear differential equations; Fourier series

and applications; partial differential equations and boundary value problems.

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

**Chemistry 105u.** (See page 22.)

**Chemistry 106u.** (See page 22.)

**Chemistry 276.** (See page 22.)

**Mathematics 192.** (See page 41.)

**Physics 122.** (See page 43.)

**Physics 207u.** (See page 43.)

**Physics 208u.** (See page 43.)

**Physics 224.** (See page 43.)

## ENGLISH LANGUAGE AND LITERATURE

**Lit. 201. MASTERWORKS OF WESTERN LITERATURE.** (U) 3 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 283. Mr. NABHOLTZ.

A study of the epic, of drama, lyric poetry, and prose fiction selected from the literature of the Western world: *Iliad*, Greek tragedies, *Aeneid*, *Book of Job*, *Divine Comedy*, *Tristan and Iseult*, *King Lear*.

**Lit. 202. MASTERWORKS OF WESTERN LITERATURE.** (U) 3 hours credit. May be taken concurrently with Literature 201. M T W Th F 11-12:15. Goldwin Smith 283. Mr. NABHOLTZ.

A study of the epic, of drama, lyric poetry, and prose fiction selected from the literature of the Western world: *Don Quixote*, *Paradise Lost*, Molière comedies, *Faust*, Keats's poems and letters, *Madame Bovary*, Chekhov plays and short stories, and Yeats's poems.

**Engl. 251. GREAT ENGLISH WRITERS.** (U) 3 hours credit. M T W Th F 1:30-2:45. Goldwin Smith 183. Mr. HUNGERFORD.

Studies in selected works of great English writers, Chaucer to the eighteenth century.

**Engl. 252. GREAT ENGLISH WRITERS.** (U) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 177. Mr. FERRIS.

A critical and historical survey of great English writers, from the Romantic poets to the present.

**Engl. 311. SEVENTEENTH-CENTURY POETRY.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 128. Mr. NOVAK.

Emphasis on genre and technique in the work of Donne, Jonson, Marvell, and Dryden.

**Engl. 334. MAJOR AMERICAN WRITERS OF THE NINETEENTH CENTURY.** (U,G)

3 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 160. Mr. SLATOFF.

A critical study of selected works by Poe, Emerson, Thoreau, Hawthorne, Melville, Whitman, Emily Dickinson, Mark Twain, James, and Crane.

**Engl. 338. MODERN ENGLISH NOVEL.** (U,G) 3 hours credit. M T W Th F 8-9:15. Goldwin Smith 164. Mr. KLEINE.

Critical and historical consideration of novels by Joyce, Lawrence, Woolf, Orwell, Greene, and others.

**Engl. 343. FORMS OF FICTION.** (U,G) 3 hours credit. M T W Th F 8-9:15. Goldwin Smith 160. Mr. RAY.

The short story, with particular emphasis on the work of Chekhov, Joyce, Hemingway, Mansfield, and Faulkner.

**Engl. 344. SIX MAJOR POETS.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 162. Mr. READ.

A study of substantial selections from Donne, Pope, Keats, Browning, Yeats, and Frost. The poets will be studied against a background of the purposes, methods, and achievements of poetry.

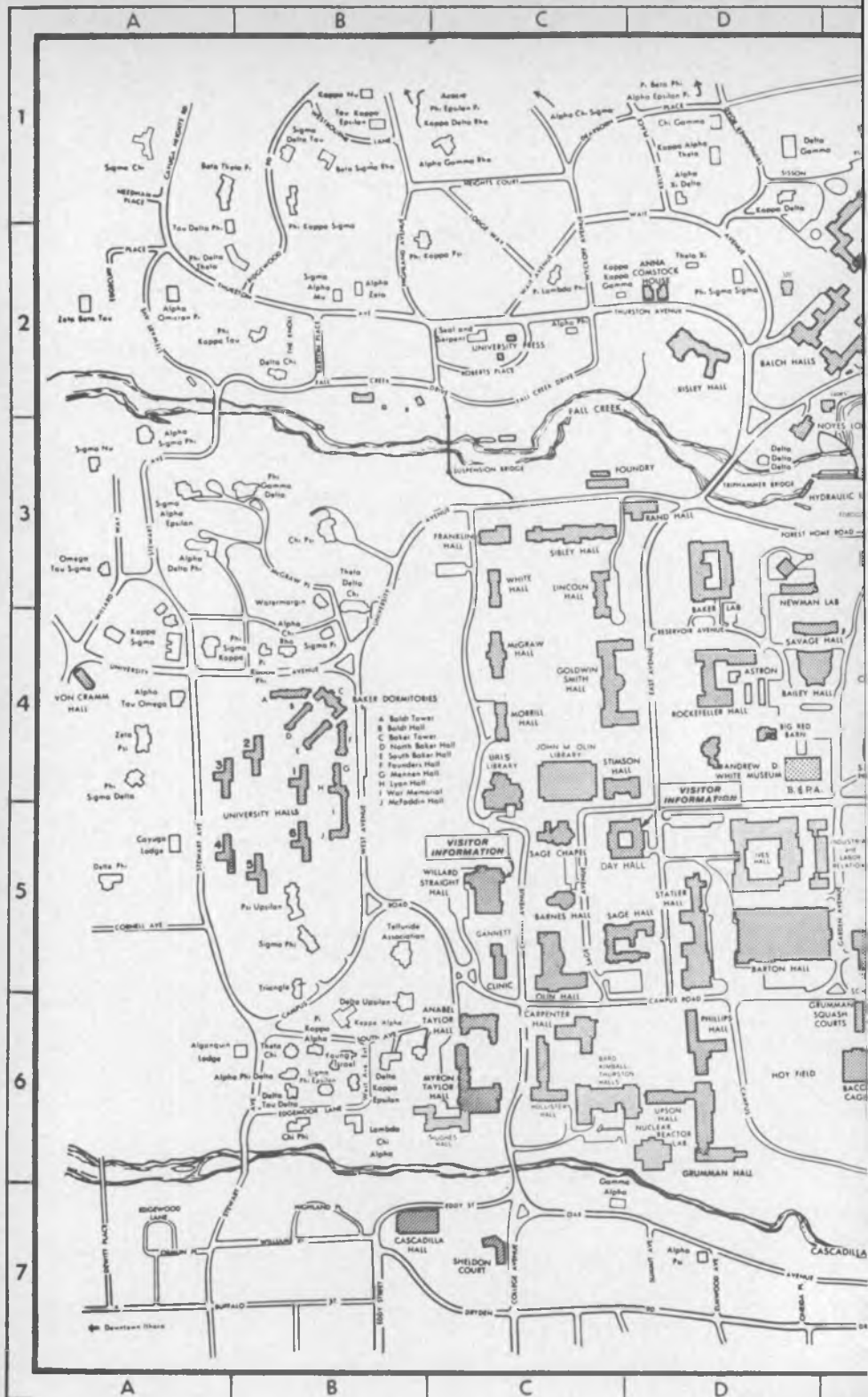
**Engl. 365. CHAUCER: THE CANTERBURY TALES.** (U,G) 3 hours credit. M T W Th F 1:30-2:45. Goldwin Smith 177. Mr. FERRIS.

A close study of Chaucer's last and most famous work. Attention will be devoted not only to Chaucer's literary artistry but to his position as a representative and critic of late medieval culture.

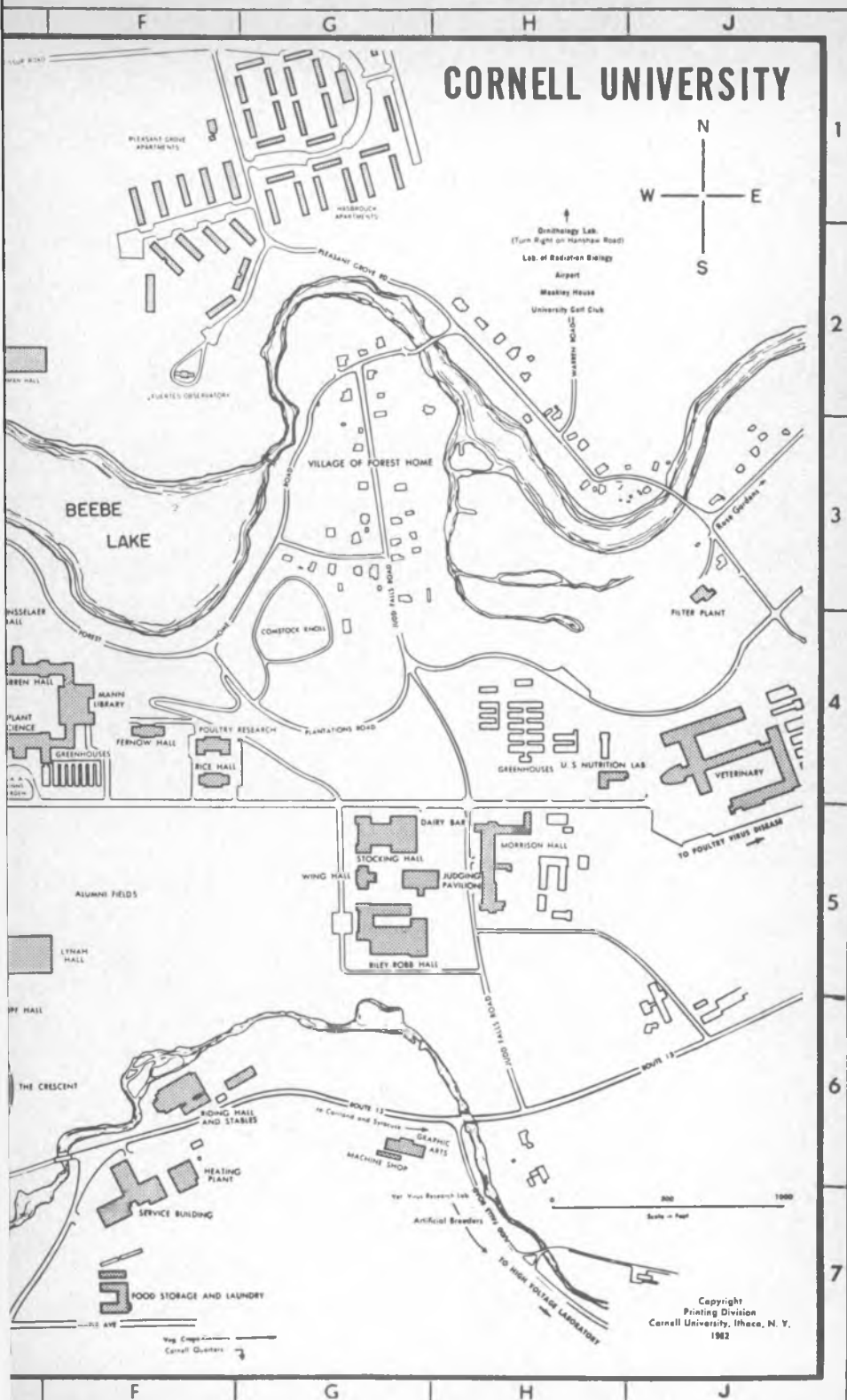
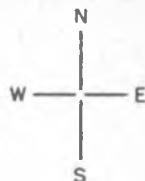
**Engl. 368. SHAKESPEARE.** (U,G) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 162. Mr. READ.

