

**CORNELL UNIVERSITY  
ANNOUNCEMENTS**

**MARCH 13, 1964**

**SUMMER SCHOOL  
July 1-August 14, 1964**

## 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 275-5192. The office will be open from 8 a.m. to 4:30 p.m., except Saturday, during the period of the Summer School; on Saturday the office will close at 12 noon. Professor William A. Smith is Director.

## ADMINISTRATIVE BOARD

William A. Smith, Ph.D., Director of the Summer Session and Professor of Education

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**CORNELL UNIVERSITY ANNOUNCEMENTS.** Volume 55. Number 14. March 13, 1964. 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**

**JULY 1-AUGUST 14, 1964**

**AND OTHER PROGRAMS  
OF THE SUMMER SESSION**



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# CALENDAR

## REGULAR SUMMER SCHOOL SESSION, 1964

- July 1, Wednesday* Registration for the regular Summer School session: undergraduates, 9 a.m. to 12 noon; graduates 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.
- July 2, 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.
- July 3, Friday* Last day for withdrawal from Summer School without payment of a fraction of tuition and fees.
- July 6, Monday* Last day for payment of tuition and fees at the Treasurer's Office, which closes at 4:30 p.m.
- July 10, 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 22, Wednesday* Last day for making changes in registration. *No changes will be permitted after this date except for reasons beyond the control of the student.*
- July 27, Monday* Registration for the second period of any three-week unit courses at the Summer Session Office.
- August 13, Thursday* Final examinations begin; schedule on page 19.
- August 14, Friday* Summer School ends, 4 p.m.

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

## GENERAL INFORMATION

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

This unification of the curricula and faculties of the several schools and colleges makes possible the adaptation of academic work to the special needs of students in the summer. Undergraduate courses are equivalent to required and elective collegiate courses in the academic year leading to the baccalaureate. Advanced courses, seminars, and informal study, treating topics of concern to students with special interests, are available. The program is designed with particular regard for what can be treated satisfactorily in a short term and in the summertime. The needs of teachers are met not only in the institutes, seminars, and professional courses in Education, but also in courses in a number of subject fields. A number of sessions, some of which operate concurrently with the Summer School session, are offered for students with special interests and whose attendance is limited to particular periods. For description of other sessions, see pages 45-56.

Classes in the summer provide the particular advantage of optimum size for close association between student and instructor. The median size class in the 1963 Summer School was 12 students. Seventy percent of all classes were in the size range of 5 to 18 students.

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

## ADMISSION

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

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

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



## Undergraduates

This category includes all persons who are candidates in good standing for the Bachelor's degree and those precollege, high school graduates who have been accepted for admission to Cornell University or elsewhere. No other high school students will be accepted except in certain other programs of the Summer Session described on pages 46 and 54.

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

*June 22, 1964, 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.

Fifty-seven of the sixty-one precollege high school graduates received passing grades in courses for which they were admitted. Two-thirds of these students received grades within the range of 80 to 95.

## Graduates

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

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

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

## Special Students

A mature person who is not a candidate for an academic degree will be admitted to the Summer School in courses taken for credit for vocational or personal purposes. These courses may be elected at either the graduate or undergraduate level depending on the student's background. Such a person would apply for admission by completing the "special students" application form found in the back of this Announcement or mailed on request. A "special student" may apply for admission as late as July 1 but is advised to select courses by June 15 in order to ensure a place in classes. Programs of more than eight hours of credit must have the approval of the Director of the Summer Session.

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

## Application for Admission

Application for admission to the Summer School of 1964 must be made on an application form found in the back of this Announcement. Request for an additional copy should be addressed to the Director of the Summer Session. When requesting an application, please indicate whether for undergraduate, graduate, or special student status. In most cases the information called for on this form will be sufficient.

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

## ACADEMIC CREDIT

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

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

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

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

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

## Auditors

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

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

## Credit toward Degrees at Cornell University

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

College of Agriculture: Professor J. P. Hertel.

College of Architecture: Dean Burnham Kelly.

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

College of Home Economics: The student's counselor.

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

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

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

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

## Grades

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

If a student is prevented, for medical or other reasons acceptable to the instructor, from completing the work in any course before the last day of the session, he may request the instructor to report his grade as "Incomplete." In such cases the instructor will report the mark as "Inc." *A mark of 50 will become the final recorded grade for the course if the work is not completed by January 1, 1965.* It is the student's responsibility to make such specific arrangements with his instructors. Students are not to register for any work which normally cannot be completed by the end of the Summer School term.

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

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

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

## REGISTRATION

Registration for the full Summer School session will take place on Wednesday, July 1, 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 July 1, 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 July 1 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.

Registration for *Other Programs* (see pages 45 to 56) will take place at the time and place specified for each program.

## Changes in Registration

All changes in registration after Wednesday, July 1, 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 22 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 affected by notifying the instructor of a given course. Students must appear at the Summer Session Office in order to make program changes official.*

## Withdrawal from Summer School

A student may apply for withdrawal at any time. He must come to the Summer Session Office to do so. The Treasurer may refund a part of the tuition and

general fee or cancel a part of the obligation which the student has incurred for tuition, provided the reason for withdrawal is stated in writing and is satisfactory to the Treasurer and the Registrar. The student is required to pay 20 per cent of the term's tuition and general fee for each week or fraction of a week between the first registration day and the date of his certificate of withdrawal. There is no charge if withdrawal is made by Friday, July 3.

## **TUITION AND FEES**

Tuition and fees are due and payable at the Treasurer's Office in Day Hall on registration day, July 1. The last day for payment without penalty is Monday, July 6. 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 \$37.50 per credit hour. Summer School students permitted to elect one or more courses from a Special Program of the Summer Session (see pages 45-56) will be charged at the \$37.50 rate per credit hour.

### **Fees and Deposits**

All students in the Summer School session will pay, in addition to tuition, a general fee of \$5 per week which entitles them to health and infirmity 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 10 must pay a \$10 fee. *No change in program will be permitted after 4 p.m. on July 22 except for reasons beyond the control of the student.*

### **Graduate Registration Deposit**

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

### **Other Regulations Concerning Fees**

Any student, graduate or undergraduate, who fails to pay his tuition, fees, and other indebtedness, or, if entitled to free tuition fails to claim it at the Treasurer's Office and pay his fees within the time prescribed by the University, will be dropped from the University. When in his judgment the circumstances

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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 applicant is a regular full-time student at Cornell and his Summer School program has the full approval of his faculty adviser, he will be considered for loan assistance.

There are no general University scholarships for Summer School study.

### **Cashing of Checks**

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

## **THE GRADUATE SCHOOL**

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

### **Credit for Advanced Degrees**

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

A program of six or more credit hours in the Summer School session, approved in advance and reported as acceptable by the Special Committee, is counted as

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

## Admission

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

## Registration Deposit

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

## Registration

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

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

Candidates registered in the Summer School who were not registered in the preceding spring term, but who expect to 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

### Housing

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

### UNDERGRADUATE WOMEN

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

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 accommodations in a graduate residence hall or make arrangements to live off campus.

The rates for the Summer School period are \$66 for single and \$48 per person for double accommodations. For periods of three weeks or less the rates are \$12 single and \$9 double per person per week or part of a week. All rates cover the cost of room only. 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 30, at 3 p.m.; they will close at 2 p.m., Saturday, August 15. *Earlier or later occupancy will not be possible under any circumstances.*

#### APPLICATIONS FOR ROOMS

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

#### ASSIGNMENTS

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

#### ROOM DEPOSITS

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

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

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

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

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

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

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

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

## Dining Services

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

## HEALTH SERVICES

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

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

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

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

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

## Clinic Hours

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

Physicians are on duty 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 Ganett 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 275-3493, when the clinic is open, or Ithaca 272-6962 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 reference materials will be found in the various college, school, and department libraries. The Reference Department of the Olin Library and the library staffs of the college, school, and department libraries are prepared to assist students in the effective use of the libraries and in the location of research materials.

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

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

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

## **SPECIAL REGULATIONS**

### **Conduct and Scholarship**

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

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

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

### **Automobile Regulations**

The University does not encourage student use of automobiles but recognizes that in certain cases there may be important reasons why a student needs an automobile. Any person registered in a program of the Summer Session who owns, maintains, or for his 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 Martha Van Rensselaer Cafeteria, and in Noyes Lodge. Students are advised to secure copies regularly.

## **EXTRACURRICULAR ACTIVITIES**

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

### **Willard Straight Hall**

The student center of Cornell University provides meal service, snacks for late afternoon and evening, lounges, rooms for student meetings, the University Theatre, a billiard and game room, a barber shop for men, a browsing library well stocked with books, periodicals and newspapers, a craftshop, a music room, and an art lounge. On the upper floors of the Hall are sleeping rooms used principally by parents and guests of students, by alumni, and by guests of the University.

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

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

## 16 SUMMER SCHOOL

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 five Thursday evening concerts. The dates are July 9, 16, 23, 30, and August 6. All concerts begin at 8:15 p.m. Performing artists will be announced.

### Religious Services

#### SAGE CHAPEL

Religious services are held in Sage Chapel throughout the academic year with visiting clergymen of various denominations preaching. During the Summer School period a similar series is provided in the chapel at 11 a.m. on the six Sundays, July 5–August 8, 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, with offices in Anabel Taylor Hall, may be reached through the CURW Information Office, Room 118, Extension 4214.

#### SUMMER SCHOOL CHOIR

Music for the Sage Chapel services is provided by the Summer School Choir 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. Admission is free.

### Summer Theatre

A resident producing company under the direction of the University Theatre staff will again offer two series of weekly dramatic presentations stressing varied trends in playwriting and production modes. In 1963 the series consisted of Christopher Fry's *The Lady's Not for Burning*, John Dos Passos' *U.S.A.*, Bertolt Brecht's *Galileo*, James Joyce's *Ulysses in Nighttown*, and Augustin Daly's *Under the Gaslight*. Performances are given in Drummond Studio, Lincoln

Hall, and in the University Theatre, Willard Straight Hall. Dates of the performances, for which admission is charged, appear in the *Weekly Bulletin*.

Although the resident company forms the nucleus for Summer Theatre presentations, acting and production opportunities are open to students regularly enrolled in the Summer Session. The Summer Theatre program is related to course offerings in the Department of Speech and Drama (see page 44), and students enrolled in Speech and Drama 383, Theatre Practice, 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, Lincoln Hall, Cornell University, Ithaca, New York, 14850.

## Films

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

## Art Exhibits

### ANDREW DICKSON WHITE MUSEUM OF ART

Cornell's White Art Museum presents many loan exhibitions in addition to housing the University art collection.

During the summer of 1964, as in past summers, outstanding loan exhibitions will be on view. Visitors will also find displayed selections from the Museum's Asian art and graphics collections, as well as painting and sculpture from the permanent collection.

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

### FRANKLIN ART GALLERY

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

### VAN RENSSELAER ART GALLERY

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

## Sports

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

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

## 18 SUMMER SCHOOL

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

### GRUMMAN SQUASH COURTS

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

### SWIMMING

Swimming facilities in Teagle Hall pool will be available for male students Monday through Friday each week on a schedule to be announced. Students will be admitted upon presentation of official Summer Session Registration Certificate. 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. Glen Davis, 275-3557 or 275-3475.

### PRIVATE LESSONS

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

**TENNIS.** Hours to be arranged. Call Mr. Alf Ekman, 275-3653 or 272-8303.

**GOLF.** Hours to be arranged. Call Mr. George Hall at the University Golf Course, 275-3361.

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

## Summer-Ithaca

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



# CURRICULUM

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

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

COURSES REQUIRING LABORATORY OR OTHER FEES are marked by asterisks.

CLASS SCHEDULES . . . In most courses of instruction, classes will meet five times a week, on each weekday except Saturday. Unless otherwise specified, all courses extend through the regular six-week session, July 1—August 14.

