

Cornell University

ANNOUNCEMENTS

Summer Session



1967

SUMMER SESSION OFFICE

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

ADMINISTRATIVE BOARD

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CORNELL UNIVERSITY ANNOUNCEMENTS

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Cornell University

Summer Session

1967

- Eight Weeks' Session, June 19–August 11
- Six Weeks' Session, June 28–August 11
- Other Programs in the Summer Session

Calendar

June 19, Monday

Registration for the 8-week Summer Session: in Room 117, Ives Hall any time between the hours of 8 a.m. and 5 p.m. which does not conflict with attendance in the class meeting of courses elected. Persons registering after this date without prior approval will pay a \$10 fee for late registration. Tuition and fees are due for payment at the Treasurer's Office, 260 Day Hall, which closes at 4:30 p.m. Instruction begins at the time and place announced for each course.

June 21, Wednesday

Last day for withdrawal from the 8-week session without payment of a fraction of tuition and fees.

June 23, Friday

Last day for payment of tuition and fees for the 8-week session at the Treasurer's Office which closes at 4:30 p.m.

June 28, Wednesday

Registration for the 6-week Summer Session: undergraduates, 8:30 to 11 a.m.; graduates and special students, 1 p.m. to 3:30 p.m., in Lynah Hall. Persons registering after this date without prior approval will pay a \$10 fee for late registration. Tuition and fees are due for payment at the Treasurer's Office, 260 Day Hall.

June 29, Thursday

Instruction in the 6-week session begins at the time and place announced for each course. Late registrants report to the Summer Session Office, B-20 Ives Hall, to complete registration.

June 30, Friday

Last day for making changes in registration in the 8-week session *without payment of a fee* at the Summer Session Office. A \$10 fee for change in registration will be charged after this date. *Last day for withdrawal from the 6-week session without payment of a fraction of tuition and fees.*

July 3, Monday

All classes will meet as scheduled.

July 4, Tuesday

Holiday

July 5, Wednesday

Last day for payment of tuition and fees for the 6-week session at the Treasurer's Office, which closes at 4:30 p.m.

July 7, Friday

Last day for making changes in registration in the 6-week session *without payment of fee* at the Summer Session Office. A \$10 fee for change in registration will be charged after this date.

July 14, Friday

Last day for making changes in registration in the 8-week session. *No changes will be permitted after this date except for reasons beyond the control of the student.*

July 19, Wednesday

Last day for making changes in registration in the 6-week session. *No changes will be permitted after this date except for reasons beyond the control of the student.*

July 24, Monday

Registration at the Summer Session Office for the second period of any three week unit courses elected by students not previously registered in the Summer Session.

August 10, Thursday

Final examinations begin; schedule on page 26.

August 11, Friday

6-week and 8-week sessions end, 4 p.m.

**BE SURE TO BRING THIS ANNOUNCEMENT WITH YOU
FOR USE ON REGISTRATION DAY AND THROUGHOUT
THE SUMMER SESSION.**

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The courses and curricula described in this Announcement, and the teaching personnel listed therein, are subject to change at any time by official action of Cornell University.

Cornell University

THE SUMMER SESSION

GENERAL INFORMATION

The Summer Session of Cornell University is planned with the cooperation of the faculties of the separate schools and colleges. The program is designed with particular regard for what can be taught satisfactorily in a short term and in a summer period environment. Every effort is made to maintain the same standards of instruction and academic performance as those of the academic year.

In addition to serving the needs of undergraduate and graduate degree candidates, the Summer Session seeks to serve a wide variety of interests among persons for whom the summer period may be especially convenient for study.

Classes in the summer provide the particular advantage of optimum size for close association between student and instructor. The median class size in past summers has ranged from 12 to 15 students.

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

Admission

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

Admission of undergraduate or graduate students to the Summer Session 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 Session 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 to any other college or university. No other high school students will be accepted except in certain other programs of the Summer Session described on pages 63 and 64.

Undergraduates are required to register for no less than 4 credit hours if in the 8-week session and 3 credit hours if accepted for the 6-week session. A student who can devote full time to his studies is expected to enroll for more than the minimum. Registration for more than 9 credit hours in the 8-week session or 7 credit hours in the 6-week session will be permitted only to students with high academic averages or upon recommendation of their advisers.

Application for admission consists of completing the undergraduate application form which is found in the back of this Announcement or which will be mailed on request. An undergraduate candidate for a degree in Cornell University must have the application approved by the appropriate officer of his school or college (see pages 8 and 9).

Undergraduates are expected to apply for admission by June 9 if for the 8-week session, or by June 19 if for the 6-week session. Notification of admission prior to registration cannot be guaranteed to those whose applications are received after those dates. Late applications will be considered, however, and every effort will be made to act on them in time for enrollment.

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 carried will be appropriate to their degree programs. Courses in the Summer Session 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 Session.

GRADUATES

This classification is only for candidates for advanced degrees in Cornell University or elsewhere. Application for admission to either the 8-week or 6-week sessions should be made by June 15 to ensure a place in classes. A graduate student may apply as late as the date of registration in either session but does so at the risk of finding the course enrollment closed.

The graduate application form is included in the back of this Announcement or will be mailed on request. Admission to the Summer Session does not constitute admission to the Graduate School of Cornell University as a degree candidate.

A graduate student matriculated in the Graduate School of Cornell

University may, in the 8-week session, register for as many as 10 hours of credit upon recommendation of his Special Committee chairman. In the 6-week session the maximum is 8 credit hours.

Degree candidates may seek residence credit toward degrees in the amount of one-half of a unit for a program of 8 or more credit hours in the 8-week session, or in the amount of two-fifths of a unit for a program of 6 or more credit hours in the 6-week session. Request for residence credit is made to the Graduate School and must be supported by the student's Special Committee. (See page 14 for information regarding admission to the Graduate School.)

A candidate for a graduate degree in an institution other than Cornell University and who is planning to obtain credit toward his degree by means of his Summer Session program, does not register in the Cornell Graduate School but only in the Summer Session. Before registering he should arrange with the institution in which he is a degree candidate for the acceptance of the credit earned.

SPECIAL STUDENTS

A mature person who is not a candidate for an academic degree will be admitted to the 8-week or 6-week sessions to take courses for vocational or personal purposes. Courses may be elected at either the graduate or undergraduate level depending on the student's background. Such a person is to apply for admission by completing the "special student" application form included in the back of the Announcement, or which will be mailed on request. Application for admission should be made by June 15 to ensure a place in classes. A special student may apply as late as the date of registration in either session but does so at the risk of finding the course enrollment closed.

High school students who do not classify as "undergraduates" (see page 6) are not eligible for admission to the 8-week or 6-week sessions as "special students."

APPLICATION FOR ADMISSION

Admission to the 8-week or 6-week sessions is gained through formal application. The forms are included in the back of this Announcement. Request for an additional copy is to be addressed to the Director of Summer Session. When requesting the form, please indicate whether for undergraduate, graduate, or special student status. In most cases the information called for on the form will be sufficient.

Registration coupons, necessary for registration in the 8-week or 6-week sessions, will be mailed to the applicant after favorable action on the application has been taken. Included is a certificate of admission.

Applicants for admission to other programs of the Summer Session do not use the forms referred to above. Each program has a separate application form which must be used. (See descriptions of Other Programs, pages 63 to 76.)

Academic Credit

Courses offered in the 8-week and 6-week sessions are assigned appropriate hours of credit. The same is true in many of the other programs of the Summer Session. Students are not to register for any course work which normally cannot be completed by the end of the Summer Session term.

In this Announcement each credit 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 committee 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. Registration will be cancelled for persons who do not participate fully. Undergraduates are not permitted to register for audit except by permission of the Director of the Summer Session.

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 Session only after the appropriate 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 or Professor A. H. Detweiler

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

College of Engineering:

Basic Studies: Professor H. G. Smith

Chemical: Professor C. C. Winding

Civil: Professor William McGuire

Electrical: Professor J. L. Rosson

Industrial: Professor B. W. Saunders

Materials Science & Engineering: Professor M. S. Burton

Mechanical: Professor G. R. Hanselman

Engineering Physics: Professor T. R. Cuykendall

College of Home Economics: Mrs. Joyce McAllister

School of Hotel Administration: Dean R. A. Beck

School of Industrial & 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 courses are reported on the basis of letter grades: A+ through D- and F (for failure). 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 F will become the final recorded grade for the course if the work is not completed by January 1, 1968.* It is the student's responsibility to make such specific arrangements with his instructors. Students are not to register for any course which normally cannot be completed by the end of the Summer Session 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 D- as the lowest passing grade.

Students may hand in self-addressed postcards with their final examination papers to receive the final marks in their courses, or they may leave a stamped, self-addressed envelope with the Registrar, 240 Day Hall, for this purpose. *Final marks will not be available at the Summer Session Office.*

TRANSCRIPTS

Grades of 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 Session will be sent to the

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college of the student's choice only upon request directed to the University Registrar and payment of the fee of one dollar per transcript. Normally no transcript is available for "non-credit" courses.

Registration

8-WEEK SESSION

All students in the 8-week session will register on Monday, June 19. All classes scheduled for the 8-weeks will start on this date. Students are to complete their registration at any time during the day, between the hours of 8 a.m. and 5 p.m., which does not conflict with attendance in the class meeting of courses for which they are registering.

Each student must bring his registration form, including the certificate of admission sent to each pre-admitted applicant, to Room 117 Ives Hall for completion and approval. Directions for processing the registration will be given at that time.

Students in the 8-week session may elect a course from the program in the 6-week session provided the time schedule of classes does not conflict. Students taking courses in both sessions will register their *entire* program on Monday, June 19.

6-WEEK SESSION

Students in the 6-week session will register on Wednesday, June 28, in Lynah Hall. Only undergraduates register in the forenoon. Graduate and special students register in the afternoon. The certificate of admission, sent to each pre-admitted student for the 6-week session, will state the hour of the day when he will be admitted to Lynah 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 8:30 a.m.; graduate and special students at 1 p.m.

Students in the 6-week session who register for *only* a unit course scheduled to start July 24 will do so on the date of the first class meeting of the course. Unless otherwise specified, the place of registration will be the Summer Session Office, B-20 Ives Hall, at a time during the day which does not interfere with class attendance.

Persons who fail to appear for registration on the date specified for either the 8-week or 6-week sessions will be charged a fee of \$10 for late registration unless the fee is waived through prior approval of the Summer Session Director.

Formal registration is required for admission to courses of the Summer Session.

Registration for *Other Programs* (see pages 63 to 76) will take place at the time and place specified for each program.

CHANGES IN REGISTRATION

Changes in registration include: cancellation of a course, change from one course to another, change from undergraduate to graduate level of

credit or vice versa, addition of a course to a program, change in credit hours, or change from credit to auditor status or vice versa.

No change of registration is official unless made by appearing at the Summer Session Office, B-20 Ives Hall. This must be done as early as possible. Except for reasons beyond the control of the students, no change in registration will be permitted after 4 p.m. on July 14 for students in the 8-week session and after 4 p.m. on July 19 for those in the 6-week session. When a change in registration involves enrollment in another course, the permission of the instructor of the new course is necessary but does not make the change official.

A student enrolled in the 8-week session, who desires to change courses to those in the 6-week session only, must come to the Summer Session Office after the regular 6-week session registration day (June 28) and initiate a change of registration.

Penalty fees for changes in registration are described under Fees and Deposits, page 12.

WITHDRAWAL FROM SUMMER SESSION

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 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 Wednesday, June 21, in the 8-week session and by Friday June 30th, in the 6-week session.

Tuition and Fees

Tuition and fees are due and payable at the Treasurer's Office in Day Hall on registration day. For the 8-week session the date is June 19. For the 6-week session the date is June 28.

The last day for payment without penalty is Friday, June 23, in the 8-week session and Wednesday, July 5, in the 6-week session. A penalty of \$10 is charged if payment is made after these dates. The Treasurer's Office closes at 4:30 p.m.

Tuition is charged according to the number of credit hours for which the student is registered. The rate of tuition is \$45 per credit hour. Students in the 8-week or 6-week sessions, permitted to elect one or more courses from a Special Program of the Summer Session (see pages 63 to 76), will be charged at the \$45 rate per credit hour.

FEES AND DEPOSITS

All students in the 8-week and 6-week sessions will pay, in addition to tuition, a general fee of \$5 per week which entitles them to medical

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and hospital services (see pages 17 and 18), administration services, and student union membership. Fees for laboratories, field trips, and incidental expenses are charged in those courses indicated by asterisks in the course descriptions.

A student who finds it necessary to register after the regular registration date for each session must pay a \$10 late registration fee unless prior approval of the Summer Session Director has been obtained for the delay.

A student who has approval to make a change in program (see definition, page 10) after 4 p.m. on June 30 in the 8-week session, or July 7 in the 6-week session, must pay a \$10 change of registration fee. No change in program will be permitted after 4 p.m. on July 14 for students in the 8-week session, and after 4 p.m. on July 19 for those in the 6-week session, 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.

For other information concerning Graduate School regulations, see pages 13 and 14.

Other Regulations Concerning Fees

Any student, graduate or undergraduate, who fails to pay his tuition, fees, and other indebtedness at the Treasurer's Office within the time prescribed by the University, will be dropped from the University. When in his judgment the circumstances in a particular case so warrant, the Treasurer may allow an extension of time to complete payments. For such an extension, the student will be assessed a fee of \$5. A reinstatement fee of \$10 will be assessed any student who is permitted to continue or return to classes after being dropped from the University for default in payments. For reasons satisfactory to the Treasurer and the Registrar, which must be presented in writing, the latter assessment may be waived in any individual case.

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

FINANCIAL AID

Normally students registered in the Summer Session 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 Session program has the full approval of his faculty adviser, he will be considered for loan assistance.

There are no general University scholarships for Summer Session study.

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

CASHING OF CHECKS

The Treasurer of the University accepts checks in settlement of charges payable at his office, but a rule of the Board of Trustees forbids him to cash any credit instrument, even to the extent of accepting a check or draft in amount greater than the sum due and returning the excess in cash. Students therefore are 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 with 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 Session credit 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 Arts in Teaching (M.A. in T.); Master of Industrial and Labor Relations (M.I.L.R.); Doctor of Education (Ed.D.); and Doctor of Philosophy (Ph.D.).

When the candidate has registered in both the Summer Session and the Graduate School, the completion of 8 or more hours of credit in the 8-week session, or a minimum of 6 hours in the 6-week session, will count as one-half or two-fifths of a residence unit respectively, if approved in advance and reported as acceptable by the Special Committee.

Requirements for Masters' degrees may, upon approval of the appropriate graduate 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 Session 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, residence may be transferred for study in one preceding Cornell Summer Session 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. 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 that 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 12).

REGISTRATION

Only students approved for admission in the Graduate School must register with both the Summer Session and the Graduate School. Full information and proper forms for registering in the Graduate School are to be obtained from the Graduate School Office 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 Session who were not registered in the preceding spring term, but who expect to continue as full-time graduate students in a succeeding fall or spring term, must arrange with the Dean of the Graduate School for permission to register in the regular term.

COMPLETION OF REQUIREMENTS

Candidates for advanced degrees who expect to complete requirements and to take their final examinations at the end of the Summer Session 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 Arts for Teachers (M.A. T.), Master of Arts in Teaching (M.A. in T.), or Doctor of Education (Ed.D.) should consult the *Announcement of the School of Education*, which may be obtained by writing to the Announcements Office, Day Hall. The faculty of the School of Education, functioning as a division of the faculty of the Graduate School, has special jurisdiction over these degrees.

Housing and Dining

HOUSING

Rooms are available in University-operated housing units for all students registered in the 6-week or 8-week Summer Sessions, both graduate and undergraduate men and women. A leaflet giving detailed information on housing, *Residence Halls for Men and Women*, will be mailed by the Office of the Summer Session after admission has been approved. Rooms are furnished with desk, desk chair, desk lamp, bookcase, reading chair, chest of drawers, bed, bed linens (laundered by the University), blankets, and bedspread. Individual rooms are cleaned weekly, including replacement of bed linens. Daily bedmaking is the responsibility of the occupants. The occupants also furnish their own towels and soap.

UNDERGRADUATE WOMEN

All undergraduate women and women under twenty-one who are registered as special students are required to live and take their meals in a University residence hall. There will be a uniform charge of \$212.75 for board and room for the 6-week Summer Session and \$254.50 for the 8-week Summer Session.

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 6-week Summer Session are \$69 for single and \$51 per person for double accommodations. For the 8-week Summer Session, the rates are \$92 for a single room and \$68 per person for a double. For periods of three weeks or less the rates are \$12.50 single and \$9.50 double per person per week or part of a week. All rates cover the cost of room only. There are no prescribed hours for the daily closing of the graduate dormitory.

MEN STUDENTS

Single and double rooms will be available to both undergraduate and graduate men. Rates for the 6-week Summer Session are \$69 for single and \$51 per person for double accommodations. For the 8-week Session, the rates are \$92 for a single room and \$68 per person for a double. For periods of three weeks the rates are \$12.50 single and

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\$9.50 double per person per week or part of a week. All rates cover the cost of room only.