## 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 E2, women's residences  
 Bard Hall C6, metallurgical engineering  
 Barnes Hall C5, campus store, auditorium  
 Barton Hall D5, military training  
 Big Red Barn D4, alumni center  
 Business & Public Administration C4 (McGraw Hall); in late 1963, D4  
 Caldwell Hall E4, agronomy  
 Campus Store C5, Barnes Hall  
 Carpenter Hall C6, engineering library & administration  
 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 G5  
 Day Hall C5, administrative offices  
 Dickson Hall E2, women's residence  
 Donlon Hall E1, women's residence  
 Educational Field Services & Placement Bureau D2, 320 Wait Ave.  
 Fernow Hall F4, conservation  
 Filter Plant J3  
 Food Storage and Laundry F7  
 Franklin Hall C3, Asian Studies, art  
 Gannett Medical Clinic C5  
 Goldwin Smith Hall C4, arts and sciences  
 Graphic Arts Services G6  
 Greenhouses F4, H4  
 Grumman D6, aerospace 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 D3  
 Industrial & Labor Relations Conference Ctr., Extension, Research, Publication D5-E5  
 Ives Hall D5, industrial & labor relations  
 "Japes" E2, recreation, group meetings  
 Judging Pavilion H5  
 Kimball Hall D6, materials processing  
 Library Clock Tower C4  
 Lincoln Hall C3, music, speech & drama  
 Lynah Hall E5, ice skating  
 Mann Library F4, agricultural & home economics library, Bailey Hortorium  
 McGraw Hall C4, geology; business & public administration (*see above*)  
 Minns Garden E4  
 Moakley House H2, recreation center, golf  
 Morrill Hall C4, sociology, anthropology, modern languages, psychology  
 Morrison Hall H5, animal husbandry  
 Newman (Helen) Hall E2, women's physical education  
 Newman Laboratory D3, nuclear studies  
 Noyes Lodge E3, cafeteria, recreation  
 Nuclear Reactor Laboratory D6  
 Olin Hall C5, chemical engineering  
 Olin (John M.) University Library C4  
 Ornithology, Sapsucker Woods Rd. via Warren & Hanshaw Rds. H1-2  
 Phillips Hall D6, electrical engineering, radio-physics & space research  
 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 Hall D3, hospital administration, Computing Center  
 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, agricultural administration  
 Rockefeller Hall D4, physics  
 Rose Gardens, road to, J3  
 Sage Chapel C5  
 Sage Hall D5, graduate center  
 Savage Hall D4, nutrition  
 Schoellkopf Field and Hall E6, athletics  
 Service Building F7  
 Sibley Hall C3, architecture, history, government, fine arts library  
 Statler Hall D5, hotel administration  
 Stimson Hall C4, zoology  
 Stocking Hall G5, dairy & food science, bacteriology  
 Stone Hall E4, education  
 Suspension Bridge C3  
 Taylor (Anabel) Hall C6, interfaith center  
 Taylor (Myron) Hall C6, law  
 Teagle Hall E5, men's physical ed. & sports  
 Thurston Hall C6, engineering mechanics  
 Toboggan Lodge E3, recreation  
 Triphammer Bridge D3  
 University Halls B4-5, men's residences  
 University Press C2  
 Upson Hall D6, mechanical engineering  
 Uris (Undergraduate) Library C4-5  
 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 Residence (men) A4  
 Warren Hall E4, agricultural economics, rural sociology  
 White Hall C3, mathematics  
 White Museum of Art D4  
 Willard Straight Hall C5, student union  
 Wing Hall G5



# CORNELL UNIVERSITY



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Cornell University, Ithaca, N. Y.  
1962

(Continued from page 30)

An introduction to Shakespeare based upon a study of twelve to fifteen plays representative of the range of his achievement (comedies, histories, tragedies, tragi-comedies).

Engl. 382. **THE ENGLISH LANGUAGE.** (U,G) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 183. Mr. HUNGERFORD.

An introduction to the history and structure of present-day English, with emphasis upon the different ways of studying and analyzing language and the different assumptions and purposes that underlie these ways.

Engl. 385. **CREATIVE WRITING.** (U,G) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 160. Mr. RAY.

Emphasis upon writing short stories and poetry. Analysis of students' writing, study of models and trends.

Engl. 420. **ELIZABETHAN AND JACOBAN DRAMA.** (U,G) 3 hours credit. M T W Th F 8-9:15. Goldwin Smith 128. Mr. NOVARR.

Critical study of plays by Marlowe, Jonson, Webster, Beaumont, Fletcher, Ford, and other contemporaries of Shakespeare.

Engl. 449. **RECENT AMERICAN POETRY.** (U,G) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 164. Mr. KLEINE.

A critical study of selected texts by Frost, Pound, Eliot, Stevens, Crane, and others.

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

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

## 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.

*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 26 through July 19.* 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 22 through August 9.* 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. Mr. GROSSVOGEL.

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. 363. **THE PROUSTIAN EXPERIMENT IN THE CONTEMPORARY NOVEL.** (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. Mr. GROSSVOGEL.

Selected studies in *A la recherche du temps perdu*, as related to the development of modern French fiction.



## 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 26 through July 19.* 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 22 through August 9.* Twenty hours of instruction each week. Morrill Hall. Mr. KUFNER and staff.

## Quechua

**Quechua. 111-112. QUECHUA.** (U,G) 6 hours credit. Prerequisite, consent of instructor. Twenty hours of instruction each week. Morrill Hall. Mr. SOLÁ and staff.

## 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 pro-

ficiency. *June 26 through July 19.* 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 22, through August 9.* 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. SOLÁ 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. SOLÁ and staff.

**Span. 201. INTERMEDIATE READING COURSE.** (U) 3 hours credit. Prerequisite, for Cornell undergraduates, qualification in Spanish; for others, 4 years of high school Spanish or consent of the instructor. M T W Th F 8-9:15. Goldwin Smith 277. Mr. BRENES.

Reading of texts of established literary quality. The purpose is double; to increase reading facility and knowledge of vocabulary and idiom, and to develop methods and habits of critical appreciation of foreign literature. The class discussion is conducted mainly in Spanish.

**Span. 461. REALISM: DRAMA AND THE NOVEL.** (U,G) 3 hours credit. Prerequisite, a Spanish 300 course or two semesters of a college course in Spanish literature. M T W Th F 11-12:15. Goldwin Smith 277. Mr. BRENES.

Study of significant works of realism from the Golden Age to the contemporary period. Works are read in their entirety. Classroom discussion and lectures conducted in Spanish.

## GEOLOGY

**\*Geol. 101. GENERAL GEOLOGY.** (U) 3 hours credit. Registration limited to 20 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 two all-day Saturday trips (probably July 20 and August 3).

The Ithaca region is rich in illustrations of geology, and field trips in the summer are particularly effective. Text: Longwell and Flint, *Introduction to Physical Geology* (second ed.); *Geology 101 Laboratory Manual*. Fee, \$10.

## GOVERNMENT

**Gov. 101. AMERICAN GOVERNMENT.** (U,G) 3 hours credit. M T W Th F 8-9:15. W. Sibley B-1. Mr. STEVENS.

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. 104. COMPARATIVE GOVERNMENT.** (U,G) 3 hours credit. M T W Th F 8-9:15. W. Sibley B-2.

A comparative study of major contemporary political movements and of governmental institutions and processes. Discussion of key issues will be based on materials drawn from the countries of Great Britain, France, and the Soviet Union, as well as the newly emerging countries.

**Gov. 313. AMERICAN CONSTITUTIONAL LAW.** (U,G) 4 hours credit M T W Th F 11-12:15. W. Sibley B-1. Mr. STEVENS.

A study of the law of the Constitution as this has been expounded by the Supreme Court. Emphasis will be placed on the various understandings of freedom that have inspired, or given rise to, that law. Conducted primarily through class discussion of assigned cases.