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 13, and Friday, August 14, at the hours indicated by the schedule below. The usual classrooms will be used unless a change is announced by the instructor. In courses in which no examination is to be given, an announcement to that effect will be made by the instructor; in such cases, the last meeting of each course will be held in the examination period for that course.

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

*Examinations will be held as follows:*

8 o'clock classes, Thursday at 8.

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

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

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

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

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

## AGRICULTURAL ECONOMICS

(See Other Programs, page 47.)

## AGRICULTURAL EDUCATION

(See Other Programs, page 47.)

## AGRICULTURAL ENGINEERING

(See Other Programs, page 47.)

## ANIMAL HUSBANDRY

(See Other Programs, page 47.)

## ANTHROPOLOGY

**Anthro. 301. CULTURAL ANTHROPOLOGY.** (U,G) 4 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 221. Mr. LANG.

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. 413. THEORY OF CULTURE CHANGE.** (U,G) 4 hours credit. M T W Th F 11-12:15. Goldwin Smith 221. Mr. LANG.

A study of the various theories of cultural change and their relevance to the ongoing social process; an analysis of such concepts as innovation, diffusion, and acculturation in relation to culture change theory; a consideration of factors involved in maintaining stability or stimulating change in nonindustrialized cultures.

## ART

### Drawing, Painting, and Sculpture

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 10. WATER COLOR PAINTING.** (U,G) 3 hours credit. Open to all students. M T W Th F 8-10. Franklin 325. Mr. EVETT.

Instruction in various water media, including water color, sumi ink, and gouache.

**Art 11. ADVANCED PAINTING.** (U,G) 3 hours credit. Open to advanced students only. M T W Th F 10-12. Franklin 216. Mr. OLIVEIRA.

The course permits the student to develop his own inclinations while giving him an opportunity to have a close contact with a visiting critic-painter.

**Art 12. FIGURE DRAWING.** (U,G) 3 hours credit. Open to all students. M T W Th F 10-12. Franklin 316. Mr. EVETT.

Study from the model in a variety of media: pencil, ink, and crayon.

**Art 13. INTERMEDIATE PAINTING.** (U,G) 3 hours credit. Open only to students with previous painting experience. M T W Th F 8-10. Franklin 224. Mr. OLIVEIRA.

Individual instruction and group criticism.

**Art 14. BEGINNING PAINTING AND DRAWING.** (U,G) 3 hours credit. Open to all students. M T W Th F 8-10. Franklin 200. Mr. DALY.

A beginner's course requiring no previous experience. The fundamentals of color and design will be used creatively in simple pictorial presentation. These presentations will progress from the simple to the more complex. Lectures and discussions, individual and group criticisms.

**Art 16. LANDSCAPE PAINTING.** (U,G) 3 hours credit. Open to all students. M T W Th F 10-12. Franklin 200. Mr. DALY.

Studio and outdoors painting dealing with a study of spatial and color relations in landscape painting.

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

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. Foundry. Mr. Ross.

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

(See also *Other Programs*, page 56.)

## History and Appreciation

**Hist. of Art 204. INTRODUCTION TO RENAISSANCE AND MODERN ART.** (U,G) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 24. Mr. WAAGE.

A survey of the more important paintings and sculptures by the major artists in Europe and the United States from about A.D. 1400 to the present. Those artists will be treated

who have proved to be the most pioneering and inventive and who therefore have had the greatest influence upon the subsequent course of art. The purpose is not only to make the student aware of this influence but, even more, to acquaint him with the individual styles of these masters so that he can identify their works upon sight. No practice of art is involved.

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

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

## BACTERIOLOGY

**\*Bact. 101. 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. CHURCH.

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

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

**\*Bact. 106. 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. CHURCH.

The laboratory part of Course 101. 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.

## BIOLOGY

**\*Biology 305. LABORATORY METHODS IN BIOLOGY.** (U,G) 3 hours credit. Prerequisites, Biology 102, Botany 102, or Zoology 102 or 104 or their equivalents. Lecture and laboratory. M T W Th F 8-10:45. Roberts 302. Mr. UHLER.

For students who intend to teach or follow some phase of biology as a profession. Subjects

covered: collection, preservation, and storage of biological specimens; the preparation of bird and mammal skins for study; injection of the blood vessels of the frog; clearing and staining of small vertebrates; and the preparation and staining of squashes, smears, whole mounts, and sections. Fee, \$10.

## BOTANY

**\*Bot. 101u. INTRODUCTORY BOTANY.** (U,G) 3 hours credit. *July 1-July 24.* 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.

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

**\*Bot. 102u. INTRODUCTORY BOTANY.** (U,G) 3 hours credit. *July 27-August 14.* 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. Miss THOMAS and assistant.

Botany 102 is concerned with the phyla of plants, with representative life cycles, and

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

**\*Bot. 471. SPECIAL PROBLEMS IN BOTANY.** (U,G) 2 or more hours credit. Individual time of lectures and/or laboratories to be arranged. Members of the staff of the Department of Botany.

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

## CHEMISTRY

**\*Chem. 103u. INTRODUCTION TO CHEMISTRY.** (U) 3 hours credit. *July 1-July 24.* 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. Recommended for students who have not had high school chemistry and for those desiring a more elementary course than Chemistry 107-108. If passed with a grade of 70, this course serves as prerequisite for Chemistry 205 or Chemistry 353.

An introduction to chemistry with emphasis on the important principles and facts of inorganic and organic chemistry. Registration permitted only to students who register also for 104u. Texts: C. H. Sorum, *Fundamentals of General Chemistry* (2d ed.); A. W. Laubengayer, *Experiments and Problems in General Chemistry*. Fee, \$7.50.

**\*Chem. 104u. INTRODUCTION TO CHEMISTRY.** (U) 3 hours credit. *July 27-August 14.* Lectures and recitations, M T W Th F 8-10.

Baker 207. Laboratory, daily 10-1. Baker 150. A continuation of Chemistry 103u. Chemistry 103u or its equivalent is prerequisite for Chemistry 104u. Fee, \$7.50.

**\*Chem. 205. QUALITATIVE INORGANIC ANALYSIS AND IONIC EQUILIBRIUM.** (U, G) 4 hours credit. Prerequisite, Chemistry 104 with a grade of 70 or better, or its equivalent. Lectures, M T W Th F 12-1. Baker 7. Labora-

tory, any three hours daily between 8 and 12. Baker 50. Mr. HESTER.

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

**\*Chem. 236. INTRODUCTORY QUANTITATIVE ANALYSIS.** (U,G) 4 hours credit. Prerequisite, Chemistry 205 or 108 or 116 or their equivalent. Required of candidates for the degree of A.B. with a major in chemistry. Lectures, M T W Th F 8. Baker 206. Laboratory, any three hours daily between 9 and 1. Baker 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 104 or 108 or 116, Mathematics 293, and Physics 223 or 225 or 227 or their equivalent. Lectures, M T W Th F 8-9:15. Baker 177. Mr. LIND.

A brief survey of physical chemistry for engineering students.

**Chem. 353. ELEMENTARY ORGANIC CHEMISTRY.** (U,G) 4 hours credit. Prerequisite, Chemistry 104 at a grade of 70, or 108, or 116 or their equivalent. 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, Johnson and Wilcox, *Laboratory Experiments in Organic Chemistry* (5th ed.). Fee, \$15.

## CONSERVATION

(See Other Programs, pages 49, 50.)

## ECONOMICS

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

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

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

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

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

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 8-9:15. Goldwin Smith 234. Mr. BRONFENBRENNER.

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. 325u. ECONOMIC HISTORY OF LATIN AMERICA.** (U,G) 2 hours credit. July 31-August 14. Prerequisite, Economics 103 and 104 or their equivalent. Open only to persons registered for or having completed Economics 565. M W F 2-4. Goldwin Smith 256. Mr. DAVIS.

This course focuses upon: The economy of the Inca Empire, economic development in the colonial era, the economic basis of the wars of revolution, the export economies of the "liberal" 19th century, protection and the growth of the import substitution of the 20th century.

**Econ. 331. MONEY, CREDIT, AND PUBLIC POLICY.** (U,G) 3 hours credit. Prerequisite, Economics 103-104 or their equivalent. M W F 11-12:50. Goldwin Smith 260. Mr. KHAZZOOM.

A study of the American financial system with emphasis on the roles played by commercial banks, the federal reserve system, and selected related financial institutions. Monetary, credit, and financial controls influencing general economic stability will be examined.

**Econ. 361. INTRODUCTION TO INTERNATIONAL ECONOMIC THEORY AND POLICY.** (U,G) 3 hours credit. Prerequisite,

## 24 SUMMER SCHOOL

Economics 103-104 or their equivalent. M T W Th F 11-12:15. Goldwin Smith 264. Mr. MOORE.

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

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

**Econ. 417. INTRODUCTION TO MATHEMATICAL ECONOMICS.** (U,G) 3 hours credit. Prerequisite, Economics 311 and consent of the instructor. M W F 2-3:50. Goldwin Smith 234. Mr. KHAZZOOM.

Application of elementary mathematical techniques to economic analysis.

**Econ. 565u. CURRENT ECONOMIC PROBLEMS OF LATIN AMERICA.** (U,G) 4 hours credit. Prerequisite, Economics 103 and 104 or their equivalent. M W F 2-4 and conference periods to be arranged. Lectures terminate July 29. A term paper treating one of the five principal issues during the progress of the course is required. Goldwin Smith 256. 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. WALTER AMBINDER, Assistant Professor of Educational Psychology, Wayne State University, Detroit, Michigan.

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

Dr. ROBERT KING HALL, International Consultant in Education, Villars-sur-Ollon, Switzerland.

Dr. JOSEPH JUSTMAN, Bureau of Education Program Research Statistics, Board of Education, Brooklyn, New York.

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

Mr. JOHN A. LINDLOF, University of Maine, Orono.

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

Dr. ANNE PHILLIPS MCCREARY, Assistant Professor of Elementary Education, College of Education, University of British Columbia, Vancouver, Canada.

## Administration and Supervision

**R.E. 561. THEORY AND PRACTICE OF ADMINISTRATION.** (G) 3 hours credit. M T W Th F 8-9:15. Conference Room, 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. This course is required for certification in administration.

**R.E. 562. SECONDARY SCHOOL PRINCIPALSHIP.** (G) 3 hours credit. M T W Th F 11-12:15. Conference Room, 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. This course is required for certification as a secondary school principal.

**R.E. 564. SCHOOL FINANCE AND FACILITIES.** 3 hours credit. M T W Th F 11-12:15. Warren 37. Mr. MASON.

Typical problems: how local school funds are levied, collected, and disbursed; budget making; bonding; state funds and their distribution; planning, utilization, and upkeep of school facilities. This course may be used for certification in administration.

**Ed. 567. SCHOOL LAW FOR ADMINISTRATORS AND TEACHERS.** (G) 3 hours credit. M T W Th F 8-9:15. Warren 132. 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. This course may be used for certification for administration.

## Agricultural Education

(See Other Programs, page 47.)

## Educational Psychology and Measurement

**R.E. 417. PSYCHOLOGY OF ADOLESCENCE.** (U,G) 2 hours credit. M T W Th F 8. Warren 101. Mr. MINK.

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

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

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

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

**Ed. 555. USE AND INTERPRETATION OF TESTS IN GUIDANCE AND PERSONNEL ADMINISTRATION.** (G) 3 hours credit. Lectures M T W Th F 8. Laboratory, third hour to be arranged. Warren 160. Mr. ANDRUS.

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

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

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

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

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

**R.E. 548. IMPROVEMENT OF READING INSTRUCTION IN THE ELEMENTARY SCHOOL.** (G) 3 hours credit. M T W Th F 11-12:15. Warren 160. Miss McCREARY.

Open to experienced teachers, supervisors, reading specialists, or curriculum consultants. Recent developments in research, linguistics theory, and the psychology of reading will be studied. Materials and techniques for instruction and diagnosis will be considered, with emphasis on developmental reading.