Insofar as is practical, all men students are left to the regulation of their own affairs, subject to the University's general rules with regard to student conduct (see page 20). There are no prescribed closing hours for men's dormitories.

OPENING AND CLOSING DATES

Living units to be used during the 6-week Summer Session will open for occupancy on Tuesday, June 27; they will close at 2 p.m., Saturday, August 12. Living units to be used during the 8-week Summer Session, will open on Sunday, June 18, and close at 2 p.m., Saturday, August 12. *Earlier or later occupancy will not be possible under any circumstances.*

APPLICATION 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 Session 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 6-week or 8-week Summer Session 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 applied towards the residence charge.*

Room deposits which accompany room application 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.*

MARRIED-STUDENT AND OFF-CAMPUS HOUSING

The University has the policy of requiring all students to live in housing which is approved by the University Student Housing Agency.

To assist students, both married and single, to secure adequate housing, The University Student Housing Agency provides an inspection

and information service. Information on properties which have University approval and approved housing *currently available* is posted for their convenience in the Off-Campus Housing Office in Day Hall, Room 223. As changes of currently available apartments occur daily, it is not practical to prepare lists.

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 Session range from \$65 to \$175 a month.

There is normally an adequate supply of rooms available in off-campus locations for the Summer Session. 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 \$3 to \$4 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 EIGHT AND SIX WEEKS' SUMMER SESSION STUDENTS:

(1) Unlimited visits to the Gannett Medical Clinic, 10 Central Avenue; (2) hospitalization at Tompkins County Hospital with medical care for three days for students in the 8-week session and two days for those in the 6-week session; (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

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than three weeks, graduated up to fourteen days, the maximum based on the entire Summer Session of approximately three months; (3) emergency surgical care; same as (3) above except none for students registered for less than three weeks.

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

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

CLINIC HOURS

Monday through Friday: 9 a.m.-4:30 p.m.

Saturday: 9 a.m.-12 noon.

Sunday: 10-11 a.m.

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

AFTER CLINIC HOURS

On a limited basis with a nurse in attendance, the Gannett Medical Clinic will also be open 4:30 to 9 p.m. weekdays and 12 noon to 9 p.m. Saturdays for illness and accidents occurring after regular clinic hours. *These extra hours are not intended for conditions that could be treated during the regular hours.* Should illness or accident occur after 9 p.m. on a weekday or after 11 a.m. on a Sunday, students should call 272-6962 or 275-5211 for instruction. The extended hours are in effect from June 19, 1967-August 11, 1967.

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 Gannett Medical Clinic, Ithaca 275-3493, when the clinic is open (see hours above), Ithaca 272-6962 after clinic hours. This service is not designed to care for students in their rooms. A charge of \$5 in the daytime and \$10 at night is made for these calls.

Counseling Services

INDIVIDUAL COUNSELING

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

FOREIGN STUDENTS

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

Libraries

The University libraries in Ithaca comprise the Central Library, consisting of the Olin Library for graduate study and research and the Uris Library for undergraduate use, the Mann Library of Agriculture and Home Economics, the Fine Arts Library, the Business and Public Administration Library, the Engineering Library, the Library of the School of Hotel Administration, the Library of the School of Industrial and Labor Relations, the Law Library, the Physical Sciences 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 3,000,000 volumes. The number of periodicals, transactions, and other serials currently received is over 30,000.

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

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

Xerox copy service for library books and periodicals and academically related materials is available in the Olin, Mann, Physical Sciences, Law, Business and Public Administration, and Engineering libraries. A schedule of the hours for all libraries on campus will be available at summer session registration desks and in the *Weekly Bulletin*.

Special Regulations

STUDENT CONDUCT

The Summer Session is administered under the same general regulations governing student conduct which apply to all other sessions of the University, with slight modifications to cover the special circumstances of the Summer Session. Students are expected to familiarize themselves with the contents of the Student Code and the Academic Integrity Code. The Codes are available at Summer Session registration and from the Office of the Dean of Students, 133 Day Hall.

The Codes, products of extensive deliberations involving students, faculty, and administration, are statements of minimum standards and regulations necessary to ensure maximum individual freedom and the effective functioning of the University as an educational institution.

In addition, students living in University dormitories and other group residences are responsible for familiarizing themselves with the specific rules applying to their places of residence. They may obtain copies of the rules from dormitory head residents, graduate residents, and counselors.

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.

DRESS REGULATIONS

Students are expected to dress appropriately for all occasions. During the Summer Session the majority of students on the campus are adult, and Cornell is host to many conferences composed largely of older people. Therefore, students are expected to dress according to the adult standards they are assuming by attending Cornell. Bermuda or walking shorts, shirts, and footwear are considered minimal attire in all buildings.

AUTOMOBILE REGULATIONS

The University does not encourage student use of automobiles but recognizes that in certain cases there may be important reasons why a student needs an automobile. Any person registered in a program of the Summer Session who owns, maintains, or for his own benefit operates a motor vehicle in Tompkins County must do the following: (1) he must register the vehicle with the Traffic Bureau of the Safety Division at the time of Summer School registration, or within five days 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 and 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. on Saturday. Parking restrictions are in effect twelve months of the year.

Each student registered for any program in the Summer Session is required to complete the Safety Division IBM card 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.

The Weekly Bulletin and Calendar

The Summer Session *Weekly Bulletin*, issued and posted on each Saturday of the 6-week Summer Session, 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, in Noyes Lodge, at the Dairy Bar, and in the main offices of the dormitories. Students are advised to secure copies regularly.

Extracurricular Activities

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

WILLARD STRAIGHT HALL

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

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parents and guests of students, by alumni, and by guests of the University.

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

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

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

The right is reserved to request appropriate identification from persons using the Hall and its facilities, and participating in its program.

CONCERTS

The Summer Session Concert Series will consist of five Thursday evening concerts. The dates are July 6, 13, 20, 27, and August 3. All concerts begin at 8:15 p.m. Performing artists will be announced.

In addition, an organ recital will be given by Donald R. M. Paterson, University Organist, on Sunday, July 23.

RELIGIOUS SERVICES

Sage Chapel

Non-denominational services (ecumenical insofar as possible) are held in Sage Chapel throughout the academic year with visiting clergymen of various denominations and faiths preaching. During the Summer Session period a similar series is provided in the chapel at 11 a.m. on the six Sundays, July 2-August 6, inclusive.

Anabel Taylor Hall

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, where information about religious services may be obtained.

Summer Session Choir

Music for the Sage Chapel services is provided by the Summer Session Choir, Professor Thomas A. Sokol, Choirmaster, and by the University Organist, Mr. Donald R. M. Paterson. The Choir rehearses in Sage Chapel on Tuesday evenings at 7:15 p.m. and on Sunday mornings at

9:30. The first rehearsal will be held on Sunday, July 2. All students and interested persons are invited to participate.

PUBLIC LECTURES

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

SUMMER THEATRE

A resident producing company under the direction of the University Theatre staff will again offer weekly dramatic presentations illustrating varied trends in playwriting and production modes. Among performances during the past two summers have been such plays as Samuel Beckett's *Endgame*, Bertolt Brecht's *Galileo*, Eugene O'Neill's *Ah, Wilderness!*, Ann Jellicoe's *The Knack*, Christopher Fry's *The Lady's Not for Burning*, James Joyce's *Finnegans Wake*, and Brendan Behan's *The Hostage*. The 1967 series of presentations will continue to satisfy the taste of discriminating playgoers as to both choice of material and standard of production. Dates of the performances, for which admission is charged, appear in the *Weekly Bulletin*.

The Summer Theatre program is coordinated with the course offerings in the Department of Speech and Drama (see page 62). Undergraduate and graduate credit is available to qualified students in such Speech and Drama Courses as 286, Play Production; 377, Fundamentals of Motion Picture Production; and 397, American Drama from Tennessee Williams to Edward Albee.

Details of participation in the Summer Theatre program—for academic credit or on an extracurricular basis—may be obtained from Professor Gordon E. Beck, Summer Theatre, 112 Lincoln Hall, Cornell University, Ithaca, New York 14850.

ART EXHIBITS

Museum of Art

ANDREW DICKSON WHITE MUSEUM

Cornell's Museum of Art continues to present a program of circulating exhibitions in addition to housing the University art collections for teaching purposes.

During the summer of 1967, special exhibitions, including one devoted to the "Ash Can School" as well as selections from the Museum's Asian, contemporary, and graphic arts collection will be on view.

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

Van Rensselaer Art Gallery

Exhibits of current interest, including painting, sculpture, printmaking, design, crafts, and architecture, are on display in the Housing and

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Design Art Gallery on the third floor of Martha Van Rensselaer Hall (Room 317). Students, faculty, and visitors are cordially invited to visit these exhibits. The Gallery is open Monday through Friday from noon to 5 p.m.

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 Session 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 6-week session from 1 to 6 p.m.

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

The gymnasium in Teagle Hall offers facilities to male students for basketball, volleyball, and general workouts Monday through Friday from 9 a.m. to 5 p.m. Presentation of the official Summer Session Registration Certificate is required for admittance.

Women students may use the gymnasium in Helen Newman Hall from 1 to 5 p.m. Monday through Friday. Equipment is available for badminton, basketball, and volleyball. Students must furnish their own gymnasium shoes.

Grumman Squash Courts

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

Swimming

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

Women students may use the Helen Newman Pool from 1 to 2 p.m. and from 3 to 5 p.m. Monday through Friday. Towels and suits are provided, but students must furnish their own bathing caps. From 3 to 5 p.m. women may be accompanied by a male guest.

Intramural Softball League

Groups or individuals who wish to participate in softball competition should see Mr. Glen Davis, 275-3475 or 273-1395.

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

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

SUMMER-ITHACA

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

SCHEDULE OF COURSES

Course offerings of the Summer Session are organized and described on the following pages under three classifications: the Eight-Week Session, the Six-Week Session, and Other Programs, with cross-reference to those offerings which apply to more than one such classification. The following information applies to all classifications unless exception is specified.

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 an instructor for one 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, those of less than 6-weeks in length, are indicated by a *u* following the course number, and their dates are given in the descriptions. (See page 11 for tuition charges.)

COURSES REQUIRING LABORATORY OR OTHER FEES are marked by an asterisk.*

CLASS SCHEDULES. For most courses, classes will meet five times a week on each weekday except Saturday throughout the period of the session or Special Program. The hours of class meetings are specified in the course descriptions. Courses in the 8-week session normally meet for 50 minutes daily. Courses in the 6-week session carrying 2 credit hours

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also meet for 50 minutes daily. Other courses in the 6-week session meet for 75 minutes daily.

MEETING PLACES of courses are named in the course descriptions. Any additions or 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, final examinations in courses in the 8-week and 6-week sessions will be held on Thursday, August 10, and Friday, August 11, 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 scheduled 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 8:00.

9 and 9:30 o'clock classes, Friday at 8:00.

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.

EXCEPTIONS: For all unit courses in either half of the 8- and 6-week sessions, the final examinations will be on Friday.

EIGHT-WEEK SESSION

June 19 — August 11

Any student in the 8-week session may elect a course from the program of courses for the 6-week session if the time schedule of classes will permit. Students taking courses in both sessions will register for their entire program on Monday, June 19.

Registration for this session is to be completed Monday, June 19, between the hours of 8 a.m. and 4:30 p.m. Each student must report to Room 117, Ives Hall, at a time during the day which will not conflict with attendance in the first class meeting of any course in his program.

Graduate and special students, required to have course coupons approved by the course instructor, are to obtain such approval before reporting to Room 117, Ives Hall, to complete registration.

For other general information, see pages 5 to 26.

ANTHROPOLOGY

Anthro. 364. AMERICAN PREHISTORY (U,G)

4 hours credit. M T W Th F 12. 303 McGraw. Mr. Lynch. No prerequisites.

A study of New World prehistory from initial peopling to European colonization.

Anthro. 372. LIVING RACES OF MAN (U,G)

4 hours credit. M T W Th F 11. 303 McGraw. Mr. Kennedy.

No prerequisites.

A survey of the major features of phenotypic variation in human populations today. Attention is directed to the evolutionary factors of race formation operating through time and across geographical lines, to the racial histories of particular human groups, and to the development of concepts about race in Western thought.

For other listings of the Department, see pages 32, 33 and 66.

CLASSICS

Greek

Greek 101. GREEK FOR BEGINNERS (U)

3 hours credit. M T W Th F 9 and 11. Goldwin Smith 124. Mr. Tyler.

Introduction to Attic Greek. Designed to enable the student to read the ancient authors as soon as possible. Must be taken with Greek 103.

Greek 103. ATTIC GREEK (U)

3 hours credit. Same time schedule as Greek 101. Mr. Tyler.

Readings from Plato. Must be taken with Greek 101.

Latin

Latin 105. LATIN FOR BEGINNERS (U)

3 hours credit. M T W Th F 9 and 11. Goldwin Smith 120A. Mr. Mitchell.

An introductory course in the essentials of the Latin language designed for rapid progress toward reading the principal Latin authors. Must be taken with Latin 106.

Latin 106. LATIN FOR BEGINNERS (U)

3 hours credit. Same time schedule as Latin 105. Mr. Mitchell.

Selected readings. Must be taken with Latin 105.

ENGINEERING

Electrical Engineering

Eng. 242. ELECTRICAL SCIENCE II (U)

3 hours credit. Prerequisite, Eng. 241. Lectures, M T W Th F 10; and W 7:30-10 p.m. or S 9-12 a.m. if there are no conflicts. 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 Cooperative Program

(See Other Programs, page 68.)

Engineering Short Courses

(See Other Programs, pages 68-70.)

Materials Science and Engineering

Eng. 6211. MATERIALS SCIENCE (U)

3 hours credit. Prerequisite, Physical Chemistry or the equivalent. Lectures, M T W Th F 9. Bard Hall. Laboratory, W 2-4:30 and M 7:30-10 p.m. or S 9-12 a.m. if there are no conflicts. Kimball 215.

Binding of atoms. Diffraction and structure. Equilibrium of assemblies of matter. Metastable states of matter. Elastic and plastic deformation. Laboratory work includes experiments in X-ray diffraction, phase equilibria, microstructure of materials, diffusion, heat treatment, and mechanical properties of materials.

Theoretical and Applied Mechanics

Eng. 212. MECHANICS OF RIGID AND DEFORMABLE BODIES II (U)

4 hours credit. Prerequisite, Eng. 211 or equivalent. Lectures and recitations M T W Th F 11; computing-laboratory M Th 2-4:30. Thurston 202.

Inelastic behavior. Energy methods in mechanics. Principles of particle dynamics. Theory of oscillations. Kinematics of rigid body motion. Dynamics of systems of particles. Kinetics of rigid bodies. Text: J.L. Meriam, *Dynamics*.

FOREIGN LANGUAGES AND LITERATURE

French

Fr. 362. (U,G)

3 hours credit. Prerequisite, two semesters of a college course in French Literature. M T W Th F 9. Goldwin Smith 281. Mr. Brogyanyi.

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

Quechua

Que. 101S. QUECHUA (U,G)

8 hours credit. Twenty hours of instruction per week. M T W Th F 8-10 and 11-1. Mr. Solá and staff.

An intensive introductory course in the Cuzco dialect of Quechua, emphasizing auditory and speaking skills.

For other listings of the Department, see pages 49-51.

MATHEMATICS

Math. 192. CALCULUS FOR ENGINEERS (U)

4 hours credit. Prerequisite, Mathematics 191 or its equivalent. M T W Th F 8-9:15. 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. 7-15.

Math. 294. ENGINEERING MATHEMATICS (U)

3 hours credit. Prerequisite, Mathematics 293. M T W Th F S 8. Thurston 201.

Linear differential equations, quadratic forms and eigenvalues, differential vector calculus, applications. Text: Block, Cranch, Hilton, Walker, *Engineering Mathematics. Vol. II*.

For other listings of the Department, see pages 56-57.

PHILOSOPHY

Phil. 101. INTRODUCTION TO PHILOSOPHY (U)

3 hours credit. M T W Th F 10. Goldwin Smith 221. Mr. Goldberg.

An introduction to philosophical ideas and problems through an intensive study of the writings of several major philosophers. Among the topics to be discussed are the existence of God, free will and determinism, legal and moral responsibility. Texts: Hume. *Dialogues Concerning Natural Religion*; Berofsky (ed.), *Free Will and Determinism*.

Phil. 311. PHILOSOPHY OF MIND (U,G)

4 hours credit. Prerequisite, at least one course in philosophy. M T W Th F 12. Goldwin Smith 221. Mr. Goldberg.

The emphasis will be on the contrast between materialistic and dualistic approaches to mental phenomena. Materialism, behaviorism, the relation between reasons and causes, psychoanalytic explanation, are among the topics which will be discussed. Texts: Chappell (ed.), *Philosophy of Mind*; Gustafson (ed.), *Essays in Philosophical Psychology*; Hook (ed.), *Dimensions of Mind*.

PHYSICS

*Physics 122. INTRODUCTORY ANALYTICAL PHYSICS II (U)

3 hours credit. Prerequisites, Physics 121 and at least simultaneous registration in Mathematics 192, or consent of the instructor. Lectures, T Th 9:30-10:45. Rockefeller A. Recitations, M W F 9:30-10:45. Rockefeller 103. Laboratory, T 2-5. Rockefeller 252.