**Gov. 342. CONSTITUTIONAL GOVERNMENT IN EUROPE.** (U,G) 4 hours credit. M T W Th F 11-12:15. W. Sibley B-2.

An analysis of the major problems of constitutional government in Europe in the light of the crisis of totalitarianism and of modern wars. Forms and realities of constitutionalism. Supranational trends. A comparative study of parties and of their role in political life. Extraconstitutional forces and their relationship to institutions.

**Gov. 344. GOVERNMENTS AND POLITICS OF SOUTHEAST ASIA.** (U, G) 4 hours credit. M T W Th F 9:30-10:45. W. Sibley B-1. 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. 644. SEMINAR IN POLITICAL PROBLEMS OF SOUTHEAST ASIA.** (U,G) 2 hours credit. Hours to be arranged. W. Sibley, Cushman Seminar Room. Mr. SILVERSTEIN.

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

## HISTORY

**Hist. 320. RECENT LATIN AMERICAN HISTORY.** (U,G) 3 hours credit. M T W Th F 8-9:15. 101 W. Sibley. Mr. GRAHAM.

A survey of political, social, economic, and intellectual developments in Latin America since 1810.

**Hist. 324. RECENT CHINESE HISTORY.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. 328 W. Sibley. Mrs. MARSH.

A detailed survey of the modernization of Chinese civilization under the impact of the West. After a brief examination of early nineteenth-century China, the Western political, economic, and ideological invasion is considered, followed by a more thorough study of the revolutionary changes that have culminated in the People's Republic.

**Hist. 346. EUROPEAN HISTORY, 1713-1830.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. 101 W. Sibley. Mr. LACH.

An examination of world history with Europe as the nexus. Stresses the growth of the revolutionary spirit, the world-wide impact of the great French Revolution, and the legitimate reaction to the revolutionary faith.

**Hist. 371. ECONOMIC HISTORY OF THE UNITED STATES SINCE 1860.** (U,G) 3 hours credit. M T W Th F 11-12:15. 101 W. Sibley. Mr. ROTHSTEIN.

A survey of modern American history paying particular attention to the transforming effect of industrialization on the American economy.

**Hist. 381. HISTORY OF THE AMERICAN WEST, 1763-1860.** (U,G). 3 hours credit. M T W Th F 8-9:15. 328 W. Sibley. Mr. ROTHSTEIN.

The expansion of settlement from the Appalachians to the Pacific; particular emphasis on economic and social development of new areas, as well as the general influence on American history.

**Hist. 390. THE HISTORY OF FAR EASTERN INTERNATIONAL RELATIONS SINCE 1895.** (U,G) 3 hours credit. M T W Th F 2-3:15. 101 W. Sibley. Mr. LACH.

Rapid survey of domestic developments in China, Japan, and Korea as background to diplomacy. Emphasizes the role of the United States and Russia in the international affairs of the area.

## HOME ECONOMICS

### Child Development and Family Relationships

**C.D.&F.R. 115. THE DEVELOPMENT OF HUMAN BEHAVIOR.** (U) 3 hours credit. M T W Th F 11-12:15. Van Rensselaer 117. Mrs. BAYER.

The aim is to contribute to the beginning student's knowledge and understanding of human beings through a study of their development from infancy to adulthood. Attention is focused on the role of biological factors, interpersonal relationships, social structure, and cultural values in changing behavior and shaping the individual. Special emphasis is given to the practical and social implications of existing knowledge.

**C.D.&F.R. 314. PSYCHOLOGY OF THE ELEMENTARY SCHOOL CHILD.** (U,G) 3 hours credit. M T W Th F 8-9:15. Van Rensselaer 124. Mrs. MELVILLE.

The personal and social development of children 6-12 years old will be presented through lectures, discussions, and readings. Such topics as motor skills, problem solving abilities, over-and-under achievers, and peer relationships will be discussed in the light of current psychological research.

**C.D.&F.R. 351. CHILDREN'S LITERATURE.** (U,G) 3 hours credit. M T W Th F 8-9:15. Van Rensselaer 117. Miss REEVES.

Literature as a resource in the child's living. The relation of children's literature to world literature. Traditional and modern forms. Illustrations in children's books. The student is expected to read widely in the literature for children two to twelve years of age, to participate in a story-telling group, and to work intensively on a problem of her own selection.

**C.D.&F.R. 352. WORKSHOP IN WRITING FOR CHILDREN.** (U,G) 3 hours credit. T Th 2-4:30. Van Rensselaer 117. Miss REEVES.

Techniques of writing for children 2-12 years of age. Reading and critical evaluation of children's books. At least 3 hours a week, in addition to class periods, should be saved for writing.

**C.D.&F.R. 363. HUMAN RELATIONS IN THE FAMILY.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. Van Rensselaer 117. Mrs. MELVILLE.

A consideration of the interpersonal relations in the family basic to an intelligent under-

standing of the attitudes and behavior of its members. Special attention will be given to husband-wife, parent-child, and sibling relationships, and to the interrelations of the younger, middle, and older generations at successive stages in the family cycle.

**C.D.&F.R. 370. MARRIAGE.** (U,G) 3 hours credit. M T W Th F 11-12:15. Van Rensselaer 124. Mr. HUDSON.

Designed to acquaint the student with the growing body of scientific knowledge concerning marriage, the experiences that precede it, and the adjustments, satisfactions, and problems growing out of it. Such topics as the following will be discussed: emotional and social maturity and readiness for marriage, personality and social factors in marriage adjustment, sex life in marriage, pregnancy and parenthood, the married woman and outside employment, marital failure and divorce, sources of help for troubled marriages.

**C.D.&F.R. 403. SPECIAL PROBLEMS FOR GRADUATE STUDENTS.** (G) Credit and hours to be arranged. Department staff.

For graduate students recommended by their chairmen and approved by the head of the department and the instructor in charge for independent, advanced work.

**C.D.&F.R. 407. THESIS AND RESEARCH.** (G) Credit and hours to be arranged. Registration with permission of the student's chairman. Department staff.

**C.D.&F.R. 475. PERSONAL-SOCIAL RELATIONSHIPS OF ADOLESCENTS.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. Van Rensselaer 124. Mr. HUDSON.

Intended to offer junior and senior high school teachers of marriage and family life subject matter the opportunity to broaden and deepen basic knowledge, to develop further fundamental skills and techniques in teaching, and to build curriculum materials appropriate to their particular situations. Among the topics considered are the contemporary American family; the family cycle and developmental task concepts; the goals of family life education; social relationships of young people—theories and practices; and a review of teaching methods, materials, and current research.

### Food and Nutrition

**F.&Ntr. 104. ELEMENTARY NUTRITION.** (U,G) 3 hours credit. Lecture-Discussion, M

T W Th F 8-9:15. Van Rensselaer 339. Miss DONALD.

An introduction to the field of human nutrition: the nutrients, their functions in maintaining health, their distribution in food, and how they are affected by handling and processing.

Basic nutrition information is utilized in many professional fields in addition to home economics, among them elementary and health education, biology and general science teaching, and social work. Since nutrition subject matter is rapidly expanding, the course is also appropriate for professional workers with training in the field who wish to bring their information up-to-date.

**\*F.&Ntr. 326. MODERN THEORY AND PRACTICE IN FOOD PREPARATION.** (U,G) 3 hours credit. Prerequisite, a college course in food preparation and in chemistry. Lectures, T W Th F 9:30-10:45. Van Rensselaer 339. Laboratory, Th 1:30-4. Van Rensselaer 356. 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. Laboratory experiments illustrate selected effects of different procedures and ingredients. Fee, \$10.

**F.&Ntr. 331u. THERAPEUTIC NUTRITION.** (U,G) 3 hours credit. July 8 to 26. Prerequisites, a college course in normal nutrition, in biochemistry, and in physiology. Lecture-Discussion, M T W Th F 8:30-11. Van Rensselaer 3 M 11. Miss RIVERS.

*Registration will take place at the time and place of the first class meeting.*

Study of the principles of nutritional therapy in the treatment of disease. Scientific appraisal of the effectiveness of certain therapeutic diets. Independent survey of the technical literature in this field.

Planned for dietitians and teachers who seek current scientific information in this area and for students who are qualifying for an American Dietetic Association approved internship.

**\*F.&Ntr. 403. SPECIAL PROBLEMS FOR GRADUATE STUDENTS.** (G) Credit and hours to be arranged. Open only to graduate students with a major or minor in the field of food and nutrition. Registration with permission of the student's chairman. Department staff.

Independent advanced work. Fee dependent upon the nature of the problem.

**\*F.&Ntr. 407. THESIS AND RESEARCH.** (G) Credit and hours to be arranged. Open only

to graduate students with a major in the field of food and nutrition. Registration with permission of the student's chairman. Department staff.

Fee dependent upon the nature of the problem.

## Home Economics Education

(See page 27 and Other Programs, page 53.)

### Household Economics and Management

**\*H.E.M. 403. SPECIAL PROBLEMS IN HOUSEHOLD ECONOMICS AND MANAGEMENT.** (G) Credit and hours to be arranged. Registration by permission. Department staff.

For graduate students recommended by their chairmen and approved by the head of the department and the instructor in charge for independent, advanced work. Fee will be dependent on the nature of the problems.

**\*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.

**\*H.E.M. 419. CURRENTS OF THOUGHT IN HOME MANAGEMENT.** (G) 3 hours credit. M T W Th F 9:30-10:45. Van Rensselaer 121. Miss DAVEY.

The examination of fundamental concepts in management, e.g., decision making, organization, resources, values, will include tracing the idea from the beginning, the overview of current thought, and projection into the future. Fee, \$1.