**Sp. & Dr. 201. PUBLIC SPEAKING.** (See page 43).

**Sp. & Dr. 231. SPEECH FOR THE CLASSROOM TEACHER.** (See page 44).

**Sp. & Dr. 234. SURVEY OF SPEECH DISORDERS.** (See page 44.)

## Extension and Adult Education

**R.E. 512. APPLICATIONS OF PSYCHOLOGY TO PROBLEMS OF EXTENSION EDUCATION.** (G) 3 hours credit. M T W Th F 11-12:15. Warren 232.

For students with experience in agricultural or general university extension programs, programs of rural development, or other forms of adult education. Emphasis will be on application of relevant insights from educational psychology, social psychology, and communications theory to problems of informal adult education.

*Note: Other courses appropriate to the needs of Extension and Adult Education personnel are listed under Educational Administration, Home Economics Education, Sociology, Industrial and Labor Relations, and Research and General.*

(See Other Programs, page 47.)

## Guidance and Personnel Administration

**R.E. 582. EDUCATIONAL AND VOCATIONAL GUIDANCE.** (G) 2 hours credit. M T W Th F 11. Warren 101. 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. 583. COUNSELING.** (G) 2 hours credit. M T W Th F 9. Prerequisite, an introductory course in guidance and a course in testing. Warren 101. Mr. BRESEE.

Primarily for graduate students who wish to become certified as counselors. Principles and techniques of counseling with individuals concerning various kinds of educational, vocational, and social adjustment problems.

**R.E. 585. OCCUPATIONAL AND EDUCATIONAL INFORMATION.** (G) 4 hours credit. M T W Th F 11. Additional hour arranged. Field trips and workshop periods, T and Th 2-4:15. Warren 260. Mr. NELSON.

Survey and appraisal of occupations and educational institutions, study of sources of information used in counseling, job analysis, vocational trends. Field trips to places of employ-



ment. Required for provisional certification in guidance.

**R.E. 587. PRACTICUM IN MEASUREMENT AND APPRAISAL FOR COUNSELORS.** (G) 2 hours credit. Prerequisites, R.E. 582, 583, 555, or their equivalents. M T W Th F 10. Warren 101. Mr. ANDRUS.

An advanced course in the use of tests and test results in the psychological appraisal of individuals. Emphasis will be placed upon analysis of testing programs, intensive examination of selected standardized tests, and laboratory experience in interpreting test results. Designed to meet the New York State permanent certification requirement for guidance counselors.

*See also course offerings in Educational Psychology and Measurement, Mental Health, and Psychology. See also Other Programs, page 54.*

*Guidance courses tentatively scheduled for the Summer Session of 1965: Educational and Vocational Guidance, Group Techniques in Guidance, Organization and Administration of Guidance Programs, Case Studies in Counseling.*

## History and Philosophy of Education

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

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

**R.E. 574. HISTORY OF EDUCATION IN THE MODERN PERIOD.** (G,U by permission) 3 hours credit. M T W Th F 11-12:15. Warren 132. Mr. HALL.

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

**R.E. 578. COMPARATIVE EDUCATION.** (G,U by permission) 3 hours credit. M T W Th F 8-9:15. Warren 260. Mr. HALL.

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.

## 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. 459. EVALUATION.** (G) 3 hours credit. M T W Th F 9:30-10:45. Van Rensselaer East Wing 5. Miss HELTZEL.

For high school school and college teachers, administrators, and extension agents; 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.

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

**H.E. Ed. 531u. PROGRAMED INSTRUCTION FOR HOME ECONOMICS TEACHERS.** (See page 52.)

## Reading and Study Skills

**\*Ed. 7u. COLLEGE READING AND STUDY SKILLS.** (U.G) Noncredit. July 6-August 7. M W F 2 or 3. Reading-Study Center IIR Building E, Mr. ENGLISH.

The aim is the improvement of reading and study skills. In the area of *study skills*, students receive instruction on how to read and master the textbook assignments, to take notes on textbooks and lectures, to prepare for and take examinations, and to schedule their time. In the area of *reading*, students learn to im-

prove both their reading comprehension and reading speed. Comprehension topics include: how to recognize organizational patterns; how to distinguish organizational patterns; how to distinguish main ideas from supporting materials; how an author clarifies his organization through the use of transitions, introductions, and summaries; how to determine the author's tone and intention; and how to detect bias. Also, 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 ILR Building E, Cornell University, Ithaca, New York, 14850.

(See also *Other Programs*, page 54.)

## Science Education

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

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

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

(See also *Other Programs*, page 45.)

## 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 and philosophy of education, and guidance.

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

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

**Ed. 440S. 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. Aims, methods, materials, and curriculum problems involved in social studies teaching are emphasized. Experienced teachers who wish to work on a related question independently may enroll with the consent of the instructor.

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

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

**Ed. 445. THE TEACHING OF READING AND STUDY SKILLS IN THE SECONDARY SCHOOL.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. Ives 218. Mr. PAUK.

For all teachers, administrators, and supervisors. The psychology, philosophy, and pertinent research in developmental reading will be explored. Practical teaching methods and sample materials for classroom use will be demonstrated and discussed.

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

A study of educational programs for young adolescents in light of the history, status, and philosophy of the junior high school. Examines organizational patterns such as block-time and

core, ungraded programs, and team teaching, and surveys current developments in subject fields, guidance, and extracurricular programs at the junior high level.

**R.E. 545. THE CURRICULUM OF AMERICAN SCHOOLS.** (G) 3 hours credit. M T W Th F 9:30-10:45. Warren 260. Mr. VARS.

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.

(See also *Other Programs*, page 45.)

## Research and General

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

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

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

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

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

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

Limited to graduate students registered in the endowed division of the School of Education.

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

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

## Other Programs for Teachers

Advanced Placement Workshop in English (see page 45).

Agricultural Education (see page 47.)

Area Study Programs for Secondary School Teachers (see page 48).

Field Studies in Natural Resources Conservation (see page 50).

Financial Institutions Seminar (see page 50).

Home Economics Education (see page 51).

Food and Nutrition (see page 51).

Household Economics and Management (see page 52).

Institution Management (see pages 52, 53).

School Drop-out Workshop (see page 54).

Textiles and Clothing (see page 53).

## ENGINEERING

### Civil Engineering

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

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 49.)

### Engineering Mechanics

**Engr. 212. MECHANICS OF RIGID AND DEFORMABLE BODIES II.** (U) 4 hours credit.

Prerequisite, 211 or equivalent. Lectures and recitations, computing-laboratory, M T W Th F, 11-12:15, T Th 2-4:30. Thurston 203.

Inelastic behavior: Energy methods in me-

chanics. Principles of particle dynamics. Theory of oscillations. Kinematics of rigid body motion. Dynamics of systems of particles. Kinetics of rigid bodies. Text: Beer and Johnston, *Vector Mechanics for Engineers: Dynamics*.

## 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 124. Miss FISHER.

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

**Lit. 202. MASTERWORKS OF WESTERN LITERATURE.** (U) 3 hours credit. May be taken concurrently with Lit. 201. M T W Th F 11-12:15. Goldwin Smith 124. Miss FISHER.

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

**Engl. 251. GREAT ENGLISH WRITERS.** (U) 3 hours credit. M T W Th F 1:30-2:45. Goldwin Smith 162. Mr. FERRIS.

Studies in selected works of great English writers from Chaucer to Blake.

**Engl. 252. GREAT ENGLISH WRITERS.** (U) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 164. Mr. READ.

A critical and historical survey of great English writers from Wordsworth to Yeats.

**Engl. 333. MAJOR AMERICAN WRITERS OF THE NINETEENTH CENTURY.** (U,G) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 156. Mr. SAMUELS.

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

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

Careful study of shorter forms of fiction: Kafka, Joyce, Chekhov, Gogol, Faulkner, and others.

**Engl. 368. SHAKESPEARE.** (U,G) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 128. Mr. SMITH.

An introduction to Shakespeare based on interpretations of twelve to fifteen of the plays.

**Engl. 371. MILTON.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 164. Mr. READ.

Intensive study of Milton's poetry and selected prose. Special attention to *Paradise Lost* as culmination of Milton's development and achievement.

**Engl. 385. CREATIVE WRITING.** (U,G) 3 hours credit. Prerequisite, previous work in creative writing, or consent of the instructor. M T W Th F 9:30-10:45. Goldwin Smith 160. Mr. KATZ.

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

**Engl. 388. THE WRITING OF POETRY.** (U,G) 3 hours credit. Prerequisite, a previous course in creative writing, or consent of the instructor. M T W Th F 9:30-10:45. Goldwin Smith 162. Mr. RAY.

The techniques of poetry; study of models; criticism of students' poems.

**Engl. 413. THE EIGHTEENTH-CENTURY NOVEL.** (U,G) 3 hours credit. M T W Th F 8-9:15. Goldwin Smith 162. Mr. RAY.

Examination of selected novels by Defoe, Richardson, Fielding, Smollett, Sterne, and Goldsmith.

**Engl. 419. MAJOR VICTORIAN AUTHORS.** (U,G) 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 162. Mr. FERRIS.

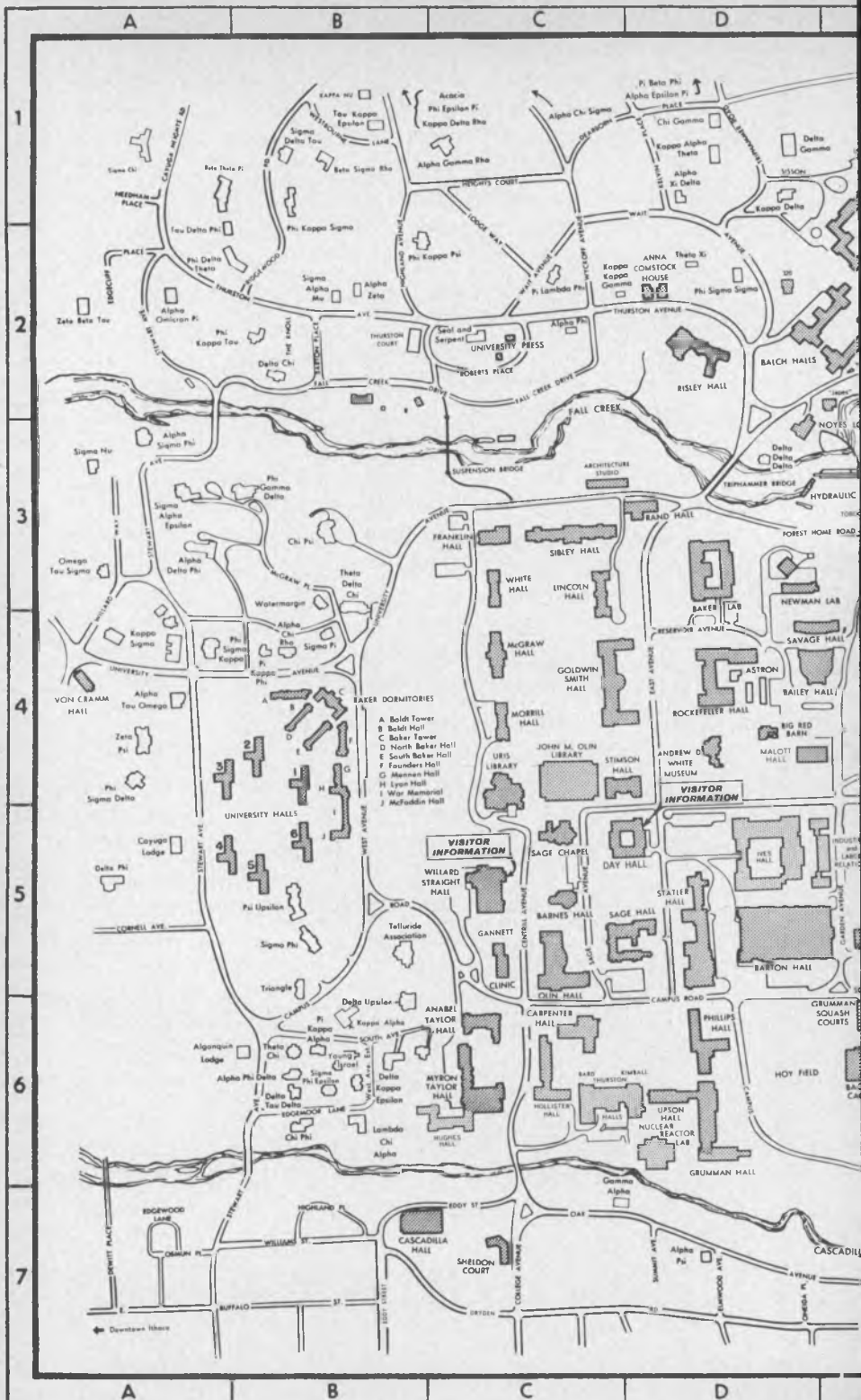
Primarily a critical study of selected major works by three authors: the poetry of Tennyson, the novels of Dickens, and the prose of Arnold. Supplementary reading in other authors.