Harmonic motion. The properties of the fundamental forces: gravitational, electromagnetic and nuclear. Kinetic-molecular theory of gases and elementary thermodynamics. At the level of *Introductory Analytical Physics* (3rd ed.) by Newhall. Fee \$5.

*Physics 224. INTRODUCTORY ANALYTICAL PHYSICS IV (U)

4 hours credit. Prerequisites, Physics 223 and at least simultaneous registration in Mathematics 294, or consent of instructor. Lectures, W F 11-12:15. Rockefeller A. Recitations, M T Th S 11-12:15. Rockefeller 104. Laboratory, T F 2-5. Rockefeller 30.

Superposition of waves; interference and diffraction. Selected topics from contemporary physics such as relativity, quantum effects, atomic and x-ray spectra, nuclear structure and reactions, and solid state physics. The laboratory work includes experiments in optics and contemporary physics. At the level of *Physics for Students of Science and Engineering*, Part II, by Halliday and Resnick, and of *Elementary Modern Physics* by Weidner and Sells. Fee, \$5.

*Physics 500. INFORMAL GRADUATE LABORATORY (G)

1 to 3 hours credit. Prerequisites, Physics 361 and 436, or consent of the instructor. Associated with the Physics 510 laboratory. Laboratory open M T W Th F 2-5, Clark 308. Topics as in Physics 510. Fee, \$5 per credit hour.

*Physics 510. ADVANCED EXPERIMENTAL PHYSICS (G)

3 hours credit. Prerequisites, Physics 410 and 443, or consent of the instructor. M T W Th F 2-5, Clark 308. Mr. Silsbee and Mr. Browman.

About seventy different experiments are available among the subjects of mechanics, acoustics, optics, spectroscopy, electrical circuits, electronics and ionics, heat, X-rays, crystal structure, solid state, cosmic rays, and nuclear physics. The student is expected to perform about five or six experiments, selected to meet his individual needs. Stress is laid on independent work. Fee, \$15.

Physics 574. INTERMEDIATE QUANTUM MECHANICS (G)

4 hours credit. Prerequisites, Physics 562, 572, and Mathematics 416, or consent of the instructor. M T W Th F 11-12:15, Rockefeller 103, and two additional hours each week to be arranged. Mr. K. Wilson.

Discussion of various applications of quantum mechanics such as collision theory, theory of spectra of atoms and molecules, theory of solids, emission of radiation, and relativistic quantum mechanics. At the level of *Quantum Mechanics of One- and Two-Electron Atoms* by Bethe and Salpeter.

(For other offerings of the Department, see pages 58-60, and also Other Programs, pages 63-64.)

PSYCHOLOGY

Psych. 306. INTRODUCTION TO LEARNING: A SURVEY OF FACTS AND PRINCIPLES OF LEARNING AND CONDITIONING (U,G)

4 hours credit. M T W Th F 11-12:15. Morrill 340. Mr. Zimmermann.

The major theories of learning will be discussed in relation to the survey, with special emphasis on the application of the derived principles to training programs, education, and complex human behavior.

For other offerings of the Department, see page 60.

SIX-WEEK SESSION

June 28 — August 11

For registration procedures and other information see pages 5 to 26.

Students admitted to this session may not elect courses from the eight-week session. They may elect a course from among those in Special Programs, pages 63 to 76, only by permission of the Program Director and if there is no conflict in the time schedule of classes. Tuition for such courses is at the rate charged in the six-week session.

AGRICULTURAL ECONOMICS

(See Other Programs, page 64.)

AGRICULTURAL EDUCATION

(See Other Programs, pages 65 and 66.)

AGRICULTURAL ENGINEERING

(See Other Programs, page 65.)

ANTHROPOLOGY

Anthro. 101. CULTURAL ANTHROPOLOGY (U,G)

3 hours credit. M T W Th F 9:30-10:45. Miss Richards.

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. 303. INTRODUCTORY ARCHAEOLOGY (U,G)

4 hours credit. M T W Th F 9:30-10:45. 303 McGraw. Mr. Lynch. No prerequisites.

A study of Old World prehistory from the origins of culture in the Palaeolithic through the beginnings of civilization.

Anthro. 304. BIOLOGICAL ORIGINS AND EVOLUTION OF MAN (U,G)

4 hours credit. M T W Th F 8-9:15. 303 McGraw. Mr. Kennedy. No prerequisites.

A survey of modern theories of man's biological history. The evidence for primate evolution in the data of the fossil record, comparative anatomy, biochemical anthropology, and animal behavior studies.

Anthro. 313. THEORY OF CULTURE CHANGE (U,G)

4 hours credit. Prerequisite, a beginning course in Anthropology, or consent of the instructor. M T W Th F 11-12:15. McGraw 305. Miss Richards.

A study of the various theories of cultural change and their relevance to the on-going 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 non-industrialized cultures.

Anthro. 441. CULTURE AND SOCIETY IN SOUTH ASIA (U,G)

4 hours credit. M T W Th F 9:30-10:45. McGraw 305. Mr. Mahar.

A survey of the social, economic, political, and religious institutions of the countries of South Asia. Both the traditional cultures and the changes which are taking place are considered.

Anthro. 545. SEMINAR: SOUTH ASIA (U,G)

2 hours credit. Hours to be arranged. Mr. Mahar.

The seminar will be adapted to the interest of the students enrolled. Suggested topics will include: text and context in Hinduism, village life in South Asia, problems in Indian historiography, Indian national character, India as portrayed in travelers' accounts, the impact of the West on Indian social and intellectual traditions, the origin and growth of Indian nationalism, problems of social and economic change, parliamentary institutions in India, etc.

(See also Other Programs, page 66.)

ART

Painting, Sculpture, and Graphic Arts

(See Summer Studios in Art, page 76.)

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 practice of art is involved.

BIOLOGICAL SCIENCES

*Biol. Sci. 101. GENERAL BIOLOGY (U)

3 hours credit. Registration permitted only to students who register also for Biol. Sci. 102. Lectures, M T W Th F 9 and 11. Plant Science 141. Laboratory, M T W Th F 1:40-4:30. Roberts 22. Mrs. Kepler and staff.

Designed for students intending to specialize in some aspect of biology or biochemistry, and also for those planning to major in other subjects (such as the social sciences or the humanities) but who want to obtain a thorough knowledge of the phenomenon of life as part of their general education. Plant and animal materials are considered together rather than in separate units. Course 101 covers cellular biology, the biochemistry of metabolism, physiology and anatomy, and behavior. Course 102 includes genetics, developmental biology, evolutionary theory, the biology of populations and communities, the origin of life, and the evolutionary patterns in the plant and animal kingdoms. Each topic is considered in the light of modern evolutionary theory. The laboratory work is designed to give first-hand experience with the materials discussed in lecture. Fee, \$10.

*Biol. Sci. 102. GENERAL BIOLOGY (U)

3 hours credit. A continuation of Biol. Sci. 101, and open only to persons concurrently registered. Time and place of class meetings same as for Biol. Sci. 101. Mrs. Kepler and assistants.

For course description see Biol. Sci. 101. Fee, \$10.

*Biol. Sci. 270. BIOLOGY OF VERTEBRATES (U,G)

4 hours credit. Prerequisite, an introductory course in biology or zoology. Lectures, M T W Th F 9:30-10:45. Rice 300. Laboratory, T W 2-5. Fernow 14. Miss Riley.

Occasional early morning field trips to be scheduled in lieu of regular laboratory period.

An introduction to the evolution, classification, and natural history of vertebrate animals. Laboratory work will include studies on structure, classification and identification, and various aspects of ecology and behavior. Field work will emphasize the distribution ecology, behavior, and life histories of local vertebrates, and special projects designed to introduce the student to some of the methods used in vertebrate research. Fee, \$10.

*Biol. Sci. 301. LABORATORY METHODS IN BIOLOGY (U,G)

3 hours credit. Prerequisites, Biol. Sci. 102, or Biol. Sci. 103-104 or their equivalents. Lecture and laboratory, M T W Th F 9:30-12. Roberts 302. Mr. Linzey.

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; bioplastic embedding; clearing and staining of small vertebrates; and the preparation and staining of squashes, smears, whole mounts, and sections. Fee, \$10.

Biol. Sci. 431. PRINCIPLES OF BIOCHEMISTRY, LECTURES (U,G)
4 hours credit. Prerequisite, organic chemistry. Lectures, M T W Th F 8-10.
Riley-Robb 105. Mr. Moore.

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

*Biol. Sci. 433. PRINCIPLES OF BIOCHEMISTRY,
LABORATORY (U,G)

3 hours credit. Prerequisites, quantitative analysis or permission of the instructor. Must be taken with or following Course 431. Laboratory, M T W Th F 10-12:30. Wing Hall 106. Mr. Moore.

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

CHEMISTRY

Students and members of the teaching staff are required to wear safety glasses or prescribed eye protective devices in all chemistry laboratories.

*Chem. 107u. GENERAL CHEMISTRY (U)

3 hours credit. *June 28-July 21.* Prerequisite, at least 2 units of mathematics, and one unit or more of secondary-school chemistry. Registration permitted only to students who register also for Chemistry 108u. Lectures, M T W Th F 8-9:50. Baker 207. Recitation, T W Th 3:30-4:30. Baker 207, 302, 316, and 18. Laboratory, M T W Th F 10-1. Baker 150. Miss Seager and Assistants.

The important chemical principles and facts are covered, with considerable attention given to the quantitative aspects and to the techniques which are important for further work in chemistry. Texts: Sienko and Plane, *Chemistry* (3rd Ed.); Sienko and Plane, *Experimental Chemistry* (3rd Ed.). Fee, \$7.50.

*Chem. 108u. GENERAL CHEMISTRY (U)

4 hours credit. *July 24-August 11.* Prerequisite, Chemistry 107u or its equivalent. Lectures, M T W Th F 8-9:50. Baker 207. Recitation, T W Th 3:30-4:30. Baker 207, 302, 316, and 18. Laboratory, M T W Th F 10-1. Baker 150. Miss Seager and Assistants.

A continuation of Chemistry 107u. The laboratory includes a simplified scheme of qualitative analysis. This course serves as a prerequisite for Chemistry 236 or Chemistry 353. Texts: as listed above for Chemistry 107u. Fee, \$7.50.

*Chem. 205. QUALITATIVE INORGANIC ANALYSIS
AND IONIC EQUILIBRIUM (U,G)

4 hours credit. Prerequisite, Chemistry 104 with a grade of 70 or better, or its equivalent. Lectures, M T W Th F 8. Baker 22. Laboratory, any three hours daily between 9 and 1. Baker 50. Mr. Kaplan.

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.

lent. 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.

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. 353. ELEMENTARY ORGANIC CHEMISTRY (U,G)

4 hours credit. Prerequisite, Chemistry 104 at a grade of 70, or 108 or 116, or their equivalent. Chemistry 355 must be taken concurrently with Chemistry 353. Primarily for students in the premedical and biological curricula. The student should determine the entrance requirements for the particular medical school he wishes to enter. Lectures, M T W Th F 8-10. Baker 107. Mr. Shelton and Assistants.

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

*Chem. 355. ELEMENTARY ORGANIC LABORATORY (U,G)

2 hours credit. Must be taken with Chemistry 353. Laboratory, M T W Th F 10-12:50. Baker 250. Mr. Shelton and Assistants.

Laboratory experiments on the preparation and reactions of typical aliphatic and aromatic organic compounds. Fee, \$15.

CONSERVATION

(See Other Programs, pages 67, 70 and 74.)

ECONOMICS

Econ. 103. MODERN ECONOMIC SOCIETY (U)

3 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 225. Mr. Dill.

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 8:00-9:15. Goldwin Smith 225. Mr. Sowell.

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 MICROECONOMIC THEORY (U,G)

4 hours credit. Prerequisite, 103 or its equivalent. M T W Th F 11:00-12:15. Goldwin Smith 264. Mr. Markovits.

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. INTERMEDIATE MACROECONOMIC ANALYSIS (U,G)

4 hours credit. Prerequisite, Economics 104 or its equivalent. M T W Th F 9:30-10:45. Goldwin Smith 264. Mr. Markovits.

An introduction to the theory of national income determination and economic growth in alternative models of the national economy; the interaction and relation of aspects of these models to empirical aggregate economic analyses.

Econ. 361. INTRODUCTION TO INTERNATIONAL ECONOMIC THEORY AND POLICY (U,G)

4 hours credit. Prerequisite, Economics 103-104 or their equivalent. M T W Th F 9:30-10:45. Goldwin Smith 234. Mr. Resnick.

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. 371. PUBLIC POLICY AND ECONOMIC DEVELOPMENT (U,G)

4 hours credit. Prerequisite, Economics 103-104 or consent of the instructor. M T W Th F 11:00-12:15. Goldwin Smith 225. Mr. Resnick.

Study of the role of the state in initiating and maintaining accelerated economic growth in less developed countries. Problems of capital accumulation, interaction of culture change and economic growth, outside participation in economic modernization, and the role of international specialization are emphasized.

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 Session and in other special programs.

Samuel Abrahamson, Professor of Education, Brooklyn College of the City of New York

Clyde W. Bresee, Director of Guidance, Athens Area Schools, Athens, Pennsylvania

Roy J. Butz, Ph.D., Professor of Education, State University of New York at Plattsburgh

Frank M. Goode, Department of Psychology, University of Michigan

Carroll J. Johnson, Superintendent of Schools, White Plains, New York

Louis M. Klein, Superintendent of Schools, Harrison, New York

Sheldon Lache, Assistant Professor of Education, University of Connecticut

Betty J. McKnight, Coordinator of Elementary School Science, Ithaca Public Schools, Ithaca, New York

Oscar G. Mink, Coordinator, Div. of Clinical Studies, College of Human Resources and Education, West Virginia University

Gerald R. Rising, Mathematics Director, Minnemath Center, University of Minnesota, Minneapolis

John Skawski, Superintendent of Schools, Peekskill, New York

Administration and Supervision

Ed. 561. THEORY AND PRACTICE OF ADMINISTRATION (G)

3 hours credit. M T W Th F 8-9:15. Warren 201. Messrs. Johnson, Klein, and Skawski.

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

Ed. 564. SCHOOL FINANCE AND FACILITIES (G)

3 hours credit. M T W Th F 11-12:15. Warren 201. Messrs. Johnson, Klein, and Skawski.

The role of the administrator in providing leadership in the provision and maintenance of funds and facilities. Marshaling personnel and material for school operation. Sources of school support. Estimation, interpretation, and management of expenditures. Planning, constructing, and financing a school building. Utilization, operation, and management of the school plant.

Ed.E. 567. SCHOOL LAW FOR ADMINISTRATORS AND TEACHERS (G)

3 hours credit. M T W Th F 9:30-10:45. Conference Room, 320 Wait Avenue. 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. Some attention is given to legislation and court decisions in the 50 states.

*Ed. 633*u*. SUPERVISION OF OCCUPATIONAL EDUCATION (G)

(See page 65.)

I.&L.R. 451. DYNAMICS OF OCCUPATION STRUCTURES IN WORK ORGANIZATION

(See page 55.)

Agricultural Education

Ed. 533*u*. PLANNING COURSES OF STUDY AND AGRICULTURAL EXPERIENCE PROGRAMS IN AGRICULTURE (U,G)

(See page 65.)

Ed. 630*u*. SEMINAR IN AGRICULTURAL EDUCATION (U,G)

(See page 65.)

Curriculum and Instruction

Ed.E. 440E. TEACHING OF ENGLISH IN SECONDARY SCHOOLS (U,G)

3 hours credit. M T W Th F 12:30-1:45. Warren 232. Miss Tweedie.

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

Ed.E. 440M. TEACHING MATHEMATICS IN
SECONDARY SCHOOLS (G)

3 hours credit. M T W Th F 8-9:15. Warren 37.

For students preparing to teach mathematics in the secondary schools.

Ed.E. 440S. TEACHING SOCIAL STUDIES IN
SECONDARY SCHOOLS (G)

3 hours credit. M T W Th F 12:30-1:45. Warren 37. Mr. Lowe.

For students preparing to teach social studies in the secondary schools.

Ed. 444. SEMINAR IN THE TEACHING OF MATHEMATICS (U,G)

3 hours credit. M T W Th F 8-9:15. Warren 260. Mr. Rising.

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 further selection of topics. A mathematics laboratory will be provided for use by students in the course.

Ed. 545. THE CURRICULUM OF AMERICAN SCHOOLS (G)

3 hours credit. M T W Th F 9:30-10:45. Warren 260. Mr. Abrahamsen.

A survey of the basic elements involved in making curriculum decisions, and an examination of contemporary curriculum developments in elementary and secondary schools.

Ed. 546. TEACHING READING AND LANGUAGE SKILLS (G)

3 hours credit. M T W Th F 12:30-1:45. Warren 201. Mr. Butz.

Materials and techniques in teaching the language arts in the elementary school; special emphasis on the teaching of reading. Enrollment limited to those in the Teacher Associate Program.

Educational Psychology and Measurement

Ed. 417. PSYCHOLOGY OF ADOLESCENCE (U,G)

2 hours credit. M T W Th F 1. Warren 160. Mr. Andrus.