**\*H.E.M. 420u. PHYSICAL SCIENCE IN THE HOME.** (G) 3 hours credit. July 22 to August 9. 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 G 19. Miss PURCHASE.

Of particular value to high school and college 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.

\* **H.E.M. 430a. ECONOMIC CONDITIONS IN RELATION TO THE WELFARE OF FAMILIES.** (G) 3 hours credit. June 26 to July 19. M T W Th F 8-9:30 and 1:30-3, remainder of time to be used in library. Van Rensselaer 121. Mrs. VATTER.

For teachers in extension, secondary schools, and colleges, and for others working with families and their problems, who wish some understanding of the way in which outside economic conditions affect the level of living of families. The total amount produced, the distribution of income, the level of prices, the role of institutions that regulate money, levy taxes, and account for public spending will be considered in relation to their effects on the way families can live. Fee, \$1.

(See also *Other Programs*, page 53.)

## Institution Management

**I.M. 403. SPECIAL PROBLEMS FOR GRADUATE STUDENTS.** (G) Credit and hours to be arranged. Department staff.

For graduate students recommended by their chairman and approved by the head of the department and the instructor in charge for independent, advanced work.

**I.M. 407. THESIS AND RESEARCH.** (G) For graduate students with training and experience satisfactory to the instructor. Credit and hours to be arranged. Mrs. BLOETJES, Misses BURGOIN, CUTLAR, KNICKREHM, and LONGRÉE.

(See also *Other Programs*, page 47 and page 55.)

## Textiles and Clothing

\* **T.&Clo. 336. APPAREL DESIGN: INTER-RELATED PRINCIPLES.** (U,G) 3 hours credit. Prerequisite, professional experience or course work in the area of clothing acceptable to the instructor. Registration limited to sixteen students. Preapplication to register is requested. M T W Th F 2-3:50. Van Rensselaer 213. Miss HUMPHREY.

Intended primarily for students and teachers of apparel design in schools, colleges, and extension. Comprehensive study, experimentation, and testing of the interrelated principles of fitting, pattern making, and draping;

alteration of design and fit of commercial patterns; discussion and consideration of value and appropriate use of various methods of apparel design; experimentation with and appraisal of methods involving instructional aids and demonstration techniques.

Students will work with muslin or fabrics suitable for use as visual aids in teaching. Projects will be determined by individual needs. Materials to be provided by students at an estimated cost of \$15-\$30. Fee, \$5.

\* **T.&Clo. 345. APPAREL DESIGN: TAILORING PROCESSES.** (U,G) 3 hours credit. Prerequisite, experience or course work in the area of clothing acceptable to the instructor. Registration limited to sixteen students. Preapplication to register is requested. M T W Th F 11-12:50. Van Rensselaer 213. Miss HUMPHREY.

Design in apparel achieved through creative and artistic handling of fabric. Provides opportunity for students to explore and create processes relative to types of fabric. Materials to be provided by students at an estimated cost of \$20-\$50. Fee, \$5.

**T.&Clo. 391. FAMILY CLOTHING CONSUMPTION.** (U,G) 3 hours credit. Prerequisites, elementary economics and sociology, or permission of the instructor. Preapplication to register is requested. M T W Th F 9:30-10:45. Van Rensselaer 216. 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. 403. SPECIAL PROBLEMS IN TEXTILES AND CLOTHING.** (G) Credit and hours as arranged. Registration by permission. Department staff.

For graduate students recommended by their chairmen and approved by the department head. Students to assume any expense involved unless otherwise previously arranged. Fee will depend on the nature of the problem.

\* **T.&Clo. 407. THESIS AND RESEARCH.** (G) Credit and hours as arranged. Registration by permission. Department staff. Fee will depend on the nature of the problem.

## HOTEL ADMINISTRATION

(See *Other Programs*, page 54.)

## INDUSTRIAL AND LABOR RELATIONS

**I.&L.R. 250. SURVEY OF INDUSTRIAL AND LABOR RELATIONS.** (U.G.) 3 hours credit. No prerequisites. M T W Th F 9:30-10:45. Ives 116. Mr. FERGUSON.

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. 450. PERSONNEL ADMINISTRATION IN SUPERVISION.** (U.G.) 3 hours credit. No prerequisites. M T W Th F 11-12:15. Ives 114. Mr. WASMUTH.

A review of the personnel function in business and industry with emphasis on the personnel responsibilities of the line supervisor. Topics for discussion will include selecting, inducting, training, motivating, rating, and compensating employees; developing techniques for interviewing, adjusting complaints and grievances, and aiding in the solution of employee problems; understanding aspects of protective labor legislation, labor relations law, and social security affecting employees supervised; and maintaining adequate personnel records and reports. Selected readings, case studies, discussions, and problems.

**I.&L.R. 499. DIRECTED STUDIES.** (U) Credit and hours to be arranged. Available upon arrangements with individual faculty members in appropriate topics.

**I.&L.R. 510. ECONOMIC AND SOCIAL STATISTICS.** (U.G.) 3 hours credit. No pre-

requisites. Lectures, M T W Th F 9:30-10:45. Ives 114. Laboratory, two sessions each week, to be arranged. Mr. McCARTHY.

A nonmathematical 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 and hours to be arranged. Available upon arrangements with individual faculty members in appropriate topics.

## Special Noncredit Seminars and Workshops

In the summer of 1963 the School is again offering a series of one-week noncredit 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: *Selection and Assignment of Human Resources, 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 Coordinator of Special Programs, School of Industrial and Labor Relations, Cornell University, Ithaca, New York.

## 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. Mr. WOOD.

Plane analytic geometry through conics. Differentiation and integration of polynomials with applications to rates, maxima, volumes, pressures, etc. Text: Thomas, *Calculus and Analytic Geometry*.

**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 37. Mr. DRASIN.

Differentiation and integration of algebraic, trigonometric, logarithmic, and exponential functions with applications. Related topics, including polar coordinates, parametric equations. Text: Thomas, *Calculus and Analytic Geometry*.

**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 29. Miss SOSS.

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

**Math. 121-122. ANALYTIC GEOMETRY AND CALCULUS.** (U) 6 hours credit. Prerequisite, a thorough knowledge of trigonometry and exceptional aptitude for mathematics. M T W Th F 9-10:45 and 2-3:15. White B 15. Mr. AGNEW.

Emphasis on the mastery and techniques needed for further preparation in the sciences, including engineering and advanced mathematics. Consists of 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 include polar coordinates, parametric equations, and vectors. Text: Agnew, *Calculus*.

**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 B 37. Mr. DRASIN.

Analytic geometry in the plane and in space, partial differentiation, technique of integra-

tion and multiple integrals, applications. Text: Thomas, *Calculus and Analytic Geometry*.

**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 29. Miss SONS.

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. 411. INTRODUCTION TO ANALYSIS.** (U,G) 4 hours credit. Prerequisite, Mathematics 113 or its equivalent. M T W Th F 11-12:15. White B 25. Mr. WOOD.

Treats the logical foundations of elementary calculus. Topics include the construction of the real number system, limits, continuity, the derivative and its properties, the mean value theorem. If time permits, an introduction to Riemann integration will be given. Text: Buck, *Advanced Calculus*.

## MENTAL HEALTH

**Prev. Med. 1. PRINCIPLES AND PRACTICES IN MENTAL HEALTH.** (U,G) 3 hours credit. Lectures, M T W Th F 10-10:50. Laboratory, T 2-4:30 and additional hours to be arranged. Phillips Hall 317. Dr. 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 in this course may be applied toward the provisional certificate for guidance counselors.

## MUSIC

The Summer Session of 1963 will introduce a special program for organists under the direction of Visiting Professor Luigi Tagliavini. This program is intended for advanced students and professional organists; it will include private lessons and master classes. Emphasis will be placed on the study and performance of Italian organ music, particularly that of Frescobaldi and his contemporaries. This is the first time that Professor Tagliavini, who visited the United States as a performer and lecturer in 1961-1962, has consented to teach a class of private students in America.

Since only a limited number may be accepted under this program, those interested should apply as soon as possible by writing to Mr. Rudolph Kremer, University Organist, Department of Music. The application must include a short summary of musical preparation and experience. Letters of recommendation should be forwarded to Mr. Kremer under separate cover.

For additional information see Music 521 below.

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

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 109. MUSIC THEORY.** (U) 3 hours credit. M T W Th F 9:30-10:45. Lincoln 321. Mr. KREMER.

A study of the fundamental techniques of music emphasizing the recognition of intervals, scales, triads, and keys. There will be rhythmic, harmonic, and melodic dictation and sight singing. The simpler melodic and harmonic techniques will be studied through writing and analysis. The ability to sing on pitch reasonably well is important, and some experience with either playing or singing is desirable.

**\*Music 321. INDIVIDUAL INSTRUCTION IN VIOLONCELLO.** Without credit. One-hour lesson weekly (or two half-hours). Mr. Hsu.

Fee for one-hour lesson weekly, \$45. Fees for

a practice schedule of twelve hours weekly: \$10 for a practice room with piano; \$5 for a practice room without piano. Fees for a practice schedule of six hours weekly: \$5 for a practice room with piano; \$2.50 for a practice room without piano.

**\*Music 521. WORKSHOP FOR ORGANISTS.** Without credit. Consent of the instructor required (see introduction). T F 2-3:15 and time for one-hour lesson weekly to be arranged. Sage Chapel. Mr. TAGLIAVINI.

See the introduction to this section for description of course content. Fee for private lessons and master classes, \$90. 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.

