Cornell Chronicle

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Elusive B Meson Particle Is Discovered Here

Scientists at CESR Successful After 3-Year Search

Through three years and hundreds of thousands of collision events at the Cornell Electron Storage Ring (CESR), 79 high-energy physicists from eight institutions sought an extremely rare but essential ingredient in the recipe that explains the subatomic structure of all matter, the particle called the B meson.

The diligence of the researchers (from Cornell, Harvard, Ithaca College, Ohio State, Rochester, Rutgers, Syracuse and Vanderbilt) and the faith of their funding agency (the National Science Foundation) have finally been rewarded, as the first direct observation of the B meson was announced Wednesday by Rainer Wilcke of Cornell at the New York meeting of the American Physical Society.

Previous experiments and conventional theories that matter is made from quarks implied that B mesons must exist. Finding them, however, was not easy and required real ingenuity. Sheldon Stone of Cornell said: "To find them we had to surmise that B mesons decayed in very special ways and look for these in the data. Furious searching allowed us to find the needle in the haystack."

Fundamental theories of matter demand that B mesons exist, Stone said. Their discovery is important confirmation that quarks are the basic building blocks of matter.

The existence of B mesons was verified using data from the "CLEO" detector, one of the two experiments at CESR, the half-mile circular electron-positron colliding beam facility. From 140,000 events (the result of electrons and positrons colliding at nearly the speed of light, annihilating each other and rematerializing in other forms) the research team found 18 occasions when the appropriate decay sequence indicated the presence of B mesons.

This discovery resulted from the sustained effort of many people over several years: Those who built and ran the CESR machine, members of the CLEO collaboration who built the experiment and those who processed the enormous amount of information collected.

The 18 events exhibiting the tell-tale decay sequence (b-quark to c-quark to s-quark) were obtained during the past nine months of operation at CESR. The search for the B meson has been one of CESR's prime objectives since the NSF-funded national facility was rebuilt and went into operation in 1979.

Displaying one of the 18 B meson events discovered at the Cornell Electron Storage Ring are, from left, CESR Researchers Yuichi Kubota, Rainer Wilcke, David Kreinick and Sheldon Stone.

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Take an Idle Computer, and 'Prime' It

Cornell Expert Works in the 'Background'

A Cornell computer — with a little help from a human — has broken a record.

Partly "for intellectual fun" but also to exploit thousands of hours of valuable computer time that would otherwise be wasted, a specialist in programming methodology has a computer seeking long arithmetic progressions of prime numbers.

After running a few hundredths of a second at a time for a total of 250 hours in the "background" when a VAX-11/780 had nothing better to do, the program written by Assistant Professor of Computer Science Paul A. Pritchard produced its first record-breaker — an arithmetic progression of 18 prime numbers.

(A prime number is a number greater than 1, divisible only by 1 and itself. An arithmetic progression is a list of numbers with a common difference between successive numbers.)

Pritchard's achievement broke the previous record of 17 prime numbers in arithmetic progression, discovered in 1977. The Cornell program so far has found 14 other 17-prime-number progressions and is expected to discover more than 100, about 10 other 18-prime-number progressions, and probably — if it is "lucky" — one 19.

Aside from mathematicians wondering whether arbitrarily long arithmetic progressions of prime numbers do, in fact, exist, the world probably isn't waiting breathlessly for another string of digits, the computer scientist acknowledges. But background programming conceivably could be used to exploit millions of hours of computer time that would otherwise be lost.

Background programming is possible because modern time-sharing computers can often satisfy several users at terminals simultaneously with time to spare, the Australian-born researcher observes.

"Suppose a user is editing textual information," Pritchard explains. "From the computer's point of view, most of the time it's doing nothing. The delay between key strokes may be tenths of a second, and that is an enormous amount of time on a computer that can do a million operations a second. My program is in the background, zipping in and out for hundredths of a second or less, whenever nothing is happening and the computer would otherwise be 'twiddling its thumbs'."

Considering that an hour on a time-sharing computer can sell for $1,000 or more, all those idle moments add up to a lot of unproductive computing power.