Designed especially for secondary school teachers (grades 7-12) and guidance counselors, but applicable to all adults who work with 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.

Ed. 453. INTRODUCTION TO EDUCATIONAL STATISTICS (U,G)

3 hours credit. M T W Th F 8-9:15. Warren 232. Mr. Goode.

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

40 SIX-WEEK SESSION

Ed. 511. EDUCATIONAL PSYCHOLOGY (U,G)

3 hours credit. M T W Th F 2-3:15. Warren 232. Mr. Lache.

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.E. 555. USE AND INTERPRETATION OF TESTS IN GUIDANCE AND PERSONNEL ADMINISTRATION (G)

3 hours credit. M T W Th F 8, third hour to be arranged. Warren 160.

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.

Ed. 613. BEHAVIOR PROBLEMS IN THE SCHOOL (G, U by permission)

3 hours credit. M T W Th F 9:30-10:45. Warren 232. Mr. Lache.

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 remedial programs for these students leading to more satisfactory adjustment within the school situation. Attention will be given to the potential "drop-out", aggressive behavior, withdrawn behavior (school phobia), and general "problem" behavior. Special attention will be given to theoretical explanations as well as specific diagnosis of causes for observed behavior.

Guidance and Personnel Administration

Ed. 582. EDUCATIONAL AND VOCATIONAL GUIDANCE (G)

2 hours credit. M T W Th F 12-12:50. Warren 132. 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.

Ed. 584. GROUP TECHNIQUES IN GUIDANCE (G)

2 hours credit. M T W Th F 12-12:50. Warren 101. Mr. Mink.

Methods and materials for presenting educational and occupational information to students. Theory and practice of group guidance, and counseling in a group setting.

Ed. 586*u*. ORGANIZATION AND ADMINISTRATION OF GUIDANCE PROGRAMS

(See Other Programs, page 71.)

Ed. 588*u*. CASE STUDIES IN COUNSELING

(See Other Programs, page 71.)

Ed.E. 555. USE AND INTERPRETATION OF TESTS IN GUIDANCE AND PERSONNEL ADMINISTRATION
(See Educational Psychology, page 40.)

M.H.I. PRINCIPLES AND PRACTICES IN MENTAL HEALTH
(See Mental Health, page 57.)

See also course offerings in Industrial and Labor Relations, Psychology, and Sociology.

Guidance courses tentatively scheduled for the Summer Session of 1968: Educational and Vocational Guidance; Counseling; Occupational and Educational Information; Practicum in Measurement and Appraisal for Counselors.

History, Philosophy, and Sociology of Education

Ed. 470. SOCIAL AND PHILOSOPHICAL FOUNDATIONS OF EDUCATION (U,G)

3 hours credit. M T W Th F 12:30-1:45. Warren 260. Mr. Beach.
A study of the persistent problems of education in a democracy.

Ed.E. 472. PHILOSOPHERS ON EDUCATION (U,G)

3 hours credit. M T W Th F 8-9:15. Warren 101. 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.

Ed. 574. HISTORY OF EDUCATION IN THE MODERN PERIOD (G, U by permission)

3 hours credit. M T W Th F 9:30-10:45. Warren 160. Mr. Beach.

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

Ed. 578. COMPARATIVE EDUCATION (G)

3 hours credit. M T W Th F 11-12:45. Warren 160. Mr. Abrahamsen.

A comparative treatment of several national systems of education from a historical perspective.

Home Economics Education

H.E.Ed. 440. THE ART OF TEACHING (U,G)

3 hours credit. M T W Th F 9:30-10:45. Van Rensselaer East Wing 5. Miss Cooper.

Consideration is given to (1) procedures for determining the scope and sequence of the content of home economics classes and (2) the choice of learning experiences appropriate for use in the secondary schools. Students have an opportunity to study the community and the place of home economics in the total educational program.

42 SIX-WEEK SESSION

H.E.Ed. 559. EVALUATION (G)

3 hours credit. M T W Th F 12:30-1:45. Van Rensselaer East Wing 5. Miss Cooper.

For high school and college teachers, administrators, extension agents, and educational research workers. Students without experience in any of the professional positions are admitted by permission of the instructor.

Basic principles of evaluation studied in relation to specific methods of appraising educational programs or individual achievement. Opportunities will be given for constructing and using evaluation instruments.

H.E.Ed. 599. THESIS AND RESEARCH (G)

Credit and hours to be arranged. Registration with permission of the instructor. Van Rensselaer East Wing 4. Department Staff.

(See listings under Home Economics, Pages 53-54.)

Reading and Study Skills

*Ed. 7u. COLLEGE READING AND STUDY SKILLS (U,G)

Noncredit. July 3-August 3. M W or T Th 2:00-3:30. Reading-Study Center, ILR Building E. Mr. Scoones and Mr. Warren.

The aim is the improvement of reading and study skills. In the area of *reading* students learn to improve both their reading speed and comprehension. Students are taught how to read selectively; how to distinguish main ideas from supporting material; how to determine an author's thesis and tone; and how to comprehend scholarly and technical material. As part of their training in speed reading, students will have the opportunity to work daily with the reading accelerators in the reading laboratory. Students will also receive instruction in the basic *study skills* which are essential for efficient and effective study. Topics covered will be efficient planning and use of time, recording and remembering lecture notes, preparing for and taking examinations, research procedures and techniques, and marking textbooks and taking notes on readings.

Students may register for this course in Lynah Hall on June 28th, registration day. A fee of \$52.50 will be payable at this time. For additional information, address Mr. Robert H. Wuerthner, Acting Director, Reading-Study Center, 101 ILR Building E, Cornell University, Ithaca, New York 14850.

Science Education

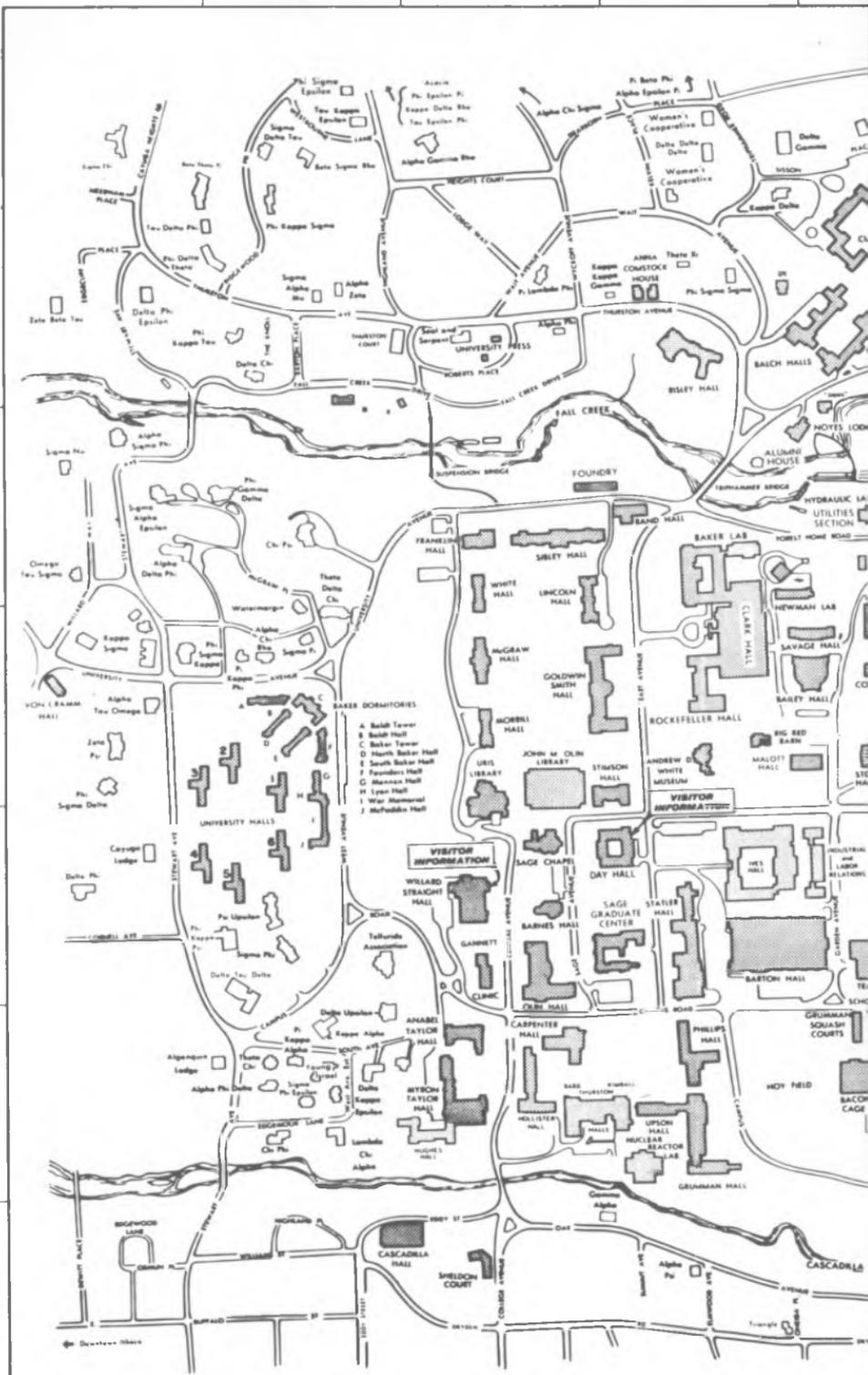
Ed. 407. TEACHING OF ELEMENTARY SCHOOL SCIENCE (U,G)

3 hours credit. Lectures, M T W Th F 8-9:15. Laboratory, T 2-4:30. Stone 7. Miss McKnight.

The content and methods of elementary school science and nature study, with field work and laboratory experience useful in classroom and camp. Designed particularly for those who are preparing to teach, and who are responsible for teaching or supervising elementary school science. Attention will be given to several new curricula, especially the A.A.A.S. Process Approach.

KEY TO THE CAMPUS MAP ON THE FOLLOWING PAGES

- Agronomy F4
 Alumni (Athletic) Fields F5
 Alumni House D3
 Artificial Breeders H7
 Bacon Athletics Cage E6
 Bailey Hall E4, auditorium
 Baker Residences (men) B4
 Baker Laboratory D3, chemistry
 Balch Halls E2, women's residences
 Bard Hall C6, materials science & eng.
 Barnes Hall C5, Campus Store, auditorium
 Barton D5, military training, Safety Div.
 Beebe Lake; Triphammer Falls E-F3
 Big Red Barn D4, alumni center
 Caldwell Hall E4, agronomy
 Campus Store, Barnes-C5, Sheldon Ct.-C7
 Carpenter C6, eng. library & admin.
 Cascadilla Hall B7
 Clark Hall D4, physical sciences
 Collyer Boat House, Cayuga Lake Inlet
 Comstock Hall E4, entomology, limnology
 Comstock House D2, women's residence
 Cornell Quarters F-G7, student families
 Crescent E6, football stadium
 Dairy Cafeteria (Stocking Hall) G-H5
 Day Hall C-D5, Univ. administration
 Dickson Hall E2, women's residence
 Donlon Hall E1, women's residence
 Educ. Placement D2, 320 Wait Av.
 Fernow Hall F4, conservation
 Filter Plant J3
 Fishery Lab. J7
 Food Storage & Laundry F7
 Foundry C3, architecture studio
 Franklin Hall C3, art, Asian studies
 Gannett Medical Clinic C5
 Goldwin Smith Hall C4, arts & sciences
 Golf Course H2
 Graphic Arts Services G6
 Greenhouses F4, H4
 Grumman D6, aero. eng.
 Grumman Squash Courts E6
 Hasbrouck Apts. G1, student residences
 Heating Plant F6
 High Voltage Lab. H7, 909 Mitchell St.
 Hollister Hall C6, civil eng.
 Hoy Field D6, baseball
 Hughes Hall C6, law student residence
 Hydraulics (Applied) Lab. E3
 Ind. & Labor Relations Conf. Ctr. E5
 Ives Hall D5, industrial & labor relations, summer session & extramural courses, Univ. personnel office
 "Japes" E2, recreation, meetings
 Judging Pavilion H5
 Kimball Hall D6, materials processing
 Langmuir Lab., Research Pk. H2
 Library Tower C4
 Lincoln Hall C3, music, speech & drama
 Lynah Hall E-F5, ice skating
 Malott Hall D4, business & public admin., hospital admin.
 Mann F4, agric.-home econ. library, Finance Office, Bailey Hortorium
 McGraw Hall C4, geological sciences, sociology, anthropology
 Minns Garden E4
 Moakley House H2, recreation, golf
 Morrill Hall C4, modern languages, psychology
 Morrison Hall H5, animal husbandry
 Helen Newman Hall E2, women's phys. ed.
 Newman Lab. D-E3, nuclear studies
 Noyes Lodge E3, recreation, cafeteria
 Noyes Student Center A5
 Nuclear Reactor Lab. D6
 Observatory F2
 Olin Hall C5, chemical engineering
 Olin (Grad. & Research) Library C4
 Ornithology HI-2, Sapsucker Woods Rd. via Warren & Hanshaw Rds.
 Phillips D6, elec. eng.
 Plant Science E4, genetics, development, physiology, cell physiology
 Pleasant Grove Apts. F1, student families
 Post Lab. H4, floriculture
 Poultry Research F4
 Poultry Virus Disease Lab. J5
 Radiation Biology Lab. H2, Warren Rd.
 Radiophysics & Space Research D4
 Rand D3, Computing Ctr.
 Research Park H2
 Rice Hall F4, poultry husbandry
 Riding Hall & Stables F6, Rt. 366
 Riley-Robb Hall G5, agric. eng.
 Risley Hall D2, women's residence
 Roberts Hall E4, agric. admin., biol. sciences, veg. crops
 Rockefeller Hall D4, physics, eng. physics
 Sage Chapel C5
 Sage Graduate Center D5
 Savage Hall D-E4, nutrition
 Schoellkopf Field and Hall E6, athletics
 Service Building F7
 Sheldon Ct. C7, News Bureau, Campus Store
 Sibley Hall C3, arch., history, govt.
 Statler Hall D5, hotel administration
 Stimson Hall D4, ecology & systematics
 Stocking Hall G5, dairy & food science, neurology & behavior, microbiology
 Stone Hall E4, education
 Suspension Bridge C3
 Synchrotron Bldg. G6
 Taylor (Anabel) Hall C6, interfaith ctr.
 Taylor (Myron) Hall C6, law
 Teagle Hall E5, men's phys. ed., sports
 Television-Film Center H5
 Thurston Court B2, student residences
 Thurston C6, theoretical & applied mech.
 Toboggan Lodge E3, recreation
 University Halls, Sperry Hall, Class of 1926 Hall B5, men's residences
 University Press C2
 Upson Hall D6, mech. eng., computer sci.
 Uris (Undergraduate) Library C4
 U. S. Nutrition Lab. H4
 Utilities Section E3
 Van Rensselaer Hall E4, home economics
 Vegetable Gardens G7
 Veterinary College J4
 Veterinary Virus Research Lab. H7
 Visitor Information C5 and D5
 von Cramm Scholarship Hall (men) A4
 Warren E4, agric. econ., rural sociol.
 White Hall C3, mathematics
 White Museum of Art D4
 Willard Straight Hall C5, student union
 Wing Hall G5, biochem., molec. biol.