## PHILOSOPHY

**Phil. 101. PHILOSOPHICAL CLASSICS.** (U) 3 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 227. Mr. NELSON.

An introduction to philosophical ideas and problems through a study of Descartes' *Meditations*, Berkeley's *Principles*, and other selected writings. Collateral reading from classical and contemporary sources will be assigned.

**Phil. 329. METAPHYSICS.** (U) 3 hours credit. M T W Th F 2-3:15. Goldwin Smith 227. Mr. NELSON.

A discussion of the concept of material things, facts, universals, perfection, and the nature of dreams.

## 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 Bachelors' degrees.) Prerequisites, 3 units of college-preparatory mathematics and a year-course in either college or high school physics. M T W Th F 10-11:50. One two-hour lecture per week (usually on Mondays), one two-hour class meeting on each of three days of the week, and one meeting a week (usually Thursdays) either for additional lectures or to view pertinent instructional movies. Lectures in Rockefeller B. Movies in Rockefeller C. Mr. LEVINGER.

The weekly Monday lecture, on a selected topic of current active interest in physics, is given by a mature teacher who has specialized in both the teaching and the research of the topic he discusses. Generally there are a different lecturer and a different topic each week. Demonstration experiments accompany the lecture. Prepared lecture notes are given to each student before each lecture so as to minimize the note-taking by the student during the lecture. These notes, in greater detail than the lecture, serve as a guide for the week's work.

Typical topics are: relativity, elementary particles, wave-particle duality, gravity, low-temperature physics, X-ray diffraction and the solid state, mass spectrometry, high-energy accelerators, physics of the upper atmosphere including the aurora, radio-astronomy, cosmology, etc. Some attempt is made to have an early topic introduce material that is assumed to be understood in later topics.

Typical lecturers are Professors H. A. BETHE, T. GOLD, K. I. GREISEN, J. OREAR, R. L. SPROULL, P. MORRISON, B. D. MCDANIEL, L. G. PARRATT, E. E. SALPETER, R. R. WILSON, etc.

Except for the common Monday lectures and for the Wednesday lectures or movies, students are subdivided into class-study groups according to interests, background preparation, etc. If the enrollment justifies, at least four different group levels will be formed. Each group, limited in size to about 15 students, has its own instructor who makes reading and problem assignments, leads the classroom discussion, gives examinations, and is in charge of his group for the entire 6 weeks. The work of each group is designed to increase the students' com-



prehension of the Monday topic (and of relevant matters, including the movies). At the instructor's discretion the group may anticipate the Monday lecture by taking up pertinent background material before the lecture.

Emphasis is placed on the relatively few fundamental principles and concepts underlying all topics in physics, e.g., the conservation of energy and of momentum, the dual wave-particle nature of radiation and matter, the probabilistic nature of science, the resort to experiment as the final arbiter of the reliability of a theory, etc.

Three credit hours of 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; however, students who have done very well in 3 credit hours of 105 and 3 of 109 may proceed directly into Physics 303 and 310 by passing the advanced-placement examination. 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 Bachelors' degrees.) Prerequisites, 3 units of college-preparatory mathematics and a year-course in either college or high school physics. Laboratory, M T W Th F 2-4:30. Rockefeller 364.

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

**\*Physics 122. INTRODUCTORY ANALYTICAL PHYSICS II.** (U) 3 hours credit. Prerequisite, Physics 121 and calculus or simultaneous registration in Mathematics 112. Lectures, T Th 9:30-10:45. Rockefeller B. 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 the fundamentals of wave propagation. At the level of *Introductory Analytical Physics II* by Newhall. Fee, \$5.

**\*Physics 207u. FUNDAMENTALS OF PHYSICS.** (U) 4 hours credit. June 26 to July 26. Prerequisite, calculus, or consent of the instructor. Intended as an advanced placement course for qualified high school students and 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. The combination Physics 207u and 208u is acceptable in place of 121-122 for students of engineering. Lectures, M T W Th F 10-11:50. Rockefeller A. Examinations M 2-4. Problem sessions, W F 1-2. Laboratory periods, T Th 1-3:30. Rockefeller 220. Mr. COTIS.

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.

Among the topics to be considered are the following: 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 208u. FUNDAMENTALS OF PHYSICS.** (U) 4 hours credit. July 29 to August 23. A continuation of Physics 207u. Same class hours and staff.

Topics: Harmonic motion, electromagnetic waves, nature of and propagation of light, diffraction, interference, and the wave-particle properties of matter. Fee, \$5.

**\*Physics 224. INTRODUCTORY ANALYTICAL PHYSICS IV.** (U) 3 hours credit. Prerequisite, Physics 223 and Mathematics 113, or consent of the instructor. Lectures, W F 11-12:15. Rockefeller B. Discussion, M T Th 11-12:15. Rockefeller 105. Laboratory, T Th 2-4:30. Rockefeller Annex.

Wave motion with emphasis on the properties of electromagnetic waves. Interference, diffraction, dispersion, scattering, and polarization of waves. Selected topics from the fields of atomic, solid state, and nuclear physics dealing with wave-particle experiments, optical and X-ray spectra, radioactivity, and nuclear processes. The laboratory work includes experiments in electrical measurements and in physical electronics and wave optics. At the level of *University Physics*, Vol. II, by Sears and Zemansky, and of *Wave Optics and Atomics* by Tomboulain. Fee, \$5.

**Physics 436. MODERN PHYSICS.** (U,G) 4 hours credit. June 26 to August 23. Prerequisites, Physics 322 and Mathematics 214 or 222, or consent of the instructor. Lectures, M T W Th F 8-9:15. Rockefeller 105.

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

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the level of *Fundamentals of Modern Physics* by Eisberg or of *Principles of Modern Physics* by French.

**Physics 490. INDEPENDENT STUDY IN PHYSICS.** (U,G) 1 to 3 hours credit. Prerequisites, Physics 109 or 310, or equivalent, and consent of instructor. M T W Th F 2-4:30. Rockefeller 364. Mr. GREISEN.

Individual project work. Reading or laboratory work in any branch of physics. Suitable as laboratory work to accompany Physics 436. Fee, \$5 per credit hour.

## RELATIVITY CONFERENCE

August 5 to 23.

For college teachers of physics. No credit.

Registration limited. For information write to Department of Physics, Rockefeller Hall, Cornell University, Ithaca, New York.

## ADVENTURES IN PHYSICS

June 26 to August 9.

A special program is available for selected high-ability secondary school students who have completed the 11th or 12th grade. No credit. See Other Programs, page 49.

## PSYCHOLOGY

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

An introduction to the scientific study of behavior and experience, covering such topics as perception, motivation, emotion, learning, and the higher thought processes, personality, and individual differences.

**Psych. 107. INTRODUCTION TO PERSONALITY AND SOCIAL PSYCHOLOGY.** (U) 3 hours credit. M T W Th F 9:30-10:45. Morrill 340. Mr. MELTZER.

The scientific study of personality and its development, and of human social behavior. Such topics as traits, attitudes, personality structure, socialization, prejudice, conformity, and the development of stable interpersonal relationships will be analyzed. Credit in this course may be counted toward permanent certification for guidance counselors.

**Psych. 209. INTRODUCTION TO GROUP**

**DYNAMICS.** (U,G) 3 hours credit. Lectures, M T W Th F 1. Laboratory hours to be arranged. Morrill 340. Mr. MELTZER.

Lectures and laboratory experience in the experimental study of human behavior in groups. Application of techniques of group observation and analysis to such topics as group morale, leadership, group goals, and effective committee meetings.

**Psych. 405. MAIN CONCEPTS OF ABNORMAL PSYCHOLOGY.** (U,G) 4 hours credit. Prerequisite, six hours of psychology or consent of instructor. M T W Th F 11-12:15. T 2-4. Gannett Clinic Seminar Room. Mr. BRAATEN.

Lectures with emphasis on discussion and group participation of topics such as the etiology of psychopathology, the most common syndromes of psychopathology during the various stages of life, and counseling and psychotherapy.

## SOCIOLOGY AND RURAL SOCIOLOGY

**Soc. 101. INTRODUCTION TO AMERICAN SOCIETY.** (U,G) 3 hours credit. M T W Th F 11-12:15. Morrill 240. Mr. WILLIAMS.

Application of sociological concepts and principles to analysis of basic social structures and trends in the United States. Emphasis is placed on major institutions: family, social stratification, education, religion, and social aspects of economic and political organization. Special treatment of changing values and of groups and associations.

**R.Soc. 250. INFORMAL STUDY IN RURAL SOCIOLOGY.** (G) Credit and hours to be ar-

anged. Permission required of the staff member who will supervise the study.

**R.Soc. 251. RESEARCH IN RURAL SOCIOLOGY.** (G) Credit and hours to be arranged. Permission required of staff member who will supervise research.

**Soc. 264. INTERGROUP RELATIONS.** (U,G) 3 hours credit. M T W Th F 8-9:15. Morrill 240. Mr. WILLIAMS.

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 inter-group relations, prejudice, integration, accommodation, and national unity to which they give rise.

**Soc. 356. SOCIOLOGY OF EDUCATION.** (U,G) 3 hours credit. M T W Th F 1-2:15. Morrill Hall 240. Mr. FRIEDENBERG.

An analysis of the social forces expressed in the policies and value-assumptions of the American public school, with emphasis on its function as mediator among conflicting interest groups, in providing for social mobility, and in determining the categories of thought available for social perception.

## SPEECH AND DRAMA

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

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 9:30-10:45. Lincoln Hall 204. Mr. SCHEIDEL.

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; 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. SCHEIDEL.