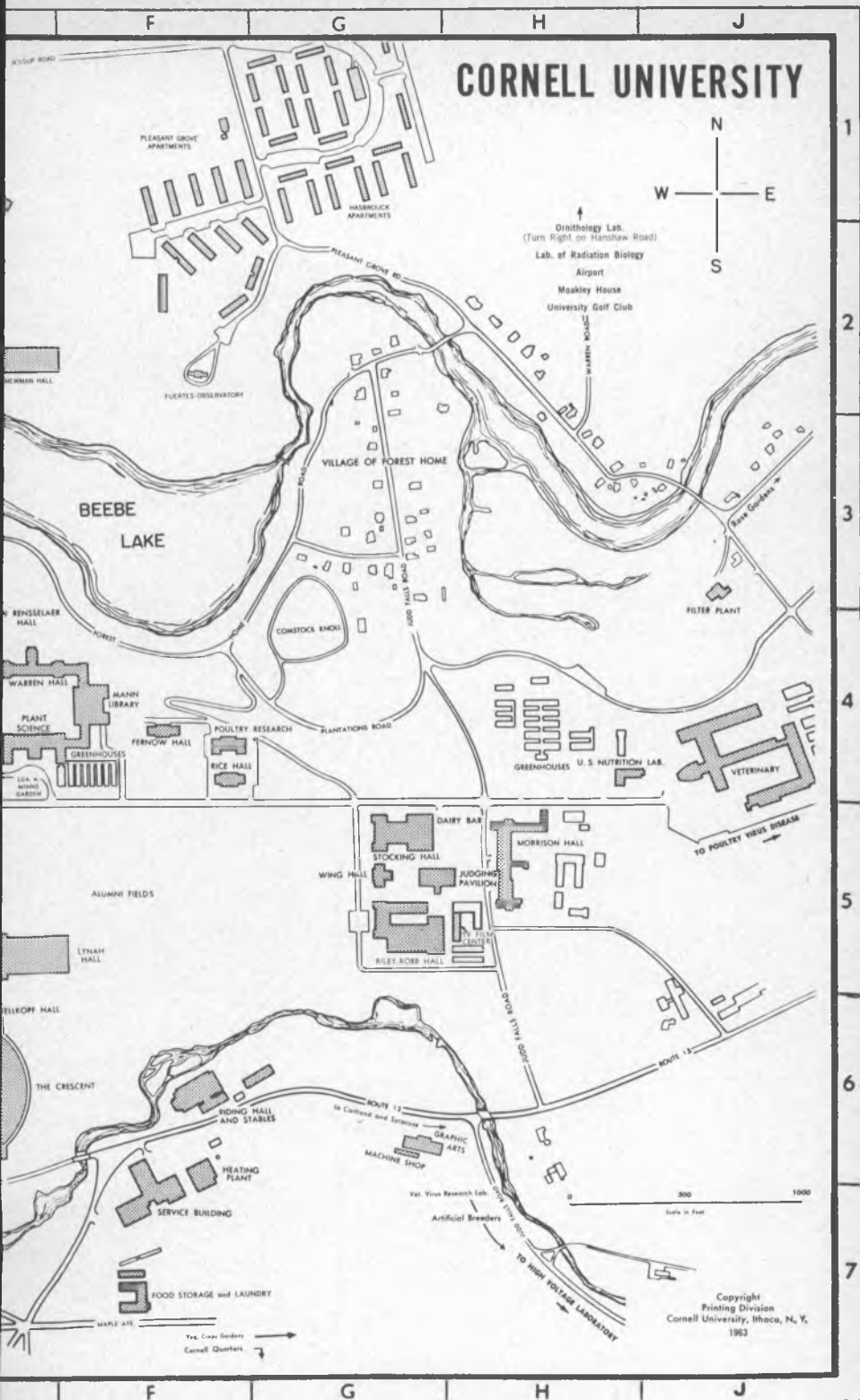
**Engl. 439. STUDIES IN THE NOVEL.** (U,G) 3 hours credit. M T W Th F 1:30-2:45. Goldwin Smith 160. Mr. SAMUELS.

Comparative critical study of James and Faulkner, concentrating on their major novels.

## KEY TO THE CAMPUS MAP ON THE PAGES FOLLOWING

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







**Engl. 449. RECENT AMERICAN POETRY.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 128. Mr. SMITH.

A critical study of poems by Frost, Pound, Eliot, Stevens, and Hart Crane, with some emphasis on the work of younger poets.

**Engl. 469. SHAKESPEARE.** (U,G) 3 hours credit. Prerequisite, an introductory course in Shakespeare, or consent of the instructor. M T W Th F 9:30-10:45. Goldwin Smith 120. Mr. FOGEL.

A study of Shakespeare's dramatic artistry in three or four plays, including one major comedy and two or three tragedies.

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

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

## FOREIGN LANGUAGES AND LITERATURES

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

Non-Cornell students who cannot submit CEEB scores must supply transcripts showing amount of language work done and report to the Division of Modern Languages for proper placement at the time of registration.

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

### French

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

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

**Fr. 151u. FRENCH.** (G) 3 hours credit. For graduate students acquiring reading proficiency. *July 1 through July 24.* 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 27 through August 14.* 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. SEZNEC.

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. 362. MAJOR NOVELISTS OF THE TWENTIETH CENTURY.** (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. SEZNEC.

Intellectual and experimental concerns of the modern French novel. Classroom discussions, oral and written reports.

### German

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

**Germ. 102. GERMAN.** (U) 6 hours credit. Students who have not completed German 101



must take the qualifying examination before registering for this course. Twenty hours of instruction each week. Morrill Hall. Mr. KUFNER and staff.

**Germ. 151u. GERMAN.** (G) 3 hours credit. For graduate students acquiring reading proficiency. *July 1 through July 24.* 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 27 through August 14.* Twenty hours of instruction each week. Morrill Hall. Mr. KUFNER and staff.

**Germ. 201. MASTERPIECES OF GERMAN LITERATURE** (U) 3 hours credit. Prerequisite, for Cornell undergraduates, qualification in German or consent of the instructor; for others, 4 years of high school German or consent of the instructor. M T W Th F 9:30-10:45. Goldwin Smith 177. Mr. BONAWITZ.

The reading and study of notable works of German literature from the middle of the 18th to the middle of the 19th century. The selections will consist of works by Lessing, Goethe, Schiller, Hölderlin, Kleist, Brentano, Eichendorff, Mörike, and Heine. The class will be conducted partly in German; German will be used more as the course progresses.

**Germ. 202. MASTERPIECES OF GERMAN LITERATURE.** (U) 3 hours credit. Prerequisite, for Cornell undergraduates, German 201; for others, 4 years of high school German or consent of the instructor. M T W Th F 11:00-12:15. Goldwin Smith 177. Mr. BONAWITZ.

The reading and study of notable works of German literature from the middle of the 19th century to the present. The selections will consist of works by Keller, Meyer, George, Rilke, Hofmannsthal, Mann, Trakl, Benn, Kafka, Borchert, and Brecht. The class will be conducted mainly in German.

## Russian

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

**Russ. 102. RUSSIAN.** (U) 6 hours credit. Pre-

requisite, Russian 101 or its equivalent. Twenty hours of instruction each week. Morrill Hall. Mr. LISTON and staff.

**Russ. 151u. RUSSIAN.** (G) 3 hours credit. For graduate students acquiring reading proficiency. *July 1 through July 24.* Twenty hours of instruction each week. Morrill Hall. Mr. LISTON and staff.

**Russ. 152u. RUSSIAN.** (G) 3 hours credit. For graduate students acquiring reading proficiency. Prerequisite, Russian 151 or its equivalent. *July 27, through August 14.* Twenty hours of instruction each week. Morrill Hall. Mr. LISTON 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. HADLICH 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 instructions each week. Morrill Hall. Mr. HADLICH 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.

**Sp. 312. MASTERPIECES OF HISPANIC LITERATURE.** (U) 3 hours credit. Prerequisite, Spanish 201, four years entrance Spanish, or consent of instructor. M T W Th F 11-12:15. Goldwin Smith 277. Mr. BRENES.

Reading and discussion of representative works of Spanish and Spanish American literature of the nineteenth and twentieth centuries. Works chosen are read in their entirety. Class 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 all-day Saturday trip (probably July 25 or August 1).

The Ithaca region is particularly suited to field observation of geologic phenomena. Text: Longwell and Flint, *Introduction to Physical Geology* (2d ed.); *Geology 101 and 102 Manuals*. Fee, \$10.

## GOVERNMENT

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

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

**Gov. 203. INTRODUCTION TO POLITICAL THEORY.** (U,G) 3 hours credit. M T W Th F 11-12:15. West Sibley 318. Mr. HEBERLE.

A survey of the development of Western political theory from Plato to Rousseau.

**Gov. 313. AMERICAN CONSTITUTIONAL LAW.** (U,G) 4 hours credit. M T W Th F 8-9:15. West Sibley 318. Mr. HEBERLE.

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. The course will be conducted primarily through class discussion of assigned cases.

**Gov. 317. THE POLITICAL PROCESS: AMERICAN POLITICAL PARTIES.** (U,G) 3 hours credit. M T W Th F 11-12:15. West Sibley B-1. Mr. LADD.

An extensive examination of the literature on American parties, the pressure groups, and electoral behavior. Analysis of the structure

and functions of political organizations and the electoral, interest group, and policy differences between the Democratic and Republican parties at the national, state, and local levels.

**Gov. 333. GOVERNMENT AND POLITICS OF THE SOVIET UNION.** (U,G) 4 hours credit. M T W Th F 9:30-10:45. West Sibley 328. Mr. BALLARD.

An introduction to the Soviet political system.

**Gov. 344. GOVERNMENTS AND POLITICS OF SOUTHEAST ASIA.** (U,G) 4 hours credit. M T W Th F 9:30-10:45. West 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. 534. SEMINAR IN THE POLITICS OF THE SOVIET UNION.** (U,G) 2 hours credit. Hours to be arranged. West Sibley 318. Mr. BALLARD.

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

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

## HISTORY

**Hist. 324. HISTORY OF CHINA DURING THE NINETEENTH AND TWENTIETH CENTURIES.** (U,G) 4 hours credit. M T W Th F 9:30-10:45. West Sibley 221. Mr. NOLDE.

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. 350. HISTORY OF THE BRITISH EMPIRE AND COMMONWEALTH.** (U,G) 3 hours credit. M T W Th F 11-12:15. West Sibley 101. Mr. LEGGE.

The course will fall into three sections. The

first will give an introductory survey of Imperial policy in the course of the 19th century, of developments in the constitutional relationship between Britain and her dependencies, and of the character of later 19th century imperialism. The second section will be concerned, briefly, with 20th century changes in the relationship of the self-governing dominions to Britain. The third section will examine patterns of administration in tropical dependencies and the problem of emergent statehood in Africa and Asia, leading to a consideration of the present multi-racial Commonwealth.