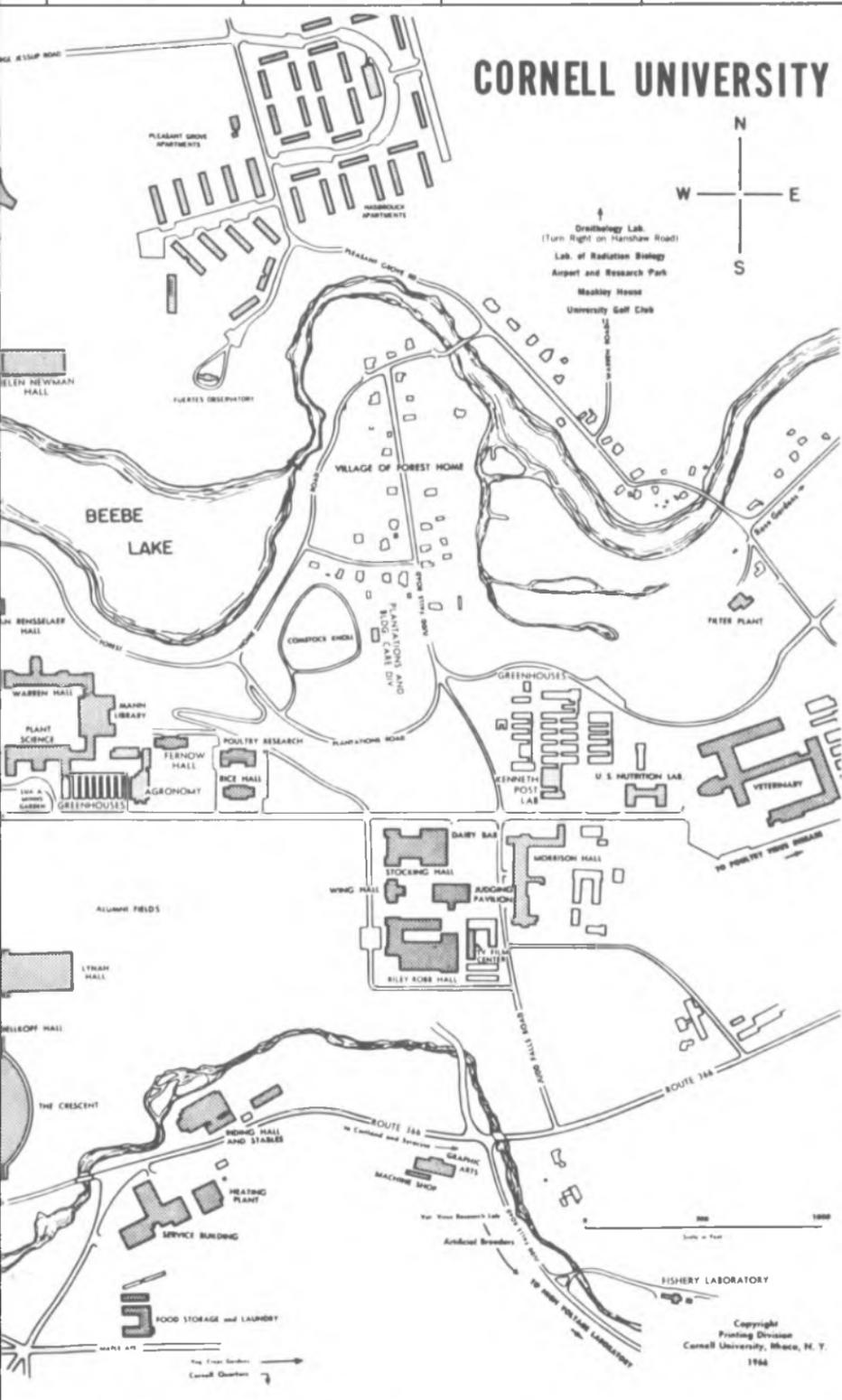
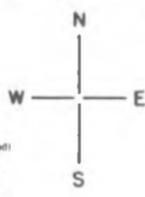
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46 SIX-WEEK SESSION

Ed. 409. OUR PHYSICAL ENVIRONMENT (U,G)

3 hours credit. Lectures, M T W Th F 9:30-10:45. Laboratory, W 2-4:30. Stone 7. Mr. M. Bruce.

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

*Ed. 426. FIELD NATURAL HISTORY (U,G)

3 hours credit. Lectures, Th 1:40-3, S 8-9. Laboratory, Th 3-5:30, S 9-11:30. Stone 7. 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.

Ed. 507. METHODS OF TEACHING SCIENCE IN SECONDARY SCHOOLS (U,G)

3 hours credit. Lectures, M T W Th F 12:30-1:45. Laboratory, M 3-5. Stone 7. Mr. M. Bruce.

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

Research and General

Ed. 499u. INFORMAL STUDY IN EDUCATION (U,G)

and

Ed. 500u. SPECIAL STUDIES IN EDUCATION (G)

(See Other Programs, pages 65-66.)

Other Programs for Teachers

Agricultural Education (see pages 64-66.)

Area Study Programs for Secondary School Teachers (see page 66.)

Disadvantaged Youth Workshop (see page 67.)

Field Studies in Natural Resources Conservation (see page 70.)

Food and Nutrition (see page 71.)

Guidance and Personnel Administration (see page 71.)

Institute on American Political Process (see page 73.)

New York State Regional Science Institute (see page 74.)

Shell Merit Fellowship (see page 75.)

Textiles and Clothing (see page 72.)

ENGLISH

Engl. 205. ADVANCED COMPOSITION (U,G)

3 hours credit. Prerequisite, satisfactory completion of a year's work in Freshman English or its equivalent. M T W Th F 11:00-12:15. Goldwin Smith 236. Mr. Zall.

A course in expository prose designed for students seeking additional practice in written expression. In addition to classroom discussion of principles of exposition, there will be papers and individual conferences.

Engl. 311. LITERATURE OF THE SEVENTEENTH CENTURY (U,G)

4 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 227. Mr. Finlay.

A survey of the major poetic traditions of the period, notably Ben Jonson and his followers, Donne and the metaphysicals, Rochester and the Cavalier poets, and readings of some selected intellectual prose texts by such major writers as Bacon, Browne, and Burton.

Engl. 315. LITERATURE OF THE EIGHTEENTH CENTURY (U,G)

4 hours credit. M T W Th F 8:00-9:15. Goldwin Smith 160. Mr. Budick.

A critical examination of major works by the great writers of the Augustan age: Dryden, Swift, Pope, and Dr. Johnson.

Engl. 316. THE ENGLISH NOVEL FROM DEFOE TO DICKENS (U,G)

4 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 162. Mr. Shinagel.

A survey of the rise and establishment of the English novel through a critical reading of selected works by Defoe, Richardson, Fielding, Smollett, Sterne, Scott, Austen, and Dickens.

Engl. 317. THE ROMANTIC POETS (U,G)

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

A survey of the Romantic movement in English poetry through a close reading of selected poems by Blake, Wordsworth, Coleridge, Byron, Shelley, and Keats.

Engl. 320. VICTORIAN POETRY AND PROSE (U,G)

4 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 164. Mr. Shaw.

A survey of selected major poetry of Tennyson, Browning, and Arnold, and selected major intellectual prose of J. S. Mill, Carlyle, Newman, Ruskin, T. H. Huxley, and Butler, seen in the historical context of the Victorian period.

Engl. 330. MAJOR AMERICAN WRITERS (U,G)

4 hours credit. M T W Th F 8:00-9:15. Goldwin Smith 128. Mr. Harcourt.

A survey of the major tradition of American literature through a critical study of selected works by Poe, Emerson, Thoreau, Hawthorne, Dickinson, Melville, Whitman, Twain, and James.

Engl. 338. MODERN ENGLISH AND AMERICAN NOVEL (U,G)

4 hours credit. M T W Th F 11:00-12:15. Goldwin Smith 128. Mr. Kleine.

A critical study of selected major novels by such representative twentieth century novelists as Hemingway, Faulkner, Fitzgerald, Conrad, Ford, Joyce, and Lawrence.

48 SIX-WEEK SESSION

Engl. 343. FORMS OF FICTION (U,G)

4 hours credit. M T W Th F 11:00-12:15. Goldwin Smith 248. Mr. Sukenick.

The course will examine the anti-traditional novel. Such writers as Sterne, Joyce, and Kafka will be studied for significant departures from the realistic norms in the novel form and its tradition, as well as for background to a reading of important contemporary writers of the "underground novel": Henry Miller, Kenneth Patchen, John Hawkes, and William Burroughs, among others.

Engl. 346. MODERN DRAMA (U,G)

4 hours credit. M T W Th F 8:00-9:15. Goldwin Smith 162. Mr. Kaufman.

A study of the drama from Ibsen to the present day, including major continental playwrights, and giving special attention to Shaw, O'Casey, O'Neill, Miller, Brecht, Pirandello, Strindberg, Beckett, Pinter, and Albee.

Engl. 368. SHAKESPEARE (U,G)

4 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 128. Mr. Harcourt.

An introduction to the works of Shakespeare based on a close reading of four comedies, four histories, and four tragedies, representative of the stages of his artistic development and the range of his dramatic achievement.

Engl. 385. CREATIVE WRITING (U,G)

4 hours credit. M T W Th F 9:30-10:45. Goldwin Smith 248. Mr. Sukenick.

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

Engl. 442. ENGLISH SATIRE (U,G)

4 hours credit. M T W Th F 11:00-12:15. Goldwin Smith 246. Mr. Shinagel.

The nature of satire arrived at through a critical study of representative satiric masterpieces in prose fiction (e.g., *Gulliver's Travels*, *Animal Farm*), poetry (e.g., *Rape of the Lock*, *Don Juan*), and drama (e.g., *Volpone*, *Beggar's Opera*).

Engl. 449. MODERN ENGLISH AND AMERICAN POETRY (U,G)

4 hours credit. M T W Th F 1:30-2:45. Goldwin Smith 236. Mr. Kleine.

A critical survey of twentieth-century poetry, with a close examination of the influence by such poets as Frost, Pound, Eliot, Stevens, Yeats, Auden, and Dylan Thomas.

Engl. 468. MODERN LITERARY CRITICISM
AND ITS BACKGROUND (U,G)

4 hours credit. M T W Th F 11:00-12:15. Goldwin Smith 160. Mr. Shaw.

Designed as an introduction to criticism, this course will examine the literary criticism and critical theories of T. S. Eliot, I. A. Richards, Northrop Frye, and Kenneth Burke, and discuss them against the background of the critical tradition represented by Plato, Aristotle, Sidney, Johnson, Coleridge, and Arnold.

Engl. 920. RESEARCH AND GUIDANCE (G)

Hours and credit to be arranged. Mr. Caputi.

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

FLORICULTURE

(See Other Programs, page 65.)

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 for graduate students who may elect 151-152. Senior non-Arts students wishing to take a reading course may register in 121-122 with written permission from their colleges.

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.

For languages other than the following, see listings under Classics (page 27) and also page 29.

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. Benoit 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. Benoit and staff.

Fr. 121u. FRENCH (ELEMENTARY READING COURSE) (U)

3 hours credit. *June 28 through July 21.* Open only to senior non-Arts students with written permission from their colleges. Twenty hours of instruction each week. Morrill Hall. Mr. Benoit and staff.

Designed to help students going on to graduate school to acquire a reading knowledge of the language.

Fr. 122u. FRENCH (ELEMENTARY READING COURSE) (U)

3 hours credit. *July 24 through August 11.* Open only to senior non-Arts students with written permission from their colleges. Prerequisite, 121u or its equivalent. Twenty hours of instruction each week. Morrill Hall. Mr. Benoit and staff.

Designed to help students going on to graduate school to acquire a reading knowledge of the language.

Fr. 151u. FRENCH (ELEMENTARY GRADUATE READING COURSE) (G)

3 hours credit. *June 28 to July 21.* Open only to graduate students. Twenty hours of instruction each week. Morrill Hall. Mr. Benoit and staff.

Designed to help graduate students prepare for the Graduate Reading Examination administered by the Graduate School.

Fr. 152*u*. FRENCH (ELEMENTARY GRADUATE READING COURSE) (G)

3 hours credit. *July 24 through August 11*. Open only to graduate students. Prerequisite, French 151*u*, or one year of college French, or two years of high school French. Twenty hours of instruction each week. Morrill Hall. Mr. Benoit and staff.

Designed to help graduate students prepare for the Graduate Reading Examination administered by the Graduate School.

Fr. 201. 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. Brogyanyi.

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

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. 121*u*. GERMAN (ELEMENTARY READING COURSE) (U)

3 hours credit. *June 28 through July 21*. Open only to senior non-Arts students with written permission from their colleges. Twenty hours of instruction each week. Morrill Hall. Mr. Kufner and staff.

Designed to help students going on to graduate school to acquire a reading knowledge of the language.

Germ. 122*u*. GERMAN (ELEMENTARY READING COURSE) (U)

3 hours credit. *July 24 through August 11*. Open only to senior non-Arts students with written permission from their colleges. Prerequisite, 121*u* or its equivalent. Twenty hours of instruction each week. Morrill Hall. Mr. Kufner and staff.

Designed to help students going on to graduate school to acquire a reading knowledge of the language.

Germ. 151*u*. GERMAN (ELEMENTARY GRADUATE READING COURSE) (G)

3 hours credit. *June 28 to July 21*. Open only to graduate students. Twenty hours of instruction each week. Morrill Hall. Mr. Kufner and staff.

Designed to help graduate students prepare for the Graduate Reading Examination administered by the Graduate School.

Germ. 152u. GERMAN (ELEMENTARY GRADUATE READING COURSE) (G)

3 hours credit. *July 24 through August 11*. Open only to graduate students. Prerequisite, German 151u, or one year of college German, or two years of high school German. Twenty hours of instruction each week. Morrill Hall. Mr. Kufner and staff.

Designed to help graduate students prepare for the Graduate Reading Examination administered by the Graduate School.

Russian

Russ. 101. RUSSIAN (U)

6 hours credit. Students who have previously studied any Russian must take the qualifying examination before registering for this course. Twenty hours of instruction each week. Morrill Hall. Mr. Leed and staff.

Spanish

Span. 101. SPANISH (U)

6 hours credit. Students who have previously studied any Spanish must take the qualifying examination before registering for this course. Twenty hours of instruction each week. Morrill Hall. Mr. Solá and staff.

GEOLOGICAL SCIENCES

*Geol. Sci. 101u. INTRODUCTORY GEOLOGICAL SCIENCE (U)

3 hours credit. *June 28 to July 21*. Registration limited to 25 students. Lectures, M T W Th F 9:00-10:50. McGraw 165. Laboratory, M T W Th 1:30-4. McGraw 265. Mr. Cole and assistant.

An introduction to geological science designed to give general students a comprehensive understanding of earth materials, processes, features, and history. Field trips during certain laboratory periods. Text: Leet and Judson, *Physical Geology; Geology 101 Laboratory Manual*. Fee, \$10.

*Geol. Sci. 102u. INTRODUCTORY GEOLOGICAL SCIENCE (U)

3 hours credit. *July 24 to August 11*. Prerequisite, Geological Science 101 or its equivalent. Registration limited to 25 students. Lectures, M T W Th F 9-10:50. McGraw 165. Laboratory, M T W Th 1:30-4. McGraw 265. Mr. Wells and assistant.

Continuation of Geological Science 101, the last half of the course being devoted to the principles of interpretation of earth history, evolution of continents, oceans, mountain systems and other features, and development of organic life. Field trips during certain laboratory periods, and one all-day Saturday trip (July 29 or August 5). Text: Leet and Judson, *Physical Geology; Dunbar, Historical Geology; Geology 102 Laboratory Manual*. Fee, \$10.

GOVERNMENT

Gov. 101. AMERICAN GOVERNMENT (U,G)

3 hours credit. M T W Th F 11-12:15. West Sibley 221. Mr. Heberle.

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

Gov. 104. COMPARATIVE GOVERNMENT (U,G)

3 hours credit. M T W Th F 8-9:15. West Sibley B-1. Mr. T. Greene.

Analysis of the characteristics of contemporary political systems in the developed and underdeveloped areas of the world: factors of stability, party and electoral systems, role of ideology, predominance of executive power in the economically planned society.

Gov. 203. INTRODUCTION TO POLITICAL THEORY (U,G)

3 hours credit. M T W Th F 9:30-10:45. West Sibley B-1. Mr. Heberle.

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

Gov. 314. POLITICS AND SOCIETY (U,G)

3 hours credit. M T W Th F 8-9:15. West Sibley 221. Mr. Milnor.

An analysis of the social institutions and patterns of behavior that contribute to the shaping of American political life.

Gov. 317. AMERICAN POLITICAL PARTIES (U,G)

3 hours credit. M T W Th F 9:30-10:45. West Sibley 221. Mr. Milnor.

The nature and operation of American national and state party systems and politics, related to the broad setting of the government system and prevailing political values.

Gov. 344. GOVERNMENTS AND POLITICS OF SOUTHEAST ASIA (U,G)

4 hours credit. M T W Th F 11-12:15. West Sibley 101. Miss McVey.

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. 574. SEMINAR IN COMMUNISM (U,G)

2 hours credit. Hours to be arranged. West Sibley 101. Mr. T. Greene.

Survey of the theory and practice of communism, from antiquity to the present. Students will write a research paper concentrating on the characteristics of a contemporary communism system.

Gov. 644. SEMINAR IN POLITICAL PROBLEMS OF SOUTHEAST ASIA (U,G)

2 hours credit. M T W Th F 2. West Sibley B-1. Miss McVey.

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

(See also Other Programs, pages 67 and 73.)

HISTORY

Hist. 216. HISTORY OF THE UNITED STATES, 1865 TO THE PRESENT (U)

3 hours credit. M T W Th F 9:30-10:45. West Sibley 328. Mr. LaFeber.
A survey of American history.

Hist. 324. HISTORY OF CHINA DURING THE NINETEENTH AND TWENTIETH CENTURY (U,G)

4 hours credit. M T W Th F 11-12:15. West Sibley 328. Mr. Clubb.

A study of the development of modern China with emphasis on twentieth-century changes. Domestic and foreign affairs will be treated. Lectures and discussions with a program of outside reading and papers.

Hist. 384. HISTORY OF AMERICAN FOREIGN RELATIONS, 1901 TO THE PRESENT (U,G)

4 hours credit. M T W Th F 8-9:15. West Sibley 328. Mr. LaFeber.

A survey of American foreign policy with special emphasis on the domestic economic, political and social changes and how these changes influence American foreign policy.

Hist. 490. SEMINAR IN MODERN CHINESE HISTORY (G)

2 hours credit. M T W Th F 2. West Sibley 221. Mr. Clubb.

For graduate students who are taking History 324, and for other graduate students who have similar preparation.

(See also Other Programs, page 66.)

HOME ECONOMICS

Child Development & Family Relationships

C.D.&F.R. 115. THE DEVELOPMENT OF HUMAN BEHAVIOR (U)

3 hours credit. M T W Th F 8-9:15. Morrill 340. Mr. Buckwalter.