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. 345. DEVELOPMENT OF SPEECH BEHAVIOR.** (U,G) 3 hours credit. M T W

**Soc. 386. ADOLESCENT GROWTH AND SOCIALIZATION.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. Morrill 240. Mr. FRIEDENBERG.

The effect of an open society on the adolescent identity-crisis. Social stratification as expressed in adolescent values and behavior, and in relation to the school and the family. Various modalities of adolescent subculture. Juvenile delinquency will not be emphasized, and practical measures for control of recalcitrant youngsters will not be discussed.

Th F 9:30-10:45. Lincoln Hall 305. Mr. NUTTALL.

Designed to afford a comprehensive and integrated view of speech as a human behavior. A study of the intrapersonal and interpersonal purposes of speech and the capacity and limitations of speech behavior in serving these purposes.

**Sp.&Dr. 355. THE SPEECH-HANDICAPPED SCHOOL CHILD.** (U,G) 3 hours credit. M T W Th F 11-12:15. Lincoln Hall 304. Mr. NUTTALL.

A survey of the common types of speech disorders, their incidence, causes, and implications for therapy. The speech disorders of school-age children will be emphasized.

**Sp.&Dr. 383. THEATRE PRACTICE.** (U,G) 3 hours credit. Time as arranged. Mr. CARLSON.

A laboratory course in play production. Projects and special assignments in the Summer Theatre. This course is normally required of undergraduate and graduate students majoring in drama at Cornell University. Open to others by permission.

**Sp.&Dr. 393. MODERN AMERICAN DRAMA AND THEATRE.** (U,G) 3 hours credit. M T W Th F 8-9:15. Lincoln Hall 302. Mr. GOLDEN.

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

**Sp.&Dr. 496. MODERN THEORIES OF THE THEATRE.** (U,G) 3 hours credit. M T W

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Th F 11-12:15. Lincoln Hall 302. Mr. ALBRIGHT.

An examination of the major critical and artistic forces that give definition to the theatre of our time. Coverage of twentieth-century trends in theatre aesthetics will be supplemented by a study of influential theorists including Craig, Copeau, Stanislavsky, Brecht, Sartre, and Artaud. Special attention to such developments as the New Stagecraft, the epic theatre, and the theatre of the ab-

surd. Students matriculated for a degree at Cornell University may offer this course as the equivalent of Speech and Drama 495.

**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 in Drummond Studio. MESSRS. CARLSON and GOLDEN. No credit. (If credit is desired, see Speech and Drama 383, Theatre Practice.)

## ZOOLOGY

\* **Zool. 103u. GENERAL ZOOLOGY.** (U) 3 hours credit. *June 26 to July 19.* 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 22 to August 9.* 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. MARKS 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 serve as a prerequisite to advanced zoological studies.*

## OTHER PROGRAMS OF THE SUMMER SESSION

*The following Special Programs are offered during the Summer Session period, June 10 to approximately September 14. Some occur during the period of the Summer School session, June 26 to August 9. Note the dates scheduled for each program.*

*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 a part of his program. Likewise it may be possible for a student selected for 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. Tuition Scholarships for teachers (see page 7) do not apply in the case of participants selected for Special Programs.*

*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 the Summer School. Directions for requesting further information and application forms accompany the following descriptions of Special Programs.*

### ADMINISTRATIVE DIETETICS

#### Unit Courses in Off-Campus Centers

Two separate and distinct summer study opportunities are available in off-campus centers for administrative dietitians and those persons with equivalent qualifications whose responsibilities are focused in hospitals, schools, and similar institutions.

Each course, listed below, is of one-week duration with class meetings daily, Monday through Friday, for a three-hour period. One hour of academic credit may be earned.

Tuition is \$35 for each course to cover all instructional costs.

The identification of personnel to be served, the courses for each, and the location and schedule of courses follow:

#### A. FOR HOSPITAL DIETITIANS

For members of the American Dietetic Association who are employed as administrative dietitians in hospitals or for persons with similar qualifications:

**I.M. 519u. THEORY OF QUANTITY MENU ITEM PRODUCTION.** (G) 1 hour credit. July 29 to August 2. 2-5 daily. Mrs. BLOETJES.

To acquaint students with recently developed control techniques relating to the production of menu items in hospital dietary departments. Principles of processing, production schedules and cost control will be emphasized in relation to quantity menu items prepared and served in hospital dietary departments and comparable institutions. Minimum enrollment required: 30. Location: New York City.

**I.M. 525u. PRINCIPLES OF INSTITUTION ORGANIZATION AND MANAGEMENT** (U, G) 1 hour credit. July 8 to 12. 9-12 daily. Miss KNICKREHM.

To acquaint students with recent techniques and information relating to the management of dietary departments in hospitals and comparable institutions.

Special topics will include analysis and interpretation of major administrative problems in operating a food service and application of scientific organization and management principles to the dietary departments. Additional assignments are required for graduate credit. Minimum enrollment required: 30. Location: Elmsford, New York.

## B. FOR SCHOOL LUNCH MANAGERS AND DIRECTORS

For persons who are managing school lunch rooms and those who direct multiple school lunch programs:

**I.M. 520u. QUANTITY FOOD PURCHASING.** (U,G) 1 hour credit. *July 8 to 12.* 9-12 daily. Miss CONNELLY.

Special topics will include a brief review of the essentials of good purchasing, the development of standards, and the preparation of written specifications. Additional assignments are required for graduate credit. Minimum enrollment required: 20. Location: Endicott, New York.

*For further information and application forms for any of the units, address: Director, Administrative Dietetics Program, 115 Day Hall, Cornell University, Ithaca, New York. Specify whether for part A or B and the unit number or numbers in which you are interested.*

**I.M. 541u. INTERPRETATION AND USE OF SCHOOL LUNCH FINANCIAL RECORDS.** (U,G) 1 hour credit. *August 26 to 30; 9-12 daily.* Miss CONNAUGHTON.

Special topics will include a review of essential records, the determination of costs, the utilization of records as an aid to management in decision making, planning future activities, and maintaining operational control. Additional assignments are required for graduate credit. Minimum enrollment required: 20. Location: Batavia, New York.

## ADVANCED PLACEMENT WORKSHOP IN ENGLISH

### JULY 1-AUGUST 9

For New York State secondary school teachers of English who have full certification and experience in teaching English as well as the opportunity and desire to participate in establishing advanced placement instruction in English in the secondary school.

Six weeks of intensive attention to problems in critical reading, recent theories of language and composition, and methods of planning advanced placement courses in English. The program carries seven hours of graduate-level credit.

The teachers selected will receive Summer Training Grants covering the complete cost of tuition and fees and providing living allowances of \$30 per week. Commuting students will not receive the living allowance.

For further information and application forms, address: Director, English Advanced Placement Workshop, 115 Day Hall, Cornell University, Ithaca, New York.

Registration will be in the following courses:

**English 900S. ADVANCED PLACEMENT CRITICAL READING.** 3 hours credit.

**English 902S. LANGUAGE AND COMPOSITION.** 3 hours credit.

**English 901S. ADVANCED PLACEMENT METHODS.** 1 hour credit.

## ADVANCED PLACEMENT PROGRAM FOR SECONDARY SCHOOL STUDENTS

### JUNE 26-AUGUST 9

The Advanced Placement Program for Secondary School Students, open only to academically talented students who have completed the eleventh year in high school in June, 1963, is offered to enable college-bound students to achieve advanced placement standing in college.

The program offers college-level courses in each of nine options: bacteriology, botany, chemistry, French, German, Russian, Spanish, mathematics, 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 costs except textbooks and personal expenses.

For further information and application forms, address: Director, Advanced Placement Program, Secondary School Students, 115 Day Hall, Cornell University, Ithaca, New York. *Applications are to be submitted by April 1.*

## ADVENTURES IN PHYSICS FOR HIGH-ABILITY SECONDARY SCHOOL STUDENTS, SUPPORTED BY THE NATIONAL SCIENCE FOUNDATION JUNE 26–AUGUST 9

This program is designed for students who will have completed their 11th or 12th grades. 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 and three years of college-preparatory mathematics.

*This is not an "advanced placement" program; for such a program see Physics 207u and 208u listed on page 43 of this Announcement.*

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.

## AGRICULTURAL EDUCATION JULY 8–26

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 8, 1963, at a time and place to be announced.

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

**Agron. 122u. RECENT ADVANCES IN SOIL SCIENCE.** (U,G) 2 hours credit. Lectures, M T W Th F 8–9:50. Laboratory, M 1–5. Caldwell 100. Mr. FEUER.

Planned primarily for vocational agriculture instructors, county agricultural agents, 4-H club agents, conservationists (soil, forestry, wildlife), and teachers of science, especially

earth science, who wish to bring their information about soils up-to-date. The topics studied will be those related to a practical understanding of soils and their efficient management, crop and tree adaptation, and fertilization. Field trips will emphasize the recognition and teaching of soil characteristics, including the preparation of micro- and life-size soil monoliths for teaching use.

## 50 SPECIAL PROGRAMS

**Agr. Econ. 204R. FARM BUSINESS MANAGEMENT.** (U,G) 2 hours credit. Lectures, M W Th F 10-11:50. Laboratory, T 10-3:30. Warren 160. Mr. Loomis.

Designed to provide the student with a working knowledge of the important business aspects of the management of today's farms. Materials and methods for teachers of vocational agriculture are provided. Subject matter includes: how to study a farm business, budgeting changes and planning for the future in the farm business, the economic principles involved, getting started in farming, and farm partnership agreements. Field trips to Central New York farms on Tuesdays.

**\*Ag. Eng. 145u. FARM ELECTRIFICATION.** (U,G) 2 hours credit. Lectures, M T W Th F 8-9:50. Laboratory, M W 1-4. Riley-Robb 160. Mr. LUDINGTON.