**Hist. 352. EUROPEAN HISTORY, 1830-1945.** (U,G) 3 hours credit. M T W Th F 8-9:15. West Sibley 101. Mr. LYTLE.

Industrialization, revolution, and the growth of the modern nation-state. Imperialism, international anarchy, and the twentieth century crisis.

**Hist. 380. HISTORY OF THE UNITED STATES DURING THE TWENTIETH CENTURY.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. West Sibley 101. Miss ERICKSON.

The main theme of this course will be the changes which have taken place in the structure of the American economy and in American institutions during the twentieth century, and the interaction between these and political developments. Particular topics to be considered will include the Progressive Movement, organized labor, immigration, the position of the Negro, the New Deal, agriculture, changes in "big business" and the persistence of small enterprises, America's changing role in the world and implications of this for domestic policies and politics, the impact of technological change on all phases of American life.

**Hist. 453. THE FRENCH REVOLUTION AND NAPOLEON, 1787-1815.** (U,G) 3 hours credit. Prerequisite, an elementary course in

modern European history. M T W Th F 11-12:15. West Sibley 328. Mr. LYTLE.

The transformation of France through the Revolution of 1789, the Reign of Terror, and Napoleon; and the impact of the Revolution and Napoleon upon Europe.

**Hist. 485. HISTORY OF ANGLO-AMERICAN ECONOMIC RELATIONS, 1783-1939.** (U,G) 3 hours credit. Prerequisite, a course in American or English history. M T W Th F 2-3:15. West Sibley 101. Miss ERICKSON.

A consideration of the changing connections between the two economies through migration, trade, the export of capital, and the flow of short-term credit. The course will include a study of some of the indirect consequences of relations, such as influences on technological change and on social attitudes important in economic growth as well as a discussion of the impact of these relationships on the course of economic development in the two economies in the various periods of time covered.

**Hist. 496. HISTORY OF SOUTHEAST ASIA DURING THE NINETEENTH AND TWENTIETH CENTURIES.** (U,G) 3 hours credit. M T W Th F 8-9:15. West Sibley 328. Mr. LEGGE.

A study of the impact of industrial Europe on Southeast Asian societies. Attention will be given to traditional patterns of social organization, to changes in those patterns under European pressure, and to the character and consequences of late 19th century imperialism. In particular the course will be concerned with the rise of new elites, the development of nationalism, and the problems of independence.

**Hist. 590. SEMINAR IN MODERN CHINESE HISTORY.** (G) 2 hours credit. M T W Th F 2. West Sibley 221. Mr. NOLDE.

Open only to graduate students who are taking History 324.

## HOME ECONOMICS

### Food and Nutrition

**\*F.&Ntr. 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 instructor in charge for independent, advanced work. Open only to graduate students with a major or minor in the field of food and nutrition.

Fee dependent upon the nature of the problem.

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

For graduate students recommended by their chairmen and approved by the instructor in charge for independent, advanced work. Open only to graduate students with a major or minor in the field of food and nutrition.

Fee dependent upon the nature of the problem.

(See also Other Programs, page 51.)

## Home Economics Education

(See page 27 and Other Programs, page 51.)

## 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 problem.

**\*H.E.M. 407. THESIS AND RESEARCH IN HOUSEHOLD ECONOMICS AND MANAGEMENT.** (G) Credit and hours to be arranged. Registration with permission of the instructor. Department staff. Fee will be dependent on the nature of the problem.

(See also Other Programs, page 52.)

## 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.

Open only to students currently enrolled in the Graduate School.

**I.M. 407. THESIS AND RESEARCH.** (G) Credit and hours to be arranged. Mrs. BLOETJES, Misses BURGOIN, CUTLAR, and KNICK-REHM.

For graduate students with training and experience satisfactory to the instructor.

Open only to students currently enrolled in the Graduate School.

(See also Other Programs, pages 52, 53.)

## Textiles and Clothing

**T.&Clo. 330. HISTORY OF COSTUME.** (U,G) 3 hours credit. For upperclassmen and graduate students. M T W Th F 8-9:15. Van Rensselaer 216. Miss LUND.

Early applications are requested and will receive preference.

A comparative study of dress of selected cultures from ancient times to the present, emphasizing the social, political, and economic factors which affect dress and the mores expressed through dress; the development of apparel forms and decoration as related to the interaction of peoples. Opportunity is given to use primary sources exemplified by the Costume Collection and the Regional History Collection.

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

(See also Other Programs, page 53.)

## HOTEL ADMINISTRATION

(See Other Programs, page 54.)

## INDUSTRIAL AND LABOR RELATIONS

**I.&L.R. 100. LABOR IN AMERICAN SOCIETY.** (U,G) 3 hours credit. No prerequisites. M 8 W Th F 8-9:15. Ives 116. Mr. KORMAN.

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

**I.&L.R. 120. MODERN INDUSTRY AND INDUSTRIAL AND LABOR RELATIONS.** (U,G) 3 hours credit. No prerequisites. M T W Th F 9:30-10:45. Ives 116. Mr. MESICS.

An introduction to industrial and labor relations in modern industrial society. An examination of the nature of industrial society and an examination of modern work organizations, including concepts and theories of organization and leadership. The place of the industrial relations-personnel function in an organizational and the general nature of manpower management practices and their development.

**I.&L.R. 250. SURVEY OF INDUSTRIAL AND LABOR RELATIONS.** (U,G) 3 hours credit. No prerequisites. M T W Th F 8-9:15. Ives 114. Mrs. Cook.

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. GRUENFELD.

A review of the personnel function in business and industry with emphasis on the personnel responsibilities of the line supervisor. The course is closely linked to evidence developed by behavioral sciences research. Topics for discussion will include organization theory, leadership, organization structure and change, group influences on individuals, employee motivation, and other human problems of management. Specific personnel administration functions and practices, as they are related to these problems, also will be included, e.g., selecting, inducting, training, rating, and compensating employees; developing techniques for interviewing, adjusting complaints and grievances, and aiding in the solution of employee and supervisory problems. Selected readings, case studies, discussions, and projects.

**I.&L.R. 510. ECONOMIC AND SOCIAL STATISTICS.** (U,G) 3 hours credit. No prerequisites. Lectures, M T W Th F 9:30-10:45. Ives 114. Laboratory, two sessions each week, to be arranged. Mr. BLUMEN.

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.

## Special Noncredit Seminars and Workshops

In the summer of 1964 the School is again offering a series of one-week noncredit seminars and workshops. These units are designed for practitioners, and consequently 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 Director of On-Campus Programs, Extension Division, School of Industrial and Labor Relations, Cornell University, Ithaca, New York, 14850.

## MATHEMATICS

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

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

**Math. 112. ANALYTIC GEOMETRY AND CALCULUS.** (U) 3 hours credit. Prerequisite, Mathematics 111 or the equivalent. M T W Th F 9:30-10:45. White B-1.

Differentiation and integration of algebraic, trigonometric, logarithmic, and exponential functions with applications. Plane analytic geometry. Related topics, including polar coordinates, parametric equations. Text: Thomas,

*Calculus and Analytic Geometry*, Chaps. 6, 7, 9, 11, 12.

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

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

**Math. 121-122. 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.

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 310.

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

**Math. 200. BASIC CONCEPTS OF MATHEMATICS.** (U) 3 hours credit. Prerequisite,

Mathematics 122 or its equivalent. M T W Th F 9:30-10:45. White B-9.

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

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

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

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

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

## MENTAL HEALTH

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

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

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

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

## MUSIC

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

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 321. INDIVIDUAL INSTRUCTION IN ORGAN.** Without credit. one-hour lesson

weekly (or two half-hours). Consent of instructor required. Mr. KREMER.

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

(See also *Other Programs*, page 56.)

## PHILOSOPHY

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

An introduction to philosophical ideas and problems through a study of several Socratic dialogues, Berkeley's *Principles*, Hume's *Dia-*

ogues concerning Natural Religion, and other selected writings. Collateral reading from classical and contemporary sources will be assigned. Texts: Plato, *Euthyphro*, *Apology* and *Crito*; *Phaedo* (Library of Liberal Arts); *The Empiricists: Locke, Berkeley, Hume* (Dolphin Books).

Phil. 325. **ETHICAL THEORY.** (U). 3 hours credit. M T W Th F 11-12:15. Goldwin Smith 227. Mr. COHEN.

A systematic study of two types of ethical theory: rationalism and intuitionism. Texts: Kant, *Critique of Practical Reason*; Ross, *The Right and the Good*.

## PHYSICS

**\*Physics 105. TOPICS IN PRESENT-DAY PHYSICS.** (U,G) 3 hours credit. (Graduate credit limited to secondary school teachers in the sciences who already have baccalaureate degrees). Prerequisites, 3 units of college-preparatory mathematics and a year-course in either college or high school physics. 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 and discuss pertinent instructional movies. Lectures in Rockefeller B. Movies in Rockefeller C. Mr. GREISEN.

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, radio-astronomy, cosmology, etc.

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

**\*Physics 109. GENERAL PHYSICS LABORATORY.** (U,G) 1 to 3 hours credit. (Graduate credit limited to secondary school teachers in the sciences who already have baccalaureate degrees.) Prerequisites, 3 units of college-preparatory mathematics and a year-course in either college or high school physics. Laboratory, M T W Th F 2-4:30. Rockefeller 354. Messrs. PETERSON and SNIDER.

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 121. INTRODUCTORY ANALYTICAL PHYSICS I.** (U) 3 hours credit. Prerequisite, Mathematics 191 or simultaneous registration in Mathematics 111. Primarily offered for those students who have previously completed but failed this course. Lecture-recitations M T W Th F 12-1:15. Rockefeller 105. Laboratory M W 2-4:30, Rockefeller 252.

The mechanics of particles, kinematics of translation dynamics, conservation of energy, the properties of the fundamental forces: gravitational, electromagnetic, and nuclear. At the level of *Introductory Analytical Physics* (2d ed.), Parts I and II, by Newhall. Fee, \$5.

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

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

**\*Physics 207. FUNDAMENTALS OF PHYSICS.** (U) 4 hours credit. Prerequisite. Mathematics 111, or consent of the instructor. A first course for most college students majoring in a natural science or in mathematics; not for students who have completed Physics 101-102 or 121-122. Lectures M 8-9:15, Rockefeller A; T W Th F 8-9:15, Rockefeller B. Recitations, M T W Th F 10-11. Rockefeller 109. Laboratory, Th 2-5. Rockefeller 220. Mr. RAJARAMAN.

Emphasis is placed on the fundamental concepts of the various branches of physics as well as on the unity of the subject as revealed by the basic ideas common to all of physics. Analytical techniques are developed in problem and laboratory work. Topics: dynamics of particles, conservation laws, collisions, dy-

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namics of fluids, sound waves, laws of thermodynamics, kinetic theory of gases. At the level of *Physics for Students of Science and Engineering* by Halliday and Resnick. Fee, \$5.

**\*Physics 208. FUNDAMENTALS OF PHYSICS.** (U) 4 hours credit. Prerequisites, Physics 207, Mathematics 112, or consent of instructor. Students who have had a year of college physics may, with the consent of the instructor, take Physics 207 and 208 concurrently. Lectures: M 12-1:15, Rockefeller A; T W Th F 12-1:15, Rockefeller B. Recitations, M T W Th F 11-12, Rockefeller 109. Laboratory, T 2-5, Rockefeller 220. Mr. RAJARAMAN.

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

**\*Physics 223. INTRODUCTORY ANALYTICAL PHYSICS III.** (U) 3 hours credit. Prerequisites, Physics 122 and Mathematics 293 or equivalent, or consent of the instructor. Lectures, T Th 9:30-10:45, Rockefeller B. Recitations, M W F 9:30-10:45, Rockefeller 105. Laboratory, M W 2-4:30, Rockefeller Annex.

An introductory survey of the laws of electric and magnetic fields: Electrostatic field, magnetic fields of steady currents, induced emfs, dielectrics, and magnetic properties of matter. Laboratory work in electrical measurements and physical electronics. At the level of *Electric and Magnetic Fields* by Tomboulion. Fee, \$5.