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

Food and Nutrition

(See listings under Other Programs, page 71.)

Home Economics Education

(See listings under Education, pages 41-42.)

Household Economics and Management

*H.E.M. 500. SPECIAL PROBLEMS FOR GRADUATE STUDENTS (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. 599. MASTER'S THESIS AND RESEARCH (G)

Credit and hours to be arranged. Registration with permission of the instructor and chairman of graduate committee. Department staff.

Fee will be dependent on the nature of the problem.

*H.E.M. 699. DOCTOR'S THESIS AND RESEARCH (G)

Credit and hours to be arranged. Registration with permission of the instructor and chairman of graduate committee. Department staff.

Fee will be dependent on the nature of the problem.

(See page 72 for other offerings of the department.)

Textiles and Clothing

*T. & Clo. 500. SPECIAL PROBLEMS IN TEXTILES
AND CLOTHING (G)

Credit and hours to be arranged. Registration by permission. Department faculty.

For graduate degree candidates recommended by the special committee chairman and approved by the department head and the instructor for independent, advanced work. Students to assume any expense involved unless previously arranged. Fee dependent on nature of problem.

*T. & Clo. 599. THESIS AND RESEARCH (G)

Credit and hours to be arranged. Registration by permission of the special committee chairman and the instructor. Department faculty. Fee dependent on nature of problem.

(See also Other Programs, pages 72-73.)

HOTEL ADMINISTRATION

Hotel Adm. 37. TYPEWRITING (U,G)

2 hours credit. Hotel Elective. M T W Th F 9:30-10:45. Statler Hall 337. Mrs. Seaburg.

The personal needs of college students are met by this course in elementary typewriting as well as the basic skills necessary for office jobs. Instruction is given in the typing of business letters, reports, and tabulations. No previous typing skill needed.

Hotel Adm. 131A. SHORTHAND THEORY (U,G)

2 hours credit. Hotel Elective. M T W Th F 11:00-12:15. Statler Hall 335. Mrs. Seaburg. Prerequisite, a basic course in typewriting.

The basic theory of Gregg shorthand is completed in this course and the groundwork is laid for dictation and transcription.

(See also Other Programs, page 73.)

INDUSTRIAL AND LABOR RELATIONS

I. & L.R. 250. SURVEY OF INDUSTRIAL AND LABOR RELATIONS (U,G)

3 hours credit. No prerequisites. M T W Th F 11-12:15. Ives 214. Mr. Raimon.

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. 302. THE EMERGENCE OF THE WELFARE STATE, 1893-1964 (U,G)

3 hours credit. No prerequisites. M T W Th F 9:30-10:45. Ives 214. Mr. Korman.

This course examines systematically the ways and means by which organized groups of reformers, radicals, business men, and labor leaders developed America's welfare state.

I. & L.R. 451. DYNAMICS OF OCCUPATIONAL STRUCTURES IN WORK ORGANIZATIONS (U,G)

3 hours credit. No prerequisites. M T W Th F 9:30-10:45. Field trips to be arranged. Ives 218. Mr. Mesics.

Designed to provide school administrators, guidance personnel, teachers, and student teachers with information about work in modern organizations, the character and distribution of the work force, the role of unions, automation and technology, and the changing character of occupations. The focus is on these areas as they apply to the guidance of non-college directed youth. Specific attention is paid to the acquisition and use of occupational information for vocational guidance.

I. & L.R. 462. MOTIVATION AND MORALE IN WORK ORGANIZATIONS (U,G)

3 hours credit. No prerequisites. M T W Th F 8-9:15. Ives 214. Mr. Gruenfeld.

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

I. & L.R. 499. DIRECTED STUDIES (U)

Credit and hours to be arranged.

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

I. & L.R. 510. ECONOMIC AND SOCIAL STATISTICS (U,G)

3 hours credit. No prerequisites. Lectures, M T W Th F 9:30-10:45. Ives 212. Laboratory, two sessions each week, to be arranged. Mr. McCarthy.

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

I. & L.R. 699. DIRECTED STUDIES (G)

Credit and hours to be arranged.

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

Special Non-Credit Seminars and Workshops

In the summer of 1967 the School is again offering a series of one-week non-credit seminars and workshops. These units are designed for practitioners, and, consequently, each will give specific emphasis to an operational area in the field. A partial list of offerings includes Collective Bargaining, The Problem Employee in Industry, Management as a Communications Process, 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 Assistant Dean for Extension and Public Service, 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 B25.

Plane analytic geometry, differentiation and integration of algebraic functions, applications. Text: Thomas, *Calculus and Analytic Geometry*, chaps. 1-6.

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 310.

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. 121. ANALYTIC GEOMETRY AND CALCULUS (U)

3 hours credit. Prerequisite, a thorough knowledge of trigonometry and exceptional aptitude for mathematics. Students must also register for Math. 122. M T W Th F 9:00-10:45 and 2:00-3:15. White B-15.

Emphasis on the mastery and techniques needed for further preparation in the sciences, including engineering and advanced mathematics. Mathemat-

ics 121 and 122 together treat the following topics: plane analytic geometry through conics; differentiation and integration of polynomials with applications to rates, maxima, volumes, pressures, etc; differentiation and integration of algebraic, trigonometric, logarithmic, and exponential functions, with applications; related topics including polar coordinates, parametric equations, and vectors. Text: Agnew, *Calculus*.

Math. 122. ANALYTIC GEOMETRY AND CALCULUS (U)

3 hours credit. Must be taken with 121. Prerequisite, current registration in 121. See description above under Math. 121.

Math. 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, logis, axiom systems, the real number field, other simple algebraic structures, cardinal numbers.

Math. 213. ANALYTIC GEOMETRY AND CALCULUS (U)

3 hours credit. Prerequisite, Mathematics 112 or the equivalent. M T W Th F 11:00-12:15. White B-9.

Infinite series, solid analytic geometry, partial derivatives, multiple integrals. Text: Thomas, *Calculus and Analytic Geometry*, chaps. 13-18.

Math. 331. LINEAR ALGEBRA (U,G)

4 hours credit. Prerequisite, Mathematics 200 or 213 or the equivalent. M T W Th F 11:00-12:15. White B-25.

Vectors, matrices, and linear transformations. Affine and Euclidean spaces. Transformation of matrices. Eigenvalues. Emphasis on applications. The additional credit is earned through homework and additional reading. Even during the regular year this course only meets three times a week.

Math. 370. ELEMENTARY STATISTICS (U,G)

4 hours credit. Prerequisites, Mathematics 112 or 122 or 202. M T W Th F 9:30-10:45. White B-29.

Topics in probability which are essential to an understanding of statistics; introduction to the principles underlying modern statistical inference and the rational underlying choice of statistical methods in various situations. This is a terminal course, intended for those who will take no further work in this area.

The additional credit is earned through homework and additional reading. Even during the regular year this course only meets three times a week.

MENTAL HEALTH

M.H. 1. PRINCIPLES AND PRACTICES IN MENTAL HEALTH (U,G)

3 hours credit. Lectures, M T W Th F 10:00. Laboratory, T 2:00-4:30 and additional hours to be arranged. Hollister Hall. Dr. Waldman.

Deals with some basic concepts of emotional adjustment, mental health, and illnesses. The more common behavioral and emotional disorders; current policies and practices with regard to referral, diagnosis, and treatment; the role of the teacher and parent in promoting mental health. Emphasis is on attitudes and procedures related to adjustment problems in the school and community. Laboratory sessions will include mental health films and plays

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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 certification 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. Paterson.

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 215. BASIC TECHNIQUES OF MUSIC (U,G)

3 hours credit. Ability to sing on pitch is required for admission; some ability to play an instrument is desirable. M T W Th F 9-10:15. Lincoln 321. Mr. G. Green.

Study of the fundamental techniques of music. Includes rhythmic, melodic, and harmonic dictation; sight singing; writing of melody and simple four-part harmony; keyboard harmony; and listening to recorded masterpieces.

Music 331. SAGE CHAPEL CHOIR (U)

1 hour credit. Registration limited to members of the summer choir who are also registered for another course or courses in Summer Session. Rehearsals, Tuesday evenings 7:15-9 and Sunday mornings 9:30. Sage Chapel, Mr. Sokol.

Membership in the choir is not limited to persons who register for the course.

PHYSICS

*Physics 105. TOPICS IN PRESENT-DAY PHYSICS (U,G)

3 hours credit. (Graduate credit limited to secondary school teachers who already have baccalaureate degrees.) Prerequisites, 3 units of college-preparatory mathematics and a year course in either high school or college physics, and consent of the instructor. M T W Th F 10-12. [One two-hour lecture per week (usually on Mondays), one two-hour seminar-discussion meeting on each of three days of the week, and one two-hour meeting a week either for additional lectures or to view and discuss pertinent instructional movies.] Except for the common Monday lectures and for the additional lectures or movies, students are subdivided into class-study groups according to interests and background preparation. Physics 105 is not the equivalent of Physics 101, 121, 201 or 207 of the academic year. Lectures in Rockefeller B. Movies in Rockefeller D. Mr. Greisen.

Principal topics are special relativity and quantum theory. Fee, \$5.

*Physics 109. GENERAL PHYSICS LABORATORY (U,G)

1 hour credit. (Graduate credit limited to secondary school teachers who already have baccalaureate degrees.) Prerequisites, 3 units of college-preparatory mathematics and a year course in either high school or college physics,

and consent of the instructor or Mr. Greisen. Primarily for students interested in secondary school physics teaching. Laboratory open M T W Th F 2-5, Rockefeller 206.

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

*Physics 207. FUNDAMENTALS OF PHYSICS (U)

4 hours credit. Prerequisites, 1 year of high school physics and at least simultaneous enrollment in Mathematics 111, or consent of the instructor. (No credit will be granted for this course if the student has credit for Physics 101 or 121, or the equivalent.) Lectures, M (Rockefeller A) T W Th F (Rockefeller 105) 11-12:15; seminars and laboratory, M T W Th F 1:30-4:30 (Rockefeller 322-4). Mr. Rajaraman.

Physics 207-208 as a sequence, comprises a first-year college physics course for students majoring in a natural science or in mathematics. Dynamics of particles, conservation laws, collisions, harmonic oscillations, and special theory of relativity. At the level of *Physics for Students of Science and Engineering*, 1966, Part I, by Halliday and Resnick. Fee, \$5.

*Physics 208. FUNDAMENTALS OF PHYSICS (U)

4 hours credit. Prerequisites, Physics 207 and at least simultaneous enrollment in Mathematics 112, or consent of the instructor. Note: Summer students may obtain permission to enroll simultaneously in Physics 207 and 208 by passing a special examination administered by the Cornell Department of Physics on June 27, 1967; those who pass high may be granted advanced placement and 4 hours credit for Physics 207. (Course Physics 208 is not for students who have credit in Physics 102 or 223.) Lectures, M (Rockefeller A) T W Th F (Rockefeller 103) 8-9:15; seminars and laboratory, M T W Th F 1:30-4:30 (Rockefeller 322-4). Mr. Rajaraman.

A continuation of Physics 207. Dynamics of fluids, acoustic waves, laws of thermodynamics, kinetic theory of gases, electromagnetic waves, nature and propagation of light, diffraction, interference, and the wave-particle properties of matter. At the level of *Physics for Students of Science and Engineering*, 1966, Part II, by Halliday and Resnick. Fee, \$5.

Physics 209. RECENT DEVELOPMENTS IN PHYSICS (U,G)

3 hours credit. (Graduate credit limited to secondary school teachers who already have baccalaureate degrees.) Prerequisites, Physics 208 and Mathematics 112, or consent of the instructor. Note: Summer students may obtain permission to enroll simultaneously in Physics 208-209 by passing a special examination administered by the Cornell Department of Physics on June 27, 1967; those who pass high may be granted advanced placement and 4 hours credit for Physics 208. Lectures and seminars, M T W Th F 9:30-10:45, and two problem sessions each week to be arranged. Rockefeller 108.

Selected topics in atomic, solid state, and nuclear physics; quantum theory, fundamental particles, atomic spectra, 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 parts of *Principles of Modern Physics* by French.

*Physics 361. INTRODUCTORY ELECTRONICS (U,G)

3 hours credit. Prerequisites, Physics 208 or 224, or 310, or consent of the instructor. Lectures and laboratory, M T W Th F 2-5, Clark 309.

Principles of semi-conductor devices, electronic components and circuits,

60 SIX-WEEK SESSION

and the operating characteristics of power supplies, amplifiers, oscillators, switching and timing circuits. Knowledge of methods and techniques invaluable to the student who plans experimental work in almost any field involving modern instruments. At the level of *Elementary Electronics* by White. Fee, \$10.

*Physics 500. INFORMAL GRADUATE LABORATORY (G)

1 or 2 hours credit. Prerequisites, Physics 361 and 436, and consent of the instructor. Associated with the Physics 510 laboratory as listed in the 8-week session (page 30). Laboratory open M T W Th F 2-5, Clark 308.

Topics as in Physics 510, listed in the 8-week session, page 31. Fee, \$5. per credit hour.

(See also Other Programs, pages 63, 64 and 75.)

PSYCHOLOGY

Psych. 101. INTRODUCTION TO PSYCHOLOGY: BASIC PROCESSES (U)

3 hours credit. M T W Th F 9:30-10:45. Morrill 340. Mr. Zimmermann.

Emphasis on the study of basic processes, including the following: brain functioning, perception, learning, language and thinking, motivation, emotion, and personality.

Psych. 208. INTRODUCTION TO SOCIAL PSYCHOLOGY (U)

3 hours credit. M T W Th F 9:30-10:45. Morrill 310. Miss Nemeth.

A survey of experimental social psychological research including topics of norms, social responsibility, conformity, consistency theories, formation of attitudes and attitude change, and bargaining. The class may be conducted as a seminar in which students will be asked to present papers on topics of interest to the class.

Psych. 325. ABNORMAL PSYCHOLOGY (U,G)

4 hours credit. M T W Th F 11-12:15. Morrill 310. Mr. Reinhart.

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.

(See also C.D. & F.R. 115, page 53.)

SOCIOLOGY

Soc. 101. MAN AND SOCIETY (U)

3 hours credit. M T W Th F 11:00-12:15. Goldwin Smith 227. Mr. Fuse.

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 INTERPERSONAL RELATIONS (U,G)

3 hours credit. Prerequisite, Sociology 101 or Child Development 115 or their equivalent. 9:30-10:45. Goldwin Smith 236.

The presentation and development of selected theories offered to account for why people relate to one another the way they do. These perspectives are compared and evaluated in terms of their adequacy in accounting for interpersonal relations. Student participations are solicited via class demonstrations, role play techniques, field studies, and participant observations.

Soc. 321. TECHNIQUES OF SOCIOLOGY (U,G)

4 hours credit. Prerequisites. Sociology 101 and a course in statistics, or consent of the instructor. M T W Th F 8:00-9:15. Goldwin Smith 164.

Strategies in the framing and testing of sociological hypotheses are considered. Data sources and test procedures are evaluated. Data-gathering techniques are studied and applied in a practicum.

Soc. 330. POPULATION PROBLEMS (U,G)

4 hours credit. M T W Th F 11-12:15. McGraw B-20. Mr. Marden.

The practical and scientific significance of population growth and composition. Fertility, migration, and mortality in relation to social and cultural factors and in relation to questions of population policy. National and international data will receive approximately equal emphasis.

Soc. 332. URBAN COMMUNITIES (U,G)

4 hours credit. M T W Th F 8-9:15 p.m. McGraw B-20. Mr. Marden.

The study of urban aggregates as ecological, social and cultural systems. The structure of urban communities will be studied both from the perspective of the larger, environing social and cultural system and from the perspective of internal relationships of institutions within the community.

Soc. 344. RELIGION AND WESTERN SOCIETY (U,G)

4 hours credit. Prerequisites, Sociology 101, or consent of the instructor. M T W Th F 9:30-10:45. McGraw B-20. Mr. Fuse.

The interrelationship of culture, society, and religion. Religion and social stratification, religion and economic and political institutions, social change and religion. The major emphasis will be upon American society and American religious institutions.

Soc. 421. MEASUREMENT THEORY IN SOCIAL ANALYSIS (U,G)

4 hours credit. Prerequisites, Soc. 321 and an introductory course in college mathematics or statistics, or consent of the instructor. M T W Th F 9:30-10:45. Goldwin Smith 246.

Elementary measurement theory is examined as a basis for constructing social variables. Guttman's ordinal scale theory is considered in detail. Equal interval measurement techniques of psychophysics are applied to other concepts such as social perception and status.

SPEECH AND DRAMA

Sp. and Dr. 201. PUBLIC SPEAKING (U)

3 hours credit. M T W Th F 11-12:15. Lincoln Hall 204. Mr. J. 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, and in chairmanship; study of examples; conferences.

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

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

Sp. and Dr. 286. PLAY PRODUCTION (U,G)
3 hours credit. M T W Th F 9:30-10:45. Lincoln Hall 108. Mr. Shank.