Deals with the introduction to the basic principles of electricity and their application to the design and installation of farm wiring systems. The common types of electric motors along with their characteristics and application will be included. Controls for some of the simpler materials-handling systems will also be studied. Fee, \$3.

**\*Ag. Eng. 148u. FARM POWER UNITS MAINTENANCE AND REPAIR.** (U,G) 2 hours credit. Lecture and laboratory, M T W Th F 10-11:50 and T Th 1-3:50. Riley-Robb 60, 64. Mr. LECHNER.

Instruction and laboratory practice will be offered in preventive maintenance and repair of the farm gasoline tractor and small gas engines. Students who choose to work on the latter are expected to bring their own engine and to purchase the parts needed. Open to any interested student. Fee, \$3.

**R.E. 230u. SEMINAR IN AGRICULTURAL EDUCATION.** (G) 2 hours credit. M T W Th F 10-11:50. Warren 14. Mr. BAIL.

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, guidance responsibilities of teachers of agriculture, and other problems as identified by the students and instructor.

**R.E. 236u. THE ORGANIZATION AND ADMINISTRATION OF VOCATIONAL AGRICULTURE.** (G) 2 hours credit. Experience as a teacher of agriculture or consent of instructor required. M T W Th F 8-9:50. Warren 14. Mr. CUSHMAN.

A study of the role of the teacher of agriculture in organizing and administering programs of vocational agriculture in the secondary school. Emphasis will be placed on the formation and effective operation of agricultural advisory boards, the determination of school policy concerning vocational agriculture, the development of effective public relations, and other administrative problems commonly encountered by teachers.

**R.E. 199u. INFORMAL STUDY IN EDUCATION.** (U,G) Credit and hours as arranged. Consent of instructor required. Staff.

**R.E. 300u. SPECIAL STUDIES IN EDUCATION.** (G) Credit and hours as arranged. Prior approval of instructor required for registration.

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

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

### JUNE 26-AUGUST 9

Combinations of courses in the social sciences have been arranged to provide area study programs dealing with China, Latin America, 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.

The courses in each program are:

**CHINA PROGRAM:** History 324, *History of Chinese Civilization*; and History 390, *The History of Far Eastern International Relations since 1895*. (See page 36.)



**LATIN AMERICAN PROGRAM:** History 320, *History of Latin America*; and Economics 565, *Current Economic Problems in Latin America*. (See pages 36 and 24.)

**SOUTHEAST ASIA PROGRAM:** Government 344, *Governments and Politics of Southeast Asia*; and Government 644, *Seminar in Political Problems of Southeast Asia*. (See page 36.)

For further information and application forms, address: Director, Area Study Programs, 115 Day Hall, Cornell University, Ithaca, New York. Please identify the area or areas of study desired.

## CORNELL CONSERVATION WORKSHOP

AUGUST 12-16

One week 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 a limited number of persons.

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

## CONTEMPORARY ISSUES AND PRACTICES IN AMERICAN EDUCATION

JULY 8-AUGUST 2

A special program for teachers and administrators provides opportunity to consider many of the latest ideas and practices which are being proposed and adopted in the elementary and secondary schools of the United States. Approximately twenty-five specialists will lecture and lead discussions on selected topics. Provision for small-group discussion and independent reading in current related material will be made.

Four different units are offered on a weekly basis beginning July 8, 15, 22, and 29. One hour credit may be earned for each week attended. Students may register for the total program, or for any unit or combination of units. Registration will be limited to fifty students per unit or week.

Tuition for the program is \$25 per credit hour. The Summer Session general fee of \$5 per week is in addition. For further information and application forms, address: Director, Seminar in Education, 115 Day Hall, Cornell University, Ithaca, New York.

The themes for each week are as follows:

**JULY 8-12:** *Change and the Developing Educational Scene.*

**JULY 15-19:** *Change in Content and Subjects.*

**JULY 22-26:** *The Junior High School, Its Functions and Relation With Other Levels of Instruction.*

**JULY 29-AUGUST 2:** *New Practices in the Technology of Teaching and Staffing.*

Registration will be in the following course: **R.E. 270. SEMINAR IN EDUCATION.** (G) 1 to 4 hours credit. Lecture and discussion, M T W Th F 9:30-11:30 and additional time to be arranged. Mr. Hixon and specialists.

## 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, 1963.

**CALENDAR.** Courses are scheduled in two separate but consecutive seven-week periods: first period, June 10 to July 27; second period, July 29 to September 14.

**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.

## ENGLISH LANGUAGE FOR FOREIGN STUDENTS JULY 15-AUGUST 23

The Summer Session, in cooperation with the Division of Modern Languages, offers intensive instruction in the use of the English language. This six-week course is open to graduate students who have been accepted for study in an institution in the United States and for whom additional English language training has been recommended or is desired. Instruction will begin on July 15 and end on August 23.

Charges for the six-week program are as follows: Tuition and fees, \$240; room (estimated), \$60; board (estimated), \$120; incidentals (estimated), \$50.

For further information and application forms write to the Director of the English Language for Foreign Students Program, 115 Day Hall, Cornell University, Ithaca, New York.

## FIELD STUDIES IN NATURAL RESOURCES CONSERVATION JULY 8-26

A three-week program limited to thirty-five selected elementary school teachers of grades K-8. All instruction is conducted at the Cornell University Biological Field Station on Oneida Lake near Bridgeport, New York. Facilities for lodging, meals, study space, library, and laboratory are available at the Station.

Instructors, lecturers, and field trip leaders represent the professional staffs serving Cornell University, several units of the State University of New York, the State Conservation Department, and other governmental agencies.

The total charges are \$120 for tuition and fees and \$100 for meals and lodging. Scholarship aid for selected teachers in New York State will be available.

For further information and application forms, address: Director, Conservation Field Courses, 115 Day Hall, Cornell University, Ithaca, New York.

**Cons. 5. FIELD STUDIES IN NATURAL RESOURCES CONSERVATION.** (U,G) 3 hours credit.

An intensive program of field experiences, lectures, demonstrations, and discussion periods relating to the nature, properties and inter-

related character of our renewable natural resources—soil, water, forests, and wildlife. Stress is to be given the scientific bases for natural resources management and, accordingly, frequent application made of principles and concepts both from fundamental fields and the

applied sciences. Attention also will be given to the governmental and legal bases for resources management, and to the citizen's role in resource policy formulation. Methods for adapting and presenting the material to the

teaching situation will be included. Course requirements include supplemental readings, preparation of a paper, and satisfactory performance on quizzes and examinations.

## FINANCIAL INSTITUTIONS SEMINAR

**AUGUST 12-23**

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, 115 Day Hall, Cornell University, Ithaca, New York.

Students will register for:

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

## HOME ECONOMICS EDUCATION

**JULY 1-26**

A special four-week program for home economics teachers and extension workers provides opportunity to become acquainted with recent research in selected fields of home economics and to consider its relevance to teaching at various levels. Three units will be offered: a two-credit unit scheduled during the weeks of July 1-12; and two one-credit units scheduled during the weeks of July 15 and July 22. Students may register for the full program or for any part of it. Students who have received credit for a similar course, such as that offered under the same number and title in the summers of 1961 and 1962, also are eligible.

Applications for admission to this program are to be made on a special form (see below) unless the student is electing a unit or more as a part of a Summer School program. Application in advance is strongly recommended. Applicants will receive notification of acceptance accompanied with registration forms and application forms for rooming facilities. Final registration of participants, other than persons registered in the six-week Summer School, will take place at the first class meeting of the class for each unit of the program.

Tuition will be \$25 per credit hour. Partial scholarships (not to exceed one-half of tuition) are available for a limited number of home economics teachers in New York State. Applications for scholarships must be received by May 10.

For further information and application forms address: Director, Home Economics Education, 115 Day Hall, Cornell University, Ithaca, New York.

\* H.E. Ed. 456a. **CURRENT DEVELOPMENTS AND HOME ECONOMICS EDUCATION.**

(G) 1-4 hours credit. *July 1 to 26.* Lecture and discussion, M T W F 1-4:30, July 1

to 5; M T W Th F 1-3:30 for the remaining weeks. Van Rensselaer 124. Misses CLARKE, CADDY, DAVEY, WELLS, and other consultants.

Emphasis for 1963 is on recent research concerning family housing, and suggestions for teaching this area at various levels. In each unit, attention will be given to one topic as follows: July 1-12, social and economic aspects

of family housing; July 15-19, interior design of the home; July 22-26, management in the home.

Class meetings will be devoted to presentation of subject matter followed by discussion and illustration of teaching methods and materials. Fee, \$1 per credit hour.

## HOTEL ADMINISTRATION

**JUNE 24-AUGUST 10**

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.

## READING AND STUDY SKILLS PROGRAM

**For College Students: July 1-August 2**

**For Secondary School Students: July 8-August 2**

### 1. FOR COLLEGE STUDENTS

Opportunity is provided for students in the Summer School to include instruction leading to improvement in reading ability and development of better study skills as a part of their Summer School program. (For description of content, see Ed. 7u, page 27.)

Registration will take place at the same time and in the same manner as for the regular Summer School. Tuition for the course is \$52.50.

For further information, address Professor Walter Pauk, 101 ILR Building E, Cornell University, Ithaca, New York.

### 2. FOR HIGH SCHOOL STUDENTS PREPARING FOR COLLEGE

To help students become better prepared for college classwork and study assignments, an intensive four-week program in reading, writing, study skills, and discussion skills will be offered to high school students who will have finished their junior or senior years in June, 1963, and who plan to go to a college or university.