**\*Physics 224. INTRODUCTORY ANALYTICAL PHYSICS IV.** (U) 3 hours credit. Prerequisites, Physics 223 and Mathematics 293 or equivalent, or consent of the instructor. Lectures W F 11-12:15, Rockefeller A. Recitations, M T Th 11-12:15, Rockefeller 108. Laboratory, T Th 2-4:30, Rockefeller Annex.

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. Laboratory work in electrical measurements, physical electronics, and wave

optics. At the level of *Elementary Modern Physics* by Weidner and Sells. Fee, \$5.

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

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

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

Principles of vacuum tubes and semiconductor devices, electronic circuits, and operating characteristics; knowledge of methods and techniques invaluable to the student who plans experimental work in almost any field involving modern instruments. At the level of *Electronics for Scientists* by Malmstadt, Enke, and Toren. Fee, \$10.

**Physics 436. MODERN PHYSICS.** (U,G) 4 hours credit. Prerequisites, Physics 322 and Mathematics 214 or 222, or consent of the instructor. Lectures, M T W Th F 8-10, Rockefeller 108. Mr. REID.

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

### ADVENTURES IN PHYSICS

July 1 to August 14.

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

## PSYCHOLOGY

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

An introduction to the scientific study of behavior and experience, covering such topics as perception, learning, motivation, emotion,

personality, individual differences, social and applied psychology.

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



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

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

Description and analysis of major consistencies in interpersonal behavior. Includes an over-all

survey of principles and perspectives of the field.

**Psych. 325. ABNORMAL PSYCHOLOGY.** (U,G) 3 hours credit. M T W Th F 11-12:15. Morrill 310. Mr. JOHNSON.

An introduction to the study of disordered behavior. Description of major syndromes, investigations and theories of etiology, and approaches to treatment will be covered in an attempt to introduce the student to major concepts and problems in this area.

## SOCIOLOGY AND RURAL SOCIOLOGY

**Soc. 101. MAN AND SOCIETY.** (U,G) 3 hours credit. M T W Th F 11-12:15. Morrill 240. Mr. HAYES.

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

**Soc. 281. THE SOCIAL PSYCHOLOGY OF GROUPS.** (U,G) 3 hours credit. Prerequisite, a course in psychology or sociology. M T W Th F 8-9:15. Morrill 240. Mr. HAYES.

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

**Soc. 343. THE FAMILY** (U,G) 4 hours credit. Prerequisite, Sociology 101 or consent of the instructor. M T W Th F 9:30-10:45. Morrill 240. Mr. STREIB.

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

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

**R. Soc. 550. INFORMAL STUDY IN RURAL SOCIOLOGY.** (G) Credit and hours to be arranged. Permission of the staff member who will supervise the study required.

**R. Soc. 551. RESEARCH IN RURAL SOCIOLOGY.** (G) Credit and hours to be arranged. Permission of staff member who will supervise research required.

## 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, McCALMON, 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. WILSON.

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. 205. DISCUSSION.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. Lincoln Hall 201. Mr. BLANDING.

## 44 SUMMER SCHOOL

Study of principles and methods of oral communication in small groups, especially informal, problem-solving conferences. Practice in round-table, committee, and panel deliberation. Consideration of the problems of communication and principles of investigating, analyzing, and presenting problems of fact, value, and policy. Special attention to discussion as it is used in teaching and in the solving of labor disputes.

**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. WILSON.

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. 234. SURVEY OF SPEECH DISORDERS.** (U,G) 3 hours credit. M T W Th F 11-12:15. Lincoln Hall 304. Mr. NUTTALL.

Survey of the common types of speech disorders, their incidence, causes, and implications for correction. Speech disorders of children are emphasized.

**Sp.&Dr. 286. PLAY PRODUCTION.** (U,G) 3 hours credit. M T W Th F 9:30-10:45. Lincoln Hall 209. Mr. COLBATH.

Principles and standard practice in play production, with emphasis on directorial viewpoints and objectives. Special attention to

problems of organization, play selection, casting, and producing in school and community. Students matriculated for a degree in Cornell University may offer this course as equivalent of Speech and Drama 285.

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

A laboratory course in acting and 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.

**Sp.&Dr. 393. MODERN AMERICAN DRAMA AND THEATRE.** (U,G) 3 hours credit. M T W Th F 11-12:15. Lincoln Hall 302. Mr. ALBRIGHT.

The development of the American theatre in its varied forms and the appreciation of its native drama with emphasis on representative plays and playwrights since 1900. Special consideration will be given to the works of O'Neill, Williams, Miller, and Albee. Students matriculated for a degree at Cornell University may offer this course as the equivalent of Speech and Drama 392.

**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 or University Theatre. Messrs. CARLSON, COLBATH, McCALMON. No credit. (If credit is desired, see Speech and Drama 383, Theatre Practice.)

## ZOOLOGY

**\*Zool. 103u. GENERAL ZOOLOGY.** (U) 3 hours credit. July 1-July 24. 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 27-August 14. Prerequisite, Zoology 103u or its equivalent. Lectures, M T W Th F 9 and 11. Stimson G-25. Laboratory, M T W Th F 1-3:20. Stimson 102. Mr. LEONARD and assistants.

A continuation of Zoology 103u. Emphasis placed on the biology of the vertebrate animals, including references to man. Various zoological principles such as evolution, develop-

ment, and genetics will be considered. Text: Storer and Usinger, *General Zoology*. Fee, \$7.50.

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

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

A thorough study and dissection of representative vertebrate types, including fish, amphibian, reptile, bird and mammal, together with demonstrations of species other than the types dissected. Intended to give students an evolutionary background for the study and appreciation of the structure of higher vertebrates, including man. Fee. \$22.

## OTHER PROGRAMS OF THE SUMMER SESSION

*The following Special Programs are offered during the Summer Session period, June 15 to approximately September 15. Some occur during the period of the Summer School session, July 1 to August 14. 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 part of his schedule. Likewise it may be possible for a student admitted to a Special Program to add a Summer School course to complete his study in the summer. In either case the Summer School tuition rate will apply for the elected course rather than the rate specified in the Special Program.*

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

### ADVANCED PLACEMENT WORKSHOP IN ENGLISH

**JULY 6–AUGUST 14**

For New York State secondary school teachers of English who are teaching advanced placement or honors courses in English in grades eleven or twelve, or who have been assigned to teach such courses in 1964–1965.

Summer training grants to defray cost of tuition and fees are anticipated for qualified teachers. For further information and application forms, address: Director, English Advanced Placement Workshop, 115 Day Hall, Cornell University, New York, 14850.

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 IN SCIENCES JULY 1–AUGUST 14

For New York State secondary school teachers of biology, chemistry, or physics, who are teaching advanced placement or honors courses in grades eleven or twelve, or who have been assigned to teach such courses in 1964–1965.

Options within each discipline are available to meet needs of teachers having varying backgrounds of prior preparation. Options have been designed to strengthen the teacher's preparation to cope with advanced placement course content as implied in the bulletins of the Bureau of Secondary Curriculum Development.

Summer training grants to defray tuition and fee costs are anticipated for qualified teachers. Six to seven hours of graduate-level credit may be earned.

## 46 SPECIAL PROGRAMS

For further information and application forms, address the Director, Advanced Placement in Sciences, 115 Day Hall, Cornell University, Ithaca, New York, 14850.

Students will register (for a total of six or seven credit hours) in courses selected from the following under each discipline:

### BIOLOGY

**Bioch. 101. GENERAL BIOCHEMISTRY.** (G) 4 hours credit.

**Bioch. 102. GENERAL BIOCHEMISTRY LABORATORY.** (G) 2 hours credit.

**Biol. 305. LABORATORY METHODS IN BIOLOGY.** (G) 3 hours credit.

**Bact. 101. GENERAL BACTERIOLOGY.** (G) 3 hours credit.

**Bot. 101u. and 102u. INTRODUCTORY BOTANY.** (G) 3 hours credit.

**Zool. 103u. and 104u. GENERAL ZOOLOGY.** (G) 3 hours credit.

### CHEMISTRY

**Chem. 103u. and 104u. GENERAL CHEMISTRY.** (G) 4 hours credit.

**Chem. 205. QUALITATIVE INORGANIC ANALYSIS AND IONIC EQUILIBRIUM.** (G) 2 hours credit.

### PHYSICS

**Physics 207 or 208. FUNDAMENTALS OF PHYSICS.** (G) 4 hours credit.

**Physics 310. INTERMEDIATE EXPERIMENTAL PHYSICS.** (G) 2 hours credit.

**Physics 361. ELECTRONIC INSTRUMENTATION.** (G) 2 hours credit.

**Physics 436. MODERN PHYSICS.** (G) 4 hours credit.

**Physics 490. INDEPENDENT STUDY IN PHYSICS.** (G) 2 hours credit.

## ADVANCED PLACEMENT PROGRAM FOR SECONDARY SCHOOL JUNIORS JULY 1-AUGUST 14

The Advanced Placement Program for Secondary School Juniors, open only to academically talented students who have completed the eleventh year in high school in June, 1964, is offered to enable college-bound students to achieve advanced placement standing in college.

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

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

For further information and application forms, address: Director, Advanced Placement Program, Secondary School Juniors, 115 Day Hall, Cornell University, Ithaca, New York, 14850. Request for application forms is to be made by February 20.

## ADVENTURES IN PHYSICS FOR HIGH-ABILITY SECONDARY SCHOOL STUDENTS Supported by the National Science Foundation JULY 1-AUGUST 14

This program is designed for students who will have completed their 11th grade. The program provides a superior opportunity in physics, both classroom and laboratory, to supplement the usual offerings in the secondary school. The specific objectives include:

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

(2) Facilitating self-evaluation of the student's personal interests in science, and

(3) Providing a meaningful first exposure to the academic atmosphere of college.

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

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

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

## AGRICULTURAL EDUCATION

### JULY 6-24

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 6, 1964, at a time and place to be announced.

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

**Ag.Ec. 326u. FARMERS' COOPERATIVES.** (U,G) 2 hours credit. M T W Th F 10-12. Warren 31. Mr. CARPENTER.

What cooperatives are, what they have tried to do, have done, and are doing; their legal status and organization, finance, control, and membership relations. Special emphasis on the extent and nature of agricultural cooperation in New York State as well as development of techniques and materials for use in teaching students in vocational agriculture about farmer cooperatives.

**Ag.Eng. 415u. FARM ELECTRIFICATION.** (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.

Designed for instruction and laboratory practice in basic principles of electricity as applied to farm; techniques of application; safe use of electrical power; and selection of wiring materials, control and motors. Includes electric motor maintenance. Fee, \$3.

**An.Hus. 517u. RECENT ADVANCES IN DAIRY SCIENCE.** (U,G) 2 hours credit. Lectures, M T W Th F 8-10. Morrison 174. Mr. MERRILL and guest lecturers.

Deals primarily with dairy cattle but with one two-hour period for each of the subjects, beef cattle, sheep and swine. Lectures and discussion will include recent research and practical rec-

ommendations on the following subjects: evaluation of forage crops, nutritive requirements of high producing cows, grain feeding recommendations, effect of physical form of forages and concentrates on feeding value and milk composition, also feed additives such as antibiotics, urea, and others; dairy cattle breeding with emphasis on the current principles for the selection and evaluation of dairy sires and dairy cows; physiology of milk secretion and the basis for recommended milking practices, operational principles of milking machines and the evaluation of milking parlors; management recommendations for high reproductive performance and as an aid in preventing various diseases of dairy cattle, also the use of DHIA records for dairy herd management and improvement.

**Ext. Teaching 323u. RADIO AND TELEVISION COMMUNICATION.** (U,G) 2 hours credit. Lecture, M T W Th F 8-9:50 a.m. Roberts 131. Mr. KAISER and staff.

Designed to familiarize students with the best methods of presenting ideas by radio and television. Practice includes preparation and recording of radio scripts for analysis and criticism. A study is made of the technique in televising informational type programs. Students prepare and present programs before a closed circuit camera for evaluation and criticism.