Pritchard knew he could not expect uninterrupted access to Cornell's Computer Science Department computers for his prime numbers project, so he wrote a program to conduct the search in the background. Millions of operations, each as simple as the addition or multiplication of two numbers, are performed as the computer labors on.

"There seemed to be no magic shortcut so I did the obvious thing as efficiently as possible," Pritchard recalls. "It's just a brute-force search; it keeps on looking and looking. There's an incredible amount of work involved and it's not possible for an unaided human to find these numbers."

Pritchard didn't learn of the first 18-prime-number progression until he logged on his office terminal one Monday morning; the computer had been working weekends and had "discovered" the progression on Sunday, Oct. 24, 1982. With an admitted anthropocentric bias, however, Pritchard fixes the discovery date by humans as Monday, Oct. 25.

Even home computers will, in the not-too-distant future, be powerful and sophisticated enough to handle background jobs, according to the researcher. Connected in networks via telephone lines, the personal computers need not be idle when the owners are. Just as a homeowner with an electrical generating system sells excess power back to a utility, a computer owner could sell unneeded computer time.

Pritchard's prime numbers program is now running — in the background, of course — on the Cornell Computer Science Department's two VAX machines, one of which is used for word processing and administrative functions and the other for more conventional research projects. If the program runs to completion, the total time spent on the two computers should total 13,824 hours.

Pritchard isn't letting the machines give up. Until someone else writes another background program, the Cornell computers have nothing better to do with those millions of fractions of seconds. And he is after a 19.

Sagan to Join Panel Opening Film Festival Here

Cornell faculty members Carl Sagan, Thomas Eisner and Charles Walcott will join with Chris Parsons director of the Natural History Unit of the British Broadcasting Corp. in a panel discussion "Film and Television in the Exploration of Nature," at 8 p.m. Friday, in Bailey Hall. The award-winning BBC film, "Water Walkers," will be shown.

The panel discussion will be the opening event of a seven-week Film Festival, scheduled for Wednesday evenings, Feb. 2-March 16, in which BBC nature films will be presented. In conjunction with the film festival, a special non-credit course, "Beyond Natural History," will be taught by Eisner, the Jacob Gould Schurman Professor of Biology, and Walcott, executive director of the Laboratory of Ornithology. All the events are sponsored by Cornell's Division of Summer Session, Extramural Courses and Related Programs.

A fee of $25 will be charged for the course and pre-registration is required. The panel discussion and Film Festival are free and opep to the public.

For further information on the series and/or to register for the course, contact Continuing Education Special Programs, Division of Summer Session, Extramural Courses and Related Programs at Cornell, 256-4987, or visit B12 Ives Hall.

The course, according to Eisner, will focus on the scientific significance and implications of present-day nature studies.

"The biological sciences have now entered upon a phase in which exploration and discovery are carried out as much outdoors as in the laboratory," Eisner said. "The new advances in biology, in areas such as ecology, evolution, animal behavior and sociobiology, are all very much a consequence of new ways of looking at nature and of studying nature."

Specific readings will be taken up in informal discussions dealing with some of the new studies. Topics to be covered will range from the timely and controversial (sociobiology; evolution/creation controversy), and the intriguing (magnetic orientation of animals), to the esoteric (communication in insects), according to Eisner.

The BBC films, which will be shown at 7 p.m. Wednesdays, in 120 Ives Hall, are:

—Feb. 2, "Animal Olympians," a Silver Prize Winner at the Wildlife Film Festival, features human efforts intercut with vivid examples of spontaneous wildlife Olympics;

—Feb. 9, "The Rotten World About Us," unravels the mysteries of mushrooms and molds, and shows how fungi feed, grow and multiply;

—Feb. 16, "Signs and Signals," deals with the efforts of naturalists and scientists to discover whether animals communicate with each other and, if so how;

—Feb. 23, "Invasion of the Land," the remains of extinct, giant amphibians and the bizarre reproductive habits of modern-day frogs are investigated;

—March 2, "Tree of Thorns," the umbrella-like acacia, which supports a wealth of African wildlife, and the woodland community it supports depend on the balanced interaction between tree and animal. The film illustrates the delicate harmony on which all life depends;

—March 9, "Flower from the Flames," a study of the winter flowering South African Protea Eximia, named after the Greek god Proteus who could take on numerous different forms; and "The Mouse's Tail," a documentary on four species of mice. The story is set in a country cottage in Wiltshire, England, where house mice and dormice live with their cousins the wood mice and harvest mice.