Principles and standard practice in play production, with emphasis on directional viewpoints and objectives. Special attention to problems of organization, casting, rehearsal techniques, and producing in school and community. Opportunities to observe rehearsals and performances of the Summer Theatre company. Students matriculated for a degree at Cornell University may offer this course as the equivalent of Speech and Drama 285.

Sp. and Dr. 377. FUNDAMENTALS OF MOTION PICTURE
PRODUCTION (U,G)

3 hours credit. M T W Th F 9:30-10:45. Lincoln Hall 204. Mr. Beck.

Principles and methods of motion picture production with primary emphasis on creative techniques: script writing, photography, production, editing, special effects, and sound recording. Students will prepare individual films. Opportunities to make use of equipment and laboratories.

Sp. and Dr. 394. AMERICAN DRAMA FROM
TENNESSEE WILLIAMS TO EDWARD ALBEE (U,G)

3 hours credit. M T W Th F 11-12:15. Lincoln Hall 302. Mr. Robertson.

American drama from World War II to the present, particularly the work of Williams, Miller, Albee, and the contemporary avant-garde. The plays will be explored with special concern for their reflection of modern social problems and cultural themes.

OTHER PROGRAMS OF THE SUMMER SESSION

The following Special Programs are offered during the Summer Session period, June 15 to approximately August 15. Some occur during the period of the 8-week and 6-week sessions, June 19 to August 11. Note the dates scheduled for each program. Other programs may be added before the Session begins. Inquiries are invited.

The Special Programs differ from the 8-week and 6-week sessions 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 8-week or 6-week session 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 6-week session 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 the 8-week and 6-week sessions. Directions for requesting further information and application forms accompany the following descriptions of Special Programs.

ADVANCED PLACEMENT PROGRAM FOR SECONDARY SCHOOL JUNIORS

JUNE 28 — AUGUST 11

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, 1967, is offered to enable college-bound students to achieve advanced placement in college.

The program offers college-level courses in each of nine options: Biological Sciences, Chemistry, French, German, Russian, Spanish, Mathematics, Physics, and Psychology. In each option the student may earn a minimum 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 6-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 \$375 for all expenses except textbooks and personal expenses.

For further information and application forms, address: Director, Advanced Placement Program, Secondary School Juniors, B-20 Ives Hall, Cornell University, Ithaca, New York 14850. Request for application forms is to be made by February 17, 1967.

ADVENTURES IN PHYSICS FOR HIGH-ABILITY SECONDARY-SCHOOL STUDENTS

Supported by the National Science Foundation

JUNE 28 – AUGUST 11

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

- (1). To impart to the student some of the exciting adventure of physical science in our present-day culture,
- (2). To facilitate self-evaluation of the student's personal interests in science, and
- (3). To provide a meaningful first exposure to the academic atmosphere of college.

This program will not duplicate or take the place of any conventional college course, but it will supplement the high-school physics experience by a treatment in depth of some fundamental physical concepts and theories, and by independent experimental work in a well-equipped laboratory.

For application forms and/or further information, write to Professor K. I. Greisen, Director, Adventures in Physics, Clark Hall, Cornell University, Ithaca, New York 14850.

AGRICULTURAL EDUCATION

JULY 10 – AUGUST 4

Three-week unit courses in technical agriculture and education are being made available to teachers of agriculture and other professional workers in vocational and technical education. 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 professional degree in education at Cornell. Students desiring to become candidates for this degree should also register in the Graduate School. The courses may also be applied toward meeting certification requirements.

Registration for the three-week session will take place July 10, 1967, at a time and place to be announced.

A single one-week course in technical agriculture is also available to teachers of agriculture. Registration for the course will be in advance.

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

JULY 10 – JULY 28

^aAg. Econ. 321u. ACCOUNTING (U,G)

2 hours credit. Lecture M T W Th F 8-9:50. Laboratories arranged. Warren 31. Mr. Carpenter.

A comprehensive survey of basic accounting principles. Some analysis and

interpretations of financial statements with special emphasis on agricultural business. Fee, \$3.

^aAg. 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 70. 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.

Ed. 533u. PLANNING COURSES OF STUDY AND AGRICULTURAL EXPERIENCE PROGRAMS IN AGRICULTURE (U,G)

2 hours credit. Consent of instructor required. M T W Th F 8-9:50. Warren 132.

Guiding principles, objectives, and sources of information will be developed for planning the courses of study and teaching calendar. Consideration will be given to principles, meanings, and functions of agricultural experience programs and how they are planned, developed, and used as a means of instruction.

Ed. 630u. SEMINAR IN AGRICULTURAL EDUCATION (U,G)

2 hours credit. Consent of instructor required. M T W Th F 10-11:50. Warren 132.

The seminar will be centered on current problems in agricultural education. Consideration will be given to experience programs, curricular offerings, the role of agriculture in area occupational programs, cooperative board arrangements for providing agricultural instruction, policies at the local, state and national level, and other problems as identified by the students and instructor.

^aEd. 633u. SUPERVISION OF OCCUPATIONAL EDUCATION (G)

3 hours credit. M T W Th F 9-11:50. Laboratories as arranged. Warren 37. Mr. Peterson.

The nature and purpose of supervision in occupational education including principles, techniques, and practices useful in the setting of improving instruction at all levels. How to organize a supervisory program at the local and area level is stressed. The problems of curriculum development and evaluation of offerings in occupational education are presented. Leadership development, in-service training of teachers, and recent research in techniques and practices of supervision are included. Fee, \$3.

^aFlori. 350u. PRODUCTION, MARKETING, AND RETAILING OF CUT FLOWERS AND POTTED PLANTS (U,G)

4 hours credit. Lectures and lab, M T W Th F 8-12 and 1-4. Plant Science 37, 22, and Floriculture greenhouses. Messrs. Boodley, Langhans, Layer, Fox, Goodrich, Dimock, Weidhaas, Seeley, and Williamson.

Commercial production of greenhouse crops as influenced by environment. Growing structures and insect and disease control are considered as well as marketing and retail selling, with special emphasis on floral design and retail shop management. Fee, \$25.

Ed. 499u. INFORMAL STUDY IN EDUCATION (U,G)

Credit and hours as arranged. Consent of instructor required. Staff.

Ed. 500u. SPECIAL STUDIES IN EDUCATION (G)

Credit and hours as arranged. Consent of instructor required. Staff.

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

*Consv. 403u. APPLIED SILVICULTURE (U,G)

1 hour credit. *July 31 to August 4.* M T W Th F 8:30-4:30 and 3 evening sessions. Arnot Forest Laboratory. Mr. Dickson and Mr. Winch. Limited to 30 students; preference is given to teachers of vocational agriculture but others will be permitted to the capacity of the class. Prerequisite, Consv. 303u. or permission of instructors.

Designed to give the student knowledge and skills in preparing and executing a sound management plan for a tract of northern hardwood forest. The silvicultural treatment of selected economic timber species, the valuation of timber stumpage, and the harvesting of logs for the sawmill will be emphasized. Fee, \$10.

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

JUNE 28 – AUGUST 11

Combinations of courses in the social sciences have been arranged to provide area study programs dealing with China, South Asia, 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 6-week period and provides six hours of graduate level credit. The instructors for each area are authorities in their respective fields.

Approved for 45 New York State summer training grants to defray cost of tuition and fees for New York State teachers of social studies in grades six through twelve.

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

The courses in each program are:

China Program

Hist. 324. HISTORY OF CHINA DURING THE NINETEENTH AND TWENTIETH CENTURIES;

and

Hist. 490. SEMINAR IN MODERN CHINESE HISTORY

(See page 53.)

South Asia Program

Anthro. 441. CULTURE AND SOCIETY OF SOUTH ASIA;

and

Anthro. 545. SEMINAR ON SOUTH ASIA

(See page 33.)

Southeast Asia Program

Gov. 344. GOVERNMENT AND POLITICS OF SOUTHEAST ASIA;
and

Gov. 644. SEMINAR IN POLITICAL PROBLEMS OF
SOUTHEAST ASIA

(See page 52.)

CITY AND REGIONAL PLANNING

JUNE 18 – JUNE 23

The Department of City and Regional Planning will hold its fifth annual one-week Summer Institute at Cornell University from June 18 to 23. The Institute is intended to serve the needs of professionals in city and regional planning and related fields. A number of different courses will be offered concurrently, and individuals can register in any one they choose.

For further information concerning the nature of the courses write to: Professor Barclay G. Jones, Director of the Institute, Department of City and Regional Planning, 106 Sibley Hall, Cornell University, Ithaca, New York 14850.

CORNELL CONSERVATION WORKSHOP

JULY 24–28; AUGUST 7–11

Two, five day sessions 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, but a certificate is issued to recommend in-service training credit to the participants in the workshop. A person may attend either session.

Participants are housed in cabins in the 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.

DISADVANTAGED YOUTH WORKSHOP

JULY 31 – AUGUST 11

A two-week, intensive study of the problems presented by the educationally disadvantaged child who becomes the potential dropout, 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. Especially applicable for personnel in E.S.E.A. Title I programs.

Provision for three-member teams from school districts will be a major feature of the workshop with preference given to teams representing two or

more of the following: staff members with administrative, pupil personnel, curriculum development, instructional, or supervisory responsibilities.

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

Students will register for:

Ed. 610*u*. SEMINAR IN GUIDANCE (G)

2 hours credit. Lecture and discussion. M T W Th F 9-11:30 and 1-2:30. East Roberts 223. Mr. Kaplan.

ENGINEERING COOPERATIVE PROGRAM

JUNE 12 – SEPTEMBER 16

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 provided that they present satisfactory evidence of being prepared and a letter of authorization from the college or university in which they are enrolled. A schedule of courses to be offered will be available after March 1, 1967.

CALENDAR. Courses are scheduled in two separate but consecutive seven-week periods: first period, June 12-July 29, second period, July 31-September 16.

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 Cooperative Program, Phillips Hall, Cornell University, Ithaca, New York 14850.

ENGINEERING SHORT COURSES

(Coordinated by the Office of
Continuing Education, Engineering)

Non-credit courses for practicing engineers and scientists who wish to extend or update their knowledge in various technical subjects. Ten days of instruction, (50 to 70 contact hours) including lectures, computation sessions, and laboratory periods. Tuition and fees for each course: \$350.

Additional courses may be offered in the summer of 1967. For information

and applications address: Director of Continuing Education, 251 Carpenter Hall, Cornell University, Ithaca, New York 14850.

First Session: June 19-30, 1967

1. INTRODUCTION TO DIGITAL COMPUTING

Mr. Mark J. Eisner and guest lecturers.

Introduction to digital computing with basic instruction in programming techniques; discussion of computer applications; summary of capabilities and limitations of computers in support of research, engineering, and industrial administration. Limited to 20 students.

2. ENGINEERING APPLICATIONS OF STATISTICS

Professor Henry P. Goode.

To provide an introduction to the application of modern statistics to practical engineering problems. Limited to 25 students.

3. ANALYTICAL METHODS IN FORECASTING, OPTIMIZATION, AND CONTROL (Topics in Operations Research)

Professors R. H. Bernhard, D. L. Iglehart, K. Kortanek, W. L. Maxwell, N. V. Prabhu, S. Saltzman, H. M. Taylor.

Coverage in some depth of selected topics in operations research and their relevance to modern systems engineering problems: e.g., manufacturing, transportation, distribution, merchandising. Limited to 25 students.

4. THERMAL RADIATION TRANSFER (Space and Process Applications)

Professor B. Gebhart.

For engineers and scientists working in areas where accurate knowledge of radiant-energy exchange rate is necessary, as in design of space components and vehicles and materials processing systems. Radiant transport analysis; use of numerical methods for matrix and graphical integration calculations. Machine use emphasized. Limited to 20 students.

Second Session: July 10-21, 1967.

5. NUCLEAR MEASUREMENTS

Professor R. McPherson and guest lecturers.

Introduction to theory and techniques of nuclear radiation detection with applications to engineering problem. Physics of interactions of nuclear radiation with matter; nuclear reactions and induced radioactivity; detection of nuclear radiation; instrumentation and techniques of nuclear measurement; statistics of detection systems; survey of engineering applications; safety and procedures in handling radioactive materials. Some knowledge of modern physics required. Limited to 20 students.

6. PRINCIPLES OF POLYMER SYSTEMS

Professor Ferdinand Rodriguez.

To provide engineers and chemists in process industries with a summary of basic concepts, principles, and techniques of polymer science. Principles will be related to manufacture and fabrication of polymeric materials; areas of significant and active research will be outlined. Limited to 24 students.

7. INTRODUCTION TO DYNAMICS OF MECHANICAL SYSTEMS (Vibrations, Control Systems, Analog Computers)

Professor Richard M. Phelan.

To provide engineers in mechanical manufacturing industries with an intro-

duction to the modern approach to mechanical systems dynamics. Extensions of knowledge of dynamics to vibrations and control systems and applications of analog computers to mechanical design problems will be illustrated. Limited to 15 students.

8. FIBER AND WHISKER COMPOSITE MATERIALS

Professor E. Scala.

Review of mechanical, physical, and chemical properties of fibers, whiskers, and wires, and processing of composite materials for application to structures.

FIELD STUDIES IN NATURAL RESOURCES CONSERVATION

In Cooperation with the State Conservation Department

JULY 10 – JULY 28

A three-week program for teachers, supervisors, and extension workers stressing the scientific bases for natural resources management as related to providing both a productive and a healthful, beautiful, and accommodating natural environment for our society. 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 \$100 to cover the tuition charge. Partial or full scholarships for tuition may be available.

For further information and application forms, address: Director, Conservation Field Course, B-20 Ives Hall, Cornell University, Ithaca, New York 14850.

Consv. 5u. 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 interrelated character of our renewable natural resources—soil, water, forests, and wildlife. Stress is to be given the scientific bases for natural resources management, as related to providing both a productive and a healthful, beautiful, and accommodating natural environment for our society. Accordingly, frequent applications are made of principles and concepts both from fundamental fields and the applied sciences. Attention 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, and satisfactory performance on quizzes and examinations.

GUIDANCE AND PERSONNEL ADMINISTRATION

Offered by the School of Education

JULY 3 - 21

The two courses described below are made available to counselors on a three-week basis in order to provide an opportunity for professional improvement without the need for extended leaves of absence from employment. Credit earned may be applied toward meeting requirements for permanent certification for school guidance positions. For further information, address Dr. A. Gordon Nelson, 215 Stone Hall, Cornell University, Ithaca, New York 14850.

Ed. 586u. ORGANIZATION AND ADMINISTRATION OF GUIDANCE PROGRAMS (G)

2 hours credit. M T W Th F 8-9:50. East Roberts 223. Mr. Bresee.

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

Ed. 588u. CASE STUDIES IN COUNSELING (G)

2 hours credit. M T W Th F 10-11:50. East Roberts 223. Prerequisites, Ed.E. 555, Ed. 582, Ed. 583, Ed. 585, or their equivalents. Mr. Feierstein.

An advanced course in counseling in which actual cases are used for demonstration purposes. Preparation for and conduct of counseling interviews; the making of case studies; referral and other procedures. Required for permanent certification in guidance in New York State.

HOME ECONOMICS UNIT PROGRAMS

JULY 3 - AUGUST 11

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 six-week session and who have particular interest in one or more of the separate departmental offerings. Participants will spend full time in each course selected.

Tuition is at the rate of \$45 per credit hour. The Summer Session fee is \$5 per week.

Registration may be for one or two units as scheduled. Early applications are requested. Registration will be completed in the first meeting of the class for each course.

For further information and application forms, address: Director, Home Economics Unit Programs, B-20 Ives Hall, Cornell University, Ithaca, New York 14850.

Food and Nutrition

F.&Ntr. 364u. CURRENT TRENDS IN FOODS (U,G)

3 hours credit. *July 3 through July 21.* Prerequisite, elementary college courses in chemistry and food preparation. Lectures, discussion, and laboratory, M

T W Th F 9-11:30 and hours to be arranged. Van Rensselaer 301 and 358. Miss Moser.

Scientific theories underlying food preparation with particular emphasis on recent developments. Some demonstrations and experiments will be developed to illustrate several important concepts concerning food.

This unit course is planned primarily for teachers, extension workers, and others responsible for formal or informal education programs related to food.

Household Economics and Management

H.E.M. 265*u.* CONSUMER ECONOMICS (U,G)

3 hours credit. *July 3 through 21.* Lectures and discussions M T W Th F 8:30-10, and 1:30-3. Library hours and field work will be arranged. Van Rensselaer 121. Miss Bymers.

The objective will be to increase the students' understanding of the market economy and widen their perspective on the position and responsibilities of consumers in the market.

The major topics to be considered are: (1) The economics underlying the distribution of consumer goods. (2) Marketing functions and institutions. (3) Consumer information and protection, sources, materials, and problems. (4) Consumer representation, need for and prospects. (5) Consumer responsibility.

This course is designed for high school teachers, extension workers, and others with consumer education responsibilities. Students will be given the opportunity to study a particular current consumer problem of their own choosing.

H.E.M. 620*u.* PHYSICAL SCIENCE IN THE HOME (U,G)

3 hours credit. *July 24 through August 11.* M T W Th F 8:30-10, and 1:30-3. Van Rensselaer G19. Miss Purchase.