**R.E. 433u. SPECIAL PROBLEMS IN AGRICULTURAL EDUCATION—TEACHING AGRICULTURAL MECHANICS.** (U,G) 2 hours credit. Experience as a teacher of agriculture or consent of instructor required. M T W Th F 8-10. Warren 14. Mr. CHRISTENSEN.

Considers the over-all problems of planning, organizing, and teaching of agricultural mechanics in vocational agriculture. An integrated study of the objectives and principles of teachings agricultural mechanics, planning effective methods and procedures for teaching individuals and small groups; planning and promoting shop safety; developing standards of workmanship; developing units of instruction; project criteria; teaching-learning evaluation techniques; financing the program; exhibiting projects and an analysis of the instructional materials and visual aids effective in teaching agricultural mechanics.

**R.E. 533u. PLANNING COURSES OF STUDY AND EXPERIENCE PROGRAMS IN AGRICULTURE.** (G) 2 hours credit. Experience as a teacher of agriculture or consent of instructor required.

M T W Th F 10-11:50. Warren 14. Mr. HILL.

Consideration will be given to student vocational and educational objectives and the design of courses of study as they relate to objectives. Deals primarily with agricultural experience programs which include supervised farming, farm placement, school and land laboratories, and placement in agricultural businesses. Includes concepts, principles, functions, methods, practices and evaluation of agricultural experience programs. Three field trips will be taken to relate methods to planning and evaluating programs.

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

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

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

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

### JULY 1-AUGUST 14

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

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

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

The courses in each program are:

**CHINA PROGRAM:** History 324, *History of China During the Nineteenth and Twentieth Centuries*; and History 590, *Seminar in Modern Chinese History*. (See page 36.)

**LATIN AMERICA PROGRAM:** Economics 325u, *Economic History of Latin America*; and Economics 565u, *Current Economic Problems of Latin America*. (See page 23.)

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

**SOVIET UNION PROGRAM:** Government 333, *Government and Politics of the Soviet Union*; and Government 534, *Seminar in the Politics of the Soviet Union*. (See page 36.)

For further information and application forms, address: Director, Area Study Programs, 115 Day Hall, Cornell University, Ithaca, New York, 14850. Please identify the area or areas of study desired.

## CORNELL CONSERVATION WORKSHOP

**AUGUST 10-14**

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 qualified persons.

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

## ENGINEERING INDUSTRIAL COOPERATIVE PROGRAM

**ADMISSION.** Selected courses of the regular curricula in the College of Engineering are offered in the summer to accommodate the schedule of Cornell students in the Cooperative Program. Within the enrollment capacity of each course other students may be admitted to these courses provided that they present satisfactory evidence of being prepared and a letter of authorization from a college or university in which they are enrolled. A schedule of courses to be offered will be available after March 1, 1964.

**CALENDAR.** Courses are scheduled in two separate but consecutive seven-week periods: first period, June 15-August 1; second period August 3-September 19.

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

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

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

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

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

## ENGLISH LANGUAGE FOR FOREIGN STUDENTS

**JULY 13-AUGUST 21**

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 13 and end on August 21.

Charges for the six-week program are as follows: Tuition and fees, \$255; 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, 14850.

## FIELD STUDIES IN NATURAL RESOURCES CONSERVATION

In Cooperation with the State Conservation Department

JULY 6-24

A three-week program for teachers, supervisors, and extension workers stressing the scientific bases for natural resources management. The course is taught at the Cornell University Biological Field Station at Oneida Lake, where facilities for lodging, meals, study space, library, and laboratory for both men and women are available. Students will live at the Station.

Emphasis is given to methods and materials for use in teaching at all grade levels and in extension classes. Instruction is by means of field experiences, lectures, demonstrations, and discussion periods. Three hours of graduate level credit may be earned.

The cost of board and room for all participants employed in New York State is subsidized by a grant from the New York State Conservation Department. The only cost to such students is \$75 to cover the tuition charge.

For further information and application forms, address the Director, Conservation Field Course, 115 Day Hall, Cornell University, Ithaca, New York, 14850.

**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 con-

cepts 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 17-28

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, 14850.

Students will register for:

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



## UNIT PROGRAMS IN HOME ECONOMICS

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

Tuition is at the rate of \$7.50 per credit hour. The Summer Session fee is \$5 per week.

### Food and Nutrition

#### *Offered by the Department of Food and Nutrition*

The unit courses in this program are designed for home economics teachers, extension workers, dietitians, and others concerned with nutrition problems and their application.

Registration may be for one or more units as scheduled. Early applications are requested.

For further information and application forms, address the Director, Food and Nutrition Program, 115 Day Hall, Cornell University, Ithaca, New York, 14850.

**F.&Ntr. 311u. DEVELOPMENT OF FOOD SCIENCE CONCEPTS FOR EDUCATIONAL PROGRAMS.** (G) 3 hours credit. *July 6 to 24.* Prerequisites, college courses in general chemistry and food preparation and some experience in formal or informal teaching. M T W Th F 8:30-11. T Th 2-4. Van Rensselaer Hall 301. Miss McMILLAN and Miss PERSONIUS.

Identification of a few important broad concepts concerning food. Related facts and theorems will be studied to increase understanding of the scientific principles on which the concepts and supporting generalizations are based. Applications in terms of specific food preparation recommendations will be considered with special attention to the types of educational programs of interest to the participants.

**F.&Ntr. 341u. NUTRITION FACTS FOR ACTION PROGRAMS.** (G) 2 hours credit.

*July 13-24.* Prerequisites, a college course in nutrition and some experience in planning nutrition programs. M T W Th F 9-5. Van Rensselaer Hall 339. Miss CLAY.

A workshop to enrich school and community nutrition education programs. Emphasis is on understanding basic nutrition facts in relation to the needs and habits of individuals. Consideration given to interpreting and developing facts into effective learning situations.

**F.&Ntr. 329u. RECENT FINDINGS IN NUTRITION.** (G) 3 hours credit. *July 27-August 14.* Prerequisite, a college course in nutrition. Lecture-discussion, M T W Th F 8-10:30 and other hours to be arranged. Van Rensselaer Hall 301. Miss DONALD.

Concerned with topics related to practical problems of nutrition, with a view to bringing information and understanding of participants up to date.

### Home Economics Education

#### *Offered by the Department of Home Economics Education*

Two workshops will provide opportunities for home economics teachers, extension agents, and supervisors to examine (a) the current emphasis on concepts and generalizations in curriculum planning, and (b) possibilities for using programmed instruction in home economics teaching.

Registration may be for one or both units as scheduled. Early application is preferable.

For further information and application forms, address the Director, Home Economics Education Workshops, 115 Day Hall, Cornell University, Ithaca, New York, 14850.

**H.E.Ed 530u. TEACHING FOR GENERALIZATION IN HOME ECONOMICS.** (G) 3 hours credit. *July 6-24.* M T W Th F 9-4. Miss BLACKWELL.

Special attention will be given to planning to meet interests of persons who have applied by May 10.

Discussion will focus on concepts and generalizations as elements of structure in home economics curricula; the nature of knowledge and of cognitive processes; bases for identifying the organizing ideas in a field; selection of appropriate teaching methods and resources when generalization is considered a primary goal of education. Group work will provide experience

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in identifying important ideas to be taught, developing plans for teaching toward both breadth and depth of understanding, and selecting or developing teaching materials.

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

**H.E.Ed. 531u. PROGRAMED INSTRUCTION FOR HOME ECONOMICS TEACHERS.** (G)

3 hours credit. *July 27–August 14.* M T W Th F 9–4. Mrs. NELSON.

Opportunity is provided to become acquainted with some of the important experimentation now going on in programed instruction, to consider uses of this technology of instruction and means of evaluating programs and resultant student learning. Experience in writing one or more programed sequences and criterion tests is provided.

## Household Economics and Management

*Offered by the Department of Household Economics and Management*

The following courses are designed for teachers in extension programs, secondary schools, and colleges. Emphasis among the units is on understanding of the way in which economic matters outside the home affect our real level of living, understanding relationships between knowledge of economics and the consumer, work simplification, and management of household equipment.

Registration may be from one or more units as scheduled.

For further information and application forms, address the Director, Household Economics and Management Program, 115 Day Hall, Cornell University, Ithaca, N.Y., 14850.

**H.E.M. 231u. ECONOMICS FOR CONSUMERS I.** (U,G) 3 hours credit. *July 6–24.* M T W Th F 8:30–10 and hours to be arranged. Van Rensselaer Hall 121. Mrs. VATER.

Deals with distribution of incomes and output, significance of household consumption and savings for economic growth, sources of increase in productivity, and the role of institutions which organize production, regulate money, levy taxes, and account for public spending, all in relation to effects on the way people live.

Not open to students who have had H.E.M. 130 or 430.

**H.E.M. 321u. MANAGEMENT IN RELATION TO HOUSEHOLD EQUIPMENT.** (U,G) 3 hours credit. *July 6–24.* M T W Th F 8:30–10 and 1:30–3 and hours to be arranged. Van Rensselaer Hall G 19. Mrs. SIPPOLA.

Basic principles of operation of equipment for heating, refrigeration, lighting, and cleaning. Special emphasis on principles which can be taught with the equipment commonly found in the high school classrooms and in extension centers. Characteristics of materials used in household equipment. Relative advantages of various types of equipment.

**H.E.M. 261u. ECONOMICS FOR CONSUMERS II.** (U,G) 3 hours credit. *July 27–August 14.* M T W Th F 8:30–10 and hours to be arranged. Van Rensselaer Hall 121. Miss BYMERS.

The aim is to increase the student's knowledge of the market economy and to widen perspectives on the position and responsibility of consumer's position. Areas covered: a historical review of the consumer's position; functions of the market; growth, development, and continual change of marketing institutions; and consumer information and protection provided by the market, by government, and through consumer activity.

**H.E.M. 281u. WORK SIMPLIFICATION IN THE HOME.** (G) 2 hours credit. *July 27–August 14.* M T W Th F 9–10:30 and 1:30–3. Van Rensselaer Hall G 19. Mrs. BRATTON.

The significant costs of work for the present-day homemaker, consideration of ways of reducing the use of human resources for the work of the house with satisfaction to the homemaker and the family, application and adaptation of conventional work simplification techniques to household tasks. Application to individual needs within the class will be made.

## Administrative Dietetics

*Offered by the Department of Institution Management*

Courses especially designed for college teachers who are preparing students for the field of administrative dietetics, and for administrative dietitians currently employed in hospitals and in

the national school lunch program. It is anticipated that registration will be for both courses, which total 2 credit hours. Early application is requested and will receive preference.

For further information and application forms, address the Director, Administrative Dietetics Program, 115 Day Hall, Cornell University, Ithaca, N.Y., 14850.

**I.M. 519u. THEORETICAL PRINCIPLES OF MENU ITEM PRODUCTION CONTROL.** (G) 1 hour credit. July 6-17. M T W Th F 2-3:30. Van Rensselaer Hall 124. Mrs. BLOETJES.

Principles and techniques of administrative control as applied to the processing and service of menu items. Recent trends in cost accounting and basic aspects of linear programming as related to menu item production will be discussed.

**I.M. 545u. PERSONNEL MANAGEMENT FOR ADMINISTRATIVE DIETITIANS.** (G) 1 hour credit. July 6-17. M T W Th F 8:30-10. Van Rensselaer Hall 124. Miss PROUD.

Selection, placement, and training of food service employees. Developing better work methods through motion and time study. Wage and salary administration. Effect of union activities on personnel administration.

## School Food Service (Off-Campus Units)

*Offered by the Department of Institution Management*

Courses are available only in the off-campus center listed for each. They are especially designed for school lunch managers and other persons who are entrusted with the supervisory or managerial aspects of quantity meal preparation and service.

Minimum enrollment for which each course will be offered is 20 students. Early applications are requested and will be given preference.