The course will be limited to students who live within commuting distance. No provisions can be made for residence on the Cornell campus. Class meetings will be held Monday through Friday from 9 to 12.

Tuition and fee is \$120.

For further information and application form, address: Director, Reading and Study Skills, 115 Day Hall, Cornell University, Ithaca, New York.

## SCHOOL FOOD SERVICE

### JULY 15-26

A two-week intensive program for members of the American School Food Service Association and persons with similar qualifications who desire assistance in improving the administrative and operating phases of the lunch program in their schools or in comparable institutions.

Tuition is \$25 per credit hour. The Summer Session general fee of \$5 per week is in addition.

For further information and application forms, address: Director, School Food Service Program, 115 Day Hall, Cornell University, Ithaca, New York.

**IM 351u. SCHOOL LUNCH MANAGEMENT.** (U,G) 2 hours credit. M T W Th F 9-12. Van Rensselaer G62. Miss BURGOIN.

Especially designed for school lunch managers and supervisors concerned with increasing responsibilities of management. Basic policies and theory of management, research findings affecting school food service, control technique, and planning developments which influence efficiency of management will be emphasized.

**IM 359u. READINGS IN INSTITUTION MANAGEMENT.** (U,G) 1 hour credit. M T W Th F 2-3:30. Van Rensselaer G62. Miss CUTLAR.

A critical review of literature in institution management with emphasis on those areas especially applicable to school food service.

## SHELL MERIT FELLOWSHIP PROGRAM

### JUNE 27-AUGUST 9

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.

**Chem. 99. PROBLEMS IN CHEMICAL EDUCATION.** (U,G) 3 or 4 hours credit. Registration restricted to Shell Merit Fellowship holders. Lectures, M T W F 10-11:50 and Th 8-9:50. Laboratory, M T 2-4:30 for those who elect 4 hours credit. Mr. REYNOLDS.

**Educ. 226P. SEMINAR IN SCIENCE AND MATHEMATICS TEACHING.** (U,G) 2 or 3 hours credit. Registration restricted to Shell Merit Fellowship holders. Lectures, M T W F 8-9:30 and Th 10:30-11:50. Laboratory, M T 2-4:30 for those who elect 3 hours credit. Fields trips. Th afternoons. Messrs. JOHNSON and GEISELMANN.

**Math 223. BASIC CONCEPTS OF SECONDARY SCHOOL MATHEMATICS.** (U,G) 3 or 4 hours credit. Registration restricted to Shell Merit Fellowship holders. Lectures, M T W F 10-11:50 and Th 8-9:50. Laboratory, M T 2-4:30 for those who elect 4 hours credit. Mr. DISSINGER.

**Phys. 105. TOPICS IN PRESENT-DAY PHYSICS.** (U,G) 3 hours credit. Lecture, M T W F 10-11:50 and Th 8-9:50. Laboratory, M T 2-4:30 for those who elect 4 hours in physics. Mr. LEVINGER.

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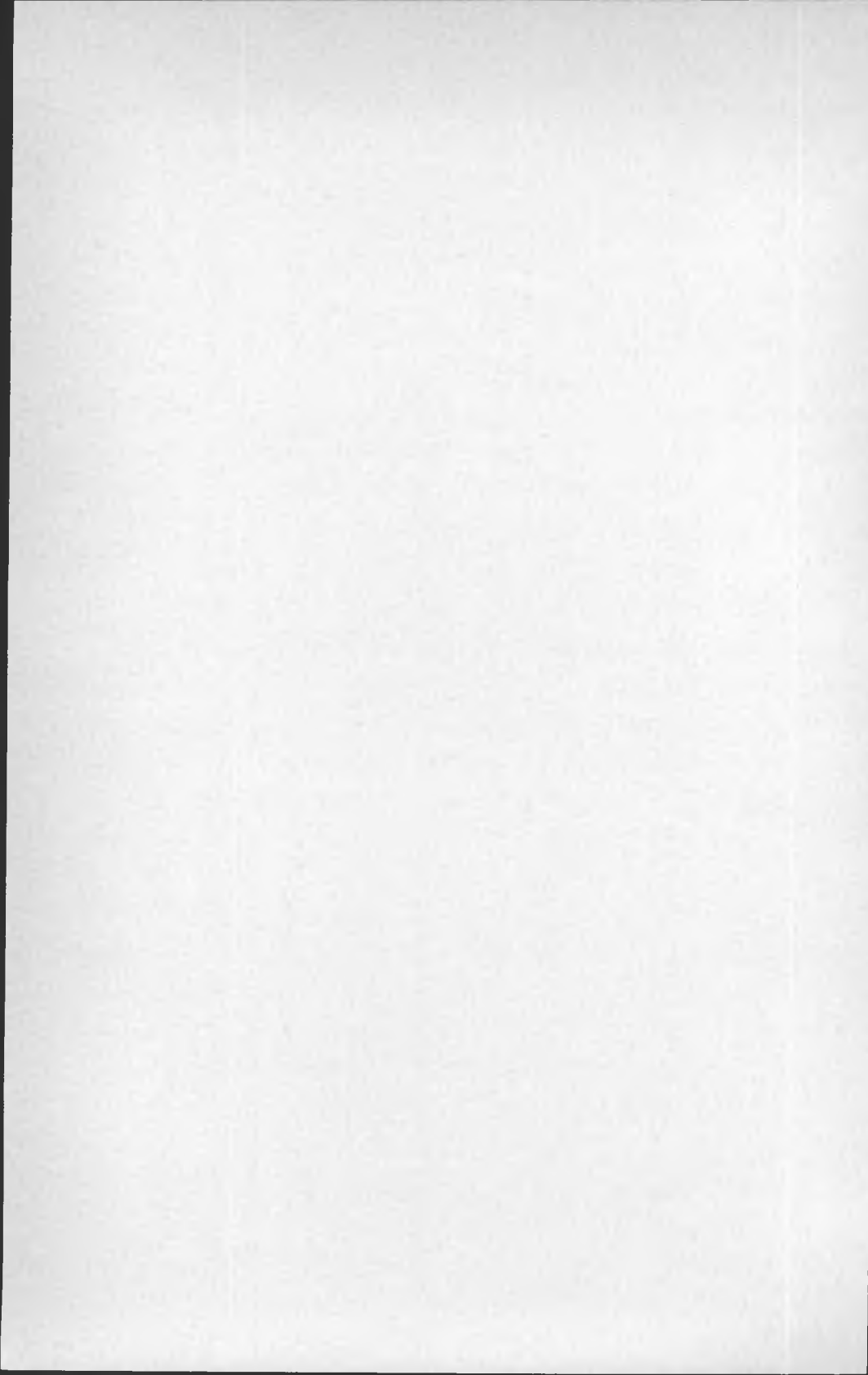
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## FOR GRADUATE and SPECIAL STUDENTS ONLY

Request additional forms from:

Director of Summer Session  
115 Day Hall, Cornell University  
Ithaca, New York

### CORNELL UNIVERSITY SUMMER SESSION—1963

#### APPLICATION FOR ADMISSION AND COURSE PROGRAM

Mail this application to the Director of the Summer Session, 115 Day Hall, Cornell University, Ithaca, New York, by June 15 to assure place in the classes.

#### GRADUATE AND SPECIAL STUDENTS

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.).....

#### PREREGISTRATION FOR COURSES

The courses listed below must be chosen from the *Announcement of the Summer School, 1963* (not the Preliminary Announcement). List courses carefully, indicating the departmental abbreviation, the 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. Abbrev.	Course No.	Course Title	Credit Hours	Meeting Time
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.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

(Leave the following spaces blank)

Received	Recorded	Sent

## ACADEMIC BACKGROUND

Please check the appropriate item to indicate your highest level of academic preparation, and name the institution.

☐ High School Graduate

☐ Undergraduate—institution attended and degree if granted:

.....  
(Institution) (Location) (Degree held) (Year)

☐ Now a candidate for a graduate degree at—

.....  
(Institution) (Location) (Degree held) (Year)

☐ Holder of advanced degree from—

.....  
(Institution) (Location) (Degree sought) (Year)

Note: If you wish to become a candidate for an advanced degree at Cornell University, apply directly to the Graduate School, 125 Day Hall, as well as to the Summer Session Office. Admission to the Summer Session does not constitute admission to the Graduate School.

IF EMPLOYED IN AN EDUCATIONAL INSTITUTION, complete the following—

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

.....  
(School) (Location)

.....  
(Position and subject or grade)

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

.....  
(School or School System) (Location)

.....  
(Title or position)

## OTHER PROFESSIONAL, SCIENTIFIC, OR BUSINESS POSITION

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

.....  
(Firm or Institution)

.....  
(Location)

.....  
(Title or position)

**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, 1963* (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 20, 1963)

Director, Summer Session  
115 Day Hall, Cornell University  
Ithaca, New York

## FOR UNDERGRADUATE STUDENTS ONLY

Request additional forms from:

Director of Summer Session  
115 Day Hall, Cornell University  
Ithaca, New York

### CORNELL UNIVERSITY SUMMER SESSION—1963

#### UNDERGRADUATE APPLICATION FOR ADMISSION AND COURSE PROGRAM

(Due in Summer Session Office by June 20, 1963)

Mr.

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

Present

Mailing Address .....

Home

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

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

Name of your college 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

An undergraduate is required to register for no less than three credit hours. Programs of more than seven credit hours must be approved by the Summer Session Director. (See further explanatory statements on 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. Abbrev.	Course No.	Course Title	Credit Hours	Meeting Time
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

(Leave the following spaces blank)

Received	Recorded	Sent