For those concerned with household equipment, cleaning processes, and care of the home in a professional capacity as secondary school or extension teachers, home service workers, writers, or workers with household equipment or supply industries. Selected principles from mechanics, electricity, heat, sound, and light as these are applied to household equipment. Chemical characteristics of supplies used for cleaning and protecting surfaces, surfaces to be cleaned, and soil to be removed. Relation of these principles and characteristics to the results desired by households and consideration of the means of communicating such relationships through advertising and labeling.

Textiles and Clothing

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

T. & Clo. 491*u.* FAMILY CLOTHING CONSUMPTION (U,G)

3 hours credit. *July 3 through 21.* Prerequisites, a college course in economics and in sociology. Lecture-discussion, M T W Th F 9:30-12:30 and hours to be arranged. Van Rensselaer 213. Mrs. Baumgartner.

Influence of family composition, income, and occupation on family clothing expenditure; clothing consumption in relation to family goals and values;

family clothing problems related to theories of consumer behavior, decision making, and management of resources.

HOTEL ADMINISTRATION

JUNE 26 – AUGUST 12

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

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

INSTITUTE FOR SOCIAL STUDIES TEACHERS

JUNE 28 – AUGUST 11

Institute on American Political Process

Designed for teachers in grade 5 through 12 in schools where the study of American government presently is emphasized or is contemplated in the social studies curriculum.

The focus in the courses is on processes and groups associated with politics rather than on the formal structure of government. Opportunity is included to relate the courses in government to means and materials appropriate for implementing the social or cultural emphasis in the New York State curriculum in social studies.

Approved for 20 New York State summer training grants to qualified New York teachers of social studies. Such grants pay all tuition and fee costs plus additional allowance for subsistence.

For further information and application forms, address: Director, American Government Institute, B-20 Ives Hall, Cornell University, Ithaca, New York 14850.

Seven hours of graduate level credit may be earned as follows:

Gov. 314. POLITICS AND SOCIETY

(See page 52.)

Gov. 317. THE POLITICAL PROCESS:
AMERICAN POLITICAL PARTIES

(See page 52.)

and

Ed.E. 641. SEMINAR IN SOCIAL STUDIES EDUCATION (G)

1 hour credit. Open only to students in the State-supported Institute on American Political Process. Hours to be arranged. Mr. Scoones.

An analysis of the role of American government in the "new social studies". Relations with other parts of the history/social science curriculum and teaching strategies plus instructional materials will be emphasized.

MARINE BIOLOGY FIELD COURSE

JUNE 10 — 24

This program, offered by Cornell's Division of Biological Sciences, is operated through the facilities of the Star Island Corporation, on Star Island, one of the Isles of Shoals located in the open Atlantic ten miles east of Portsmouth, New Hampshire. These small, granite islands surrounded by unpolluted ocean water provide a uniquely rich and totally accessible flora and fauna. A large laboratory room is provided with tanks, aquaria, sea table, and running seawater. Unusual fish are available from the nets of commercial fishermen putting in at the Islands overnight. A field trip will be made by boat to marsh, beach, and other coastal habitats. Several uninhabited islands provide opportunity to study large populations of marine birds at close hand.

Enrollment in this program is limited to 30 persons. Expenses will total \$205, which covers tuition, fees, board, room, health insurance, and boat transportation for the two-week period, and is payable in advance. A limited amount of financial aid is available to undergraduate and graduate students.

For further information and application forms, address: Director, Summer Program in Marine Biology, B-20 Ives Hall, Cornell University, Ithaca, New York 14850.

*Biol. Sci. 374u. FIELD MARINE BIOLOGY (U,G)

2 hours credit. Prerequisite, a full year of college biology. *June 10 to 24.* Daily lectures, laboratory, and field work. Miss Bush, Mr. Anderson (invertebrate zoology), Mr. Barlow (plankton, marine ecology), Mr. Gilbert (elasmobranchs and marine mammals), Mr. Hewitt (marine birds), Mr. Raney (marine fish), Mr. Kingsbury (marine algae), in charge.

Living material and habitats will be emphasized in introducing students to the major disciplines of marine biology and in rounding out the student's knowledge of these topics as presented at inland locations.

NEW YORK STATE REGIONAL SCIENCE INSTITUTE IN BIOLOGY

JULY 10 — AUGUST 4

A four-week institute for the preparation of regional science instructors of elementary school teachers. New York State teachers with good backgrounds in the biological sciences and with at least three years' teaching experience may apply.

Accepted applicants must have secured written intent of local school districts to set up and support financially a class of elementary school teachers in the local district for instruction in the biological sciences. The summer institute, supported by a grant from the State of New York Education Department, will prepare outlines and materials for such instruction. In the academic year following, each regional science instructor will be compensated via the grant and his school district for the teaching of an in-service class of elementary school teachers, as arranged.

For specific information and application forms, write: Dr. Verne N. Rockcastle, Regional Science Institute, 5 Stone Hall, Cornell University, Ithaca, New York 14850.

SHELL MERIT FELLOWSHIP PROGRAM

JUNE 28 – AUGUST 11

For teachers of biology, earth science, 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 W F 10-11:50 and T Th 8-9:45. Laboratory, one afternoon 2-4:30 for those who elect 4 hours credit.

Ed.E. 606. SEMINAR IN SCIENCE AND MATHEMATICS TEACHING (U,G)

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

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

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

Phys. 105. TOPICS IN PRESENT-DAY PHYSICS (U,G)

3 hours credit. Lecture, M 10-12; recitation, discussion films, W F 10-12 and T Th 8-9:45.

Phys. 109. GENERAL PHYSICS LABORATORY (U,G)

1 hour credit. Laboratory, one afternoon 2-5 for those who elect 4 hours in Physics.

SIX-YEAR Ph.D. PROGRAM

JUNE 28 – AUGUST 11

Limited to students who will join the class of 1970 in a special program leading to doctoral study, this preliminary summer session is designed to introduce students to some of the major areas of college study, to give experience of small seminars, and to develop reading knowledge of essential languages. Elementary and advanced instruction will be offered in French, German, and Russian. A seminar in science, one in humanities, and one in the social sciences will also be offered. Each student in the program will enroll in one seminar and one language course.

SUMMER STUDIOS IN ART

Unit-courses in Painting, Sculpture and Graphic Arts

JULY 3 — AUGUST 11

This program is planned for persons who wish to concentrate exclusively in Art, taking intensive courses in the practice of Art with a faculty of prominent contemporary artists in the pleasant environment of the Finger Lakes area of upstate New York. Cornell University maintains in this setting, a summer program of lectures, music, drama, and exhibitions usually available only in large metropolitan centers.

Courses in the three Arts are offered in each of three two-week periods, July 3-14; July 17-28; and July 31-August 11. A student may attend one, two, or three periods and earn a total of one to six hours of credit. Two credit-hours may be earned in any one period in either Painting, Sculpture, or Graphic Arts, or in any two of the three Arts for an hour of credit in each.

The instruction will be adapted to students of all levels of experience and will involve individual assignments and criticism with ample opportunity for studio participation.

Faculty will consist of Richard Anuszkiewicz, Larry Zox, and Wayne Thiebaud in Painting; Jason Seley in Sculpture, and Arnold Singer in Graphic Arts.

For additional information and an application form, address—Director, Summer Study in Art, B-20 Ives Hall, Cornell University, Ithaca, New York 14850.

UNIVERSITY ADMINISTRATION

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Dale R. Corson, University Provost.
Mark Barlow, Jr., Vice President for Student Affairs.
John E. Burton, Vice President - Business.
Lewis H. Durland, University Treasurer.
Franklin A. Long, Vice President for Research and Advanced Studies.
E. Hugh Luckey, Vice President for Medical Affairs.
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Paul L. McKeegan, Director of the Budget.
Steven Muller, Vice President for Public Affairs.
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Arthur H. Peterson, University Controller.
Robert L. Sproull, Vice President for Academic Affairs.
Neal R. Stamp, Secretary of the Corporation, and University Counsel.

FACULTY

Samuel Abrahamsen, Ph.D., Professor of Education, Brooklyn College of the City of New York.
Howard G. Andrus, Ph.D., Professor of Education.
Richard Anuszkiewicz, M.F.A., B.S.Ed., Instructor in Painting.
John P. Bakke, M.A., Assistant Professor of Speech and Drama.
Mark B. Beach, Ph.D., Assistant Professor of Education.
Gordon E. Beck, Ph.D., Assistant Professor of Speech and Drama.
Leroy J. Benoit, Ph.D., Associate Professor of Linguistics.
Clyde W. Bresee, Ph.D., Director of Guidance, Athens Area Schools, Athens, Pennsylvania
Gabor Brogyanyi, Instructor in Romance Studies.
Andrew A. Browman, Assistant Professor of Physics.
Matthew H. Bruce, Ph.D., Assistant Professor of Science Education.
Sanford Budick, M.A., Instructor in English.
Anthony F. Caputi, Ph.D., Associate Professor of English.
O. Edmund Clubb, M.A., Foreign Service Officer, ret. (Director, Office of Chinese Affairs, Department of State.)
W. Storrs Cole, Ph.D., Professor of Geological Sciences.
Jean Cooper, Ph.D., Assistant Professor of Home Economics Education.
Floyd R. Dill, Instructor of Economics.
Bernard Feierstein, Ed.D., Professor of Education, Psychologist, Ithaca Public Schools.
Daniel H. Finlay, Ph.D., Assistant Professor of English.
Toyamasa Fuse, Ph.D., Visiting Associate Professor of Sociology.
Bruce C. Goldberg, Ph.D., Assistant Professor of Philosophy.
Frank M. Goode, B.A., Department of Psychology, University of Michigan, Ann Arbor.
George C. Green, Instructor of Music.
Thomas Greene, Ph.D., Assistant Professor of Government, Michigan State University, East Lansing.
Kenneth I. Greisen, Ph.D., Professor of Physics.
Leopold W. Gruenfeld, Ph.D., Associate Professor of Industrial and Labor Relations.

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- Angela Kepler, Instructor in Biological Sciences.
- Louis M. Klein, M.A., Superintendent of Schools, Harrison, New York.
- Don W. Kleine, Ph.D., Assistant Professor of English.
- A. Gerd Korman, Ph.D., Associate Professor of Industrial and Labor Relations.
- Herbert L. Kufner, Ph.D., Professor of Linguistics.
- Sheldon Lache, Assistant Professor of Education, University of Connecticut, Storrs.
- Walter LaFeber, Ph.D., Associate Professor of American History.
- Richard L. Leed, Ph.D., Associate Professor of Linguistics.
- Donald W. Linzey, Instructor in Biological Sciences.
- William T. Lowe, D.Ed., Associate Professor of Education.
- Thomas F. Lynch, M.A., Assistant Professor of Anthropology.
- J. Michael Mahar, Ph.D., Professor of Anthropology, University of Arizona, Tucson.
- Parker G. Marden, Ph.D., Assistant Professor of Sociology.
- Richard Markovits, Ph.D., Professor of Economics, Yale University, New Haven, Connecticut.
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- Emil A. Mesics, M.A., Associate Professor of Industrial and Labor Relations.
- Andrew Milnor, Ph.D., Assistant Professor of Government, Swarthmore College, Swarthmore, Pennsylvania.
- Oscar G. Mink, Coordinator, Division of Clinical Studies, College of Human Resources of Education, West Virginia University.
- Thomas N. Mitchell, Ph.D., Instructor in Classics.
- Richard Owen Moore, Ph.D., Professor of Biochemistry, Ohio State University, Columbus.
- Charlan J. Nemeth, Instructor of Psychology.
- Donald R. M. Paterson, M.M., Instructor in Music.
- Isabel J. Peard, Ph.D., Professor of Education.
- Robert L. Raimon, Ph.D., Professor of Industrial and Labor Relations.
- Ramamurti Rajaraman, Ph.D., Assistant Professor of Physics, University of Southern California, Los Angeles.
- Richard A. Reinhart, Ph.D., Visiting Professor of Psychology.
- Idrian N. Resnick, Ph.D., Professor of Economics, The University College, Tanzania.
- Cara Richards, Ph.D., Assistant Professor of Anthropology, Ithaca College.
- Pamela Riley, Instructor of Biological Sciences.
- Gerald R. Rising, Ph.D., Mathematics Director, Minnemath Center, University of Minnesota, Minneapolis.
- Roderick Robertson, M.A., Instructor in Speech and Drama.
- Verne N. Rockcastle, Ph.D., Professor of Nature and Science Education.
- Ellen C. Seaburg, B.S., Lecturer in Hotel Administration.
- Margaret Ann Seager, M.S., Instructor in Chemistry.

- Jason Seley, M.F.A., Associate Professor and Artist-in-Residence, New York University.
- Richard C. Shank, M.F.A., Visiting Assistant Professor of Speech and Drama.
- W. David Shaw, Ph.D., Assistant Professor of English.
- John Shelton, Ph.D., Assistant Professor of Chemistry, California State College, Hayward.
- Michael Shinagel, Ph.D., Assistant Professor of English.
- John Skawski, Ed.D., Superintendent of Schools, Peekskill, New York.
- Robert H. Silsbee, Ph.D., Professor of Physics.
- Arnold Singer, B.F.A., Associate Professor of Art.
- Thomas A. Sokol, M.A., Associate Professor of Music.
- Donald F. Sola, Ph.D., Associate Professor of Linguistics.
- Thomas Sowell, Ph.D., Assistant Professor of Economics.
- Ronald Sukenick, Ph.D., Professor of English, City College of New York, New York City.
- Wayne Thiebaud, Associate Professor of Art, University of California at Davis.
- Eleanor M. Tweedie, Lecturer in School of Education.
- James Tyler, M.A., Instructor in Classics.
- Frederick O. Waage, Ph.D., Professor of History of Art and Archaeology.
- Marvin Waldman, Ph.D., Associate Professor of Mental Health.
- John W. Wells, Ph.D., Professor of Geological Sciences.
- John F. Wilson, Ph.D., Associate Professor of Speech and Drama.
- Kenneth G. Wilson, Ph.D., Assistant Professor of Physics.
- Paul M. Zall, Ph.D., Professor of English, California State College at Los Angeles.
- Robert R. Zimmermann, Ph.D., Associate Professor of Psychology.
- Larry Zox, Artist-in-Residence, University of North Carolina, Greensboro.

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CORNELL UNIVERSITY ANNOUNCEMENTS

The Cornell Announcements are designed to give prospective students and others information about the University. The prospective student should have a copy of the General Information Announcement; after consulting that, he may wish to write for one or more of the following Announcements:

New York State College of Agriculture, College of Architecture, College of Arts and Sciences, School of Education, College of Engineering, New York State College of Home Economics, School of Hotel Administration, New York State School of Industrial and Labor Relations, Center for International Studies, Officer Education (ROTC), Summer Session.

Undergraduate preparation in a recognized college or university is required for admission to the following Cornell divisions, for which Announcements are available:

Graduate School, Law School, Medical College, Cornell University-New York Hospital School of Nursing, Graduate School of Nutrition, New York State Veterinary College, Graduate School of Business and Public Administration.

Requests for the publications listed
above may be addressed to
CORNELL UNIVERSITY ANNOUNCEMENTS
Edmund Ezra Day Hall, Ithaca, New York 14850
(The writer should include his zip code.)

FOR UNDERGRADUATE STUDENTS ONLY
 CORNELL UNIVERSITY SUMMER SESSION, 1967

APPLICATION FOR ADMISSION AND COURSE PROGRAM

Applying for (check one)

- 8-week session
 6-week session

Application due
 by June 9
 by June 19

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

Present
 Mailing Address
 (Street and No.)

 (City) (State) (Zip Code)

Home
 Address
 (Street and No.)

 (City) (State) (Zip Code)

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

Name of your college and/or university

Check status which applies:

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

PRE-ADMISSION TO COURSES

Students who can devote full time to study are expected to enroll for four or more hours in the 8-week session or three or more hours in the 6-week session. Programs of more than nine or seven credit hours respectively must be approved by the Summer Session Director. (See also reverse side of this form.)

List each course carefully, indicating the departmental abbreviation, course number, course title, credit hours, and class meeting time in the spaces 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

—OVER—

Please include the zip code in your address.

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 Session 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 Session, 1967*.

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 8 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 Director, Summer Session, B-20 Ives Hall, Cornell University, Ithaca, New York 14850. DUE: June 9 for the 8-week session; June 19 for the 6-week session.

FOR GRADUATE AND SPECIAL STUDENTS ONLY
 CORNELL UNIVERSITY SUMMER SESSION, 1967
 APPLICATION FOR ADMISSION AND COURSE PROGRAM

Applying for (check one): 8-week session. 6-week session.

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

Address
 (Street and No.)

.....
 (City) (State) (Zip Code)

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

PRE-ADMISSION TO COURSES

The courses listed below must be chosen from the *Announcement of the Summer Session, 1967*. 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. Abbrev.	Course No.	Course Title	Credit Hours	Meeting Time
.....
.....
.....
.....

Mail this application to the Director of the Summer Session, B-20 Ives Hall, Cornell University, Ithaca, New York, 14850 by June 15 to assure place in the classes.

Leave the following spaces blank.

Received	Recorded	Sent

—OVER—

Please include the zip code in your address.