Participants will commute to class sessions. The usual Summer Session fee is not charged. Tuition is \$37.50 for each course.

For further information and application forms, address the Director, School Food Service Program, 115 Day Hall, Cornell University, Ithaca, N.Y., 14850.

**I.M. 527u. EQUIPMENT SELECTION AND LAYOUT.** (U,G) 2 hours credit. July 6-17. M T W Th F 9-12. Available only at East Islip, Long Island. Miss CUTLAR.

Topics include: preliminary planning and menu analysis to determine equipment needs; layout planning and equipment selection in relation to production requirements, materials, sanitation and utility.

**I.M. 520u. QUANTITY FOOD PURCHASING.** (U,G) 1 hour credit. July 6-10. M T W Th F 9-12. Available only at Elmsford, New York. Miss CONNELLY.

Topics will include: brief review of the essentials of food purchasing; the development of standards; the preparation of written specifications.

## Textiles and Clothing

*Offered by the Department of Textiles and Clothing*

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

Students may register for either or both courses.

**T.&Clo. 390u. SOCIO-ECONOMIC ASPECTS OF CLOTHING.** (U,G) 3 hours credit. July 6-24. Prerequisite, elementary economics and sociology, or permission of the instructor. Lecture and discussion, M T W Th F 9:30-12 and hours to be arranged. Van Rensselaer Hall 213. Mrs. BAUMGARTNER.

Factors influencing the production, distribution, and consumption of clothing; consumer behavior related to clothing, analyzed in terms of economic and sociological theory; clothing

consumption as an expression of economic and social change.

**T.&Clo. 374u. TEXTILES TODAY AND THEIR EVALUATION.** (U,G) 2 hours credit. July 27-August 7. Prerequisite, T.&Clo. 170 or equivalent, or permission of instructor. Registration limited to twelve students. Lectures and discussion, M T W Th F 8-9:30. Laboratory, M T W Th F 10-12, and hours to be arranged. Van Rensselaer Hall 278, 277A, and 280. Miss STOUT.

## 54 SPECIAL PROGRAMS

Present status, new developments, and trends in the field of textiles and clothing from fiber to finished product; the textile industry in the United States and today's world. Laboratory

work will consist of cooperative problems for evaluating some of the important physical and chemical properties of fabrics which are of most concern to consumer-users.

### **HOTEL ADMINISTRATION JUNE 22–AUGUST 8**

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

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

### **READING AND STUDY SKILLS PROGRAM**

**For College Students: July 6–August 7  
For Secondary School Students: July 6–31**

#### **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 IIR Building E., Cornell University, Ithaca, New York, 14850.

#### **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 and study skills, will be offered to high school students who will have finished their junior or senior years in June, 1964, 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, 14850.

### **SCHOOL DROP-OUT WORKSHOP**

**Meeting the Needs of the Culturally Deprived Child**

**AUGUST 3–14**

A two-week, intensive study of the problems presented by the culturally deprived child who becomes the potential drop-out, under-achiever, or reluctant learner. Instruction will include lectures, guest speakers, discussion periods, and demonstration of methods useful in meeting the

needs of such children. Planned especially to serve guidance directors, classroom teachers, and school administrators.

Two hours of graduate level credit may be earned. For application forms and further information, address Professor Oscar G. Mink, 200 Stone Hall, Cornell University, Ithaca, New York, 14850.

Students will register for:

**R.E. 610. SEMINAR IN GUIDANCE.** (G) 2 hours credit. Lecture and discussion, M T W Th F 9:30-11:30 and additional time to be arranged. Messrs. KAPLAN and MINK.

## SHELL MERIT FELLOWSHIP PROGRAM

### JULY 1-AUGUST 14

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

**Chem. 99. PROBLEMS IN CHEMICAL EDUCATION.** (U,G) 3 or 4 hours credit. Registration restricted to Shell Merit Fellowship holders. Lectures, M T W F 10-11:45 and Th 8-9:45. Laboratory, M T 2-4:30 for those who elect 4 hours credit.

**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 10:15-11:50. Laboratory, M T 2-4:30 for those who elect 3 hours credit in Education. Field 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.

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

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

## SOUTHEAST ASIA LANGUAGE PROGRAM

### JUNE 17-AUGUST 26

The Southeast Asia Language and Area Center at Cornell, in cooperation with the Language and Area Centers Section of the United States Office of Education, offers a program of intensive language instruction in Indonesian, Thai, and Vietnamese. Five courses are available during a period of ten weeks in which the student may earn twelve hours credit in Indonesian at either an introductory or intermediate level or at the introductory level in Thai or Vietnamese.

Tuition for the program is \$37.50 per credit hour. Fees amount to \$5 per week or \$50 for the period. Living arrangements may be made through the Summer Session Office, 115 Day Hall, for use of University housing facilities. Room rates per week are \$8 per person for double room and \$11 single. There are a number of dining accommodations on the campus for students in the summer programs.

A comparable program is offered in alternate summers by Yale University.

For further information and application form, address the Director, Southeast Asia Program, 100 Franklin Hall, Cornell University, Ithaca, New York, 14850.

**Indon. 101-102. INTENSIVE INTRODUCTORY INDONESIAN.** (U,G) 12 hours credit.

**Indon. 201-202. INTENSIVE INTERMEDIATE INDONESIAN.** (U,G) 6 hours credit.

**Indon. 203-204. INTENSIVE INTERMEDIATE INDONESIAN.** (U,G) 6 hours credit.

**Thai 101-102. INTENSIVE INTRODUCTORY THAI.** (U,G) 12 hours credit.

**Vietn. 101-202. INTENSIVE INTRODUCTORY VIETNAMESE.** (U,G), 12 hours credit.

## **ART SEMINAR IN COLOR THEORY**

**JULY 20-31**

Two weeks of intensive attention to the nature and use of color in art. Students will spend full time daily, Monday through Friday, under the direction of Mr. Herbert Beerman, visiting instructor from Pratt Institute, Brooklyn, New York.

For further information and application forms, address the Director, Art Seminar in Color Theory, 115 Day Hall, Cornell University, Ithaca, New York, 14850.

## **BRASS SYMPOSIUM AND WORKSHOP**

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

**JULY 13-24**

An intensive two-week program providing two hours of credit. Open to professional musicians, college teachers, music educators, undergraduates, and high school graduates of June, 1964, who qualify on the basis of training and experience in brass playing. Others may be admitted for audit.

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

For further information and application forms, address the Director, Brass Symposium and Workshop, 115 Day Hall, Cornell University, Ithaca, New York, 14850.

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

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

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

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## 58 FACULTY

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- JOHN F. WILSON, Ph.D., Associate Professor of Speech and Drama.



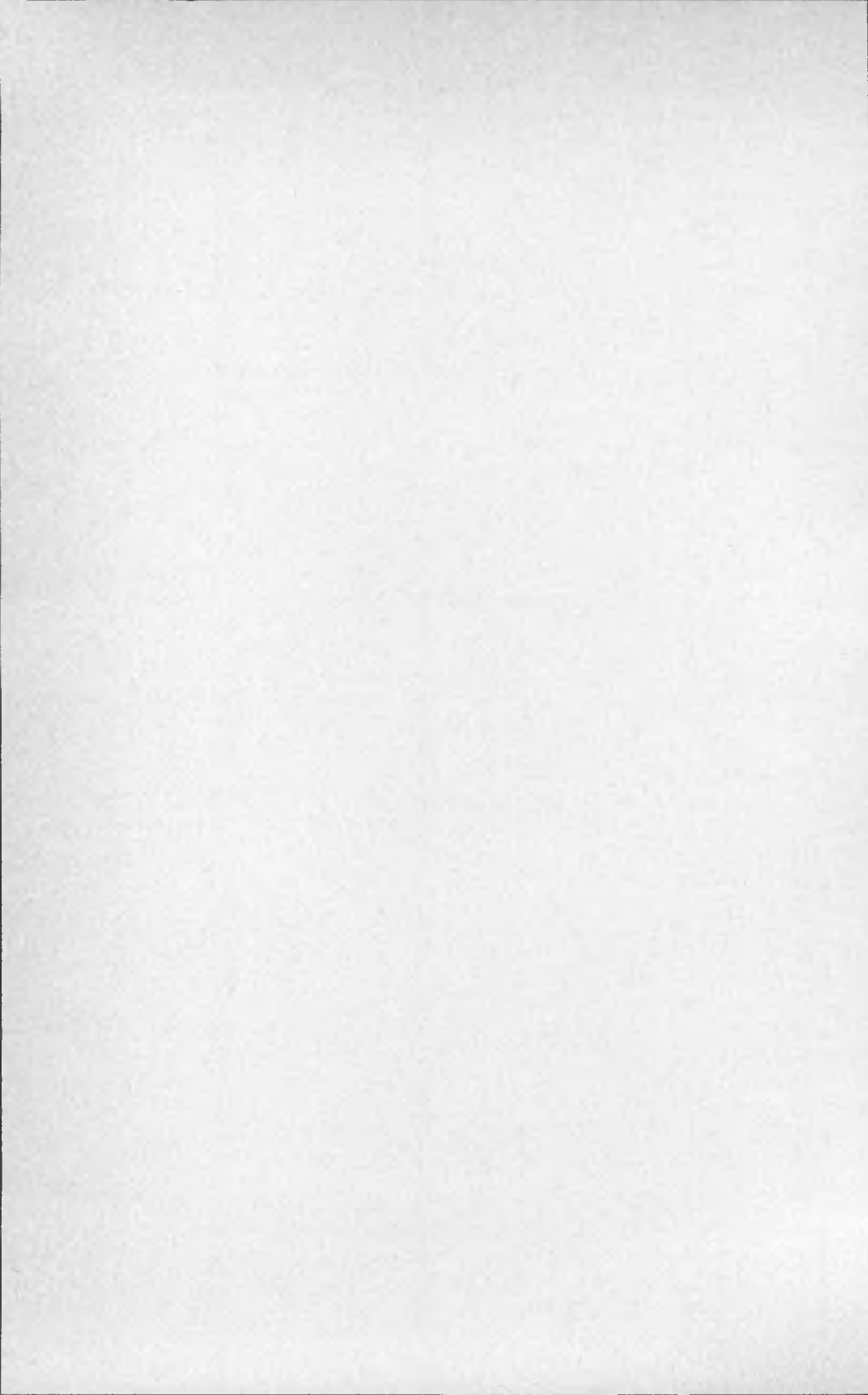
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**FOR UNDERGRADUATE STUDENTS ONLY**  
**CORNELL UNIVERSITY SUMMER SESSION—1964**  
**APPLICATION FOR ADMISSION AND COURSE PROGRAM**  
 (Due in Summer Session Office by June 22, 1964)

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

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

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

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

Name of your college 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 more 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

**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, 1964* (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 22, 1964)

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

**FOR GRADUATE and SPECIAL STUDENTS ONLY**  
**CORNELL UNIVERSITY SUMMER SESSION—1964**  
**APPLICATION FOR ADMISSION AND COURSE PROGRAM**  
**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, 1964* (not the Preliminary Announcement). List courses carefully, indicating departmental abbreviation, course number, course title, credit hours, and meeting time in the spaces provided below.

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

Please list *entire* program.

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

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

(Leave the following spaces blank)

Received	Recorded	Sent

## ACADEMIC BACKGROUND

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

☐ High School Graduate

☐ Undergraduate—institution attended and degree if granted:

.....  
(Institution)

.....  
(Location)

.....  
(Dates of Attendance)

.....  
(Degree)

☐ Now a candidate for a graduate degree at—

.....  
(Institution)

.....  
(Location)

.....  
(Degree Sought)

.....  
(Year)

☐ Holder of advanced degree from—

.....  
(Institution)

.....  
(Location)

.....  
(Degree Held)

.....  
(Year)

Note: If you wish to become a candidate for an advanced degree at Cornell University, apply directly to the Graduate School, Sage Graduate Center, 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)

Request additional forms from: Director of the Summer Session, 115 Day Hall, Cornell University, Ithaca, New York.