—March 16, "Vampire," an ISAF Festival Diploma of Honor recipient: an experimental expedition to Trinidad successfully records the life of the nocturnal vampire bat; and bat physiology research which was conducted at the University of Bonn, West Germany, is shown; "Impossible Bird," a film about the ostrich—made in Kenya with the cooperation of zoologist Lew Hurxthal, who lived with ostriches for eight years.

Literary Critic Paul de Man Will Be Messenger Lecturer

Literary critic Paul de Man, a former member of the Cornell faculty and now the Sterling Professor of French and Comparative Literature at Yale University, will give the Spring 1983 Messenger Lectures here on the topic "Rhetoric and Esthetics."

Regarded as one of this country's leading critics by both American and European scholars, de Man will give six public lectures in the series. All the lectures will be in the Hollis E. Cornell Auditorium of Goldwin Smith Hall starting at 4:30 p.m. Monday, Feb. 14; Tuesday, Feb. 15; Monday, Feb. 28; Tuesday, March 1; Thursday, March 3, and Friday, March 4.

The titles of the lectures are, in the order they will be presented:

"Anthropomorphism and Trope in Baudelaire;" "Kleist's 'Uber das Marionettentheater;' " "Hegel on the Sublime;" "Kant on the Sublime;" "Kant and Schiller" and "Conclusions."

Considered the university's most prestigious series, the Messenger Lectures are named for Hiram J. Messenger, an 1880 Cornell graduate, mathematician and innovator in the field of health insurance. The series was founded in 1924 to bring to Cornell the world's leading scholars to speak on topics related to the evolution of civilization.

The lectures have led to the publication of many books and have been given by several Nobel laureates.

De Man, who is widely known in the Cornell literary community, taught comparative literature at Cornell from 1960 to 1967, when he went to The Johns Hopkins University as a professor of humanistic studies. He joined the Yale faculty as a professor of French and comparative literature in 1970 and was named the Chester D. Tripp Professor of the Humanities at Yale in 1976, and then Sterling Professor in 1980.

Born in Antwerp, Belgium in 1919, de Man earned a B.A. from the University of Brussels in 1941, and M.A. and Ph.D. degrees in comparative literature from Harvard University in 1954 and 1959, respectively.

Among his numerous publications are two books: "Blindness and Insight," Essays in the Rhetoric of Contemporary Criticism, Oxford University Press, (1971) and "Allegories of Reading," Figural Language in Rousseau, Nietzsche, Rilke and Proust, Yale University Press, (1979).

According to Philip Lewis, professor of romance studies at Cornell, de Man's work "engages the attention of a very broad spectrum of intellectuals since it addresses the most fundamental issues of modern history and culture, speaks directly to the relations of literature and philosophy, and strongly criticizes certain accounts of modern liberary culture that have been ventured from the standpoint of the social sciences."

Cornell Chronicle

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Typists Listed

The Reference Department of Uris Undergraduate Library maintains a listing of typists willing to prepare term papers, theses, etc. If you are a typist and are interested in having your name included on that listing, please fill in the form below and bring or send it to the REFERENCE DEPARTMENT, URIS LIBRARY before February 15. Any forms received after that date will not be included in this year's listing.

(Name) (Address & Phone) (office & home)

(Type of machine/type face) (Rate charged p/page (sgl or dbl spaced)

(Type of work done) (e.g. theses, technical repts., legal or foreign materials.)

(Pick up and/or delivery service (free or charge?))

Jobs

The following job openings are new this week. For information on vacant positions listed in previous issues of the Chronicle, contact Personnel Staffing Services, 130 Day Hall. Cornell is an affirmative action employer.

Administrative/Professional

Sales Executive (WHCU Radio)

Systems Programmer III (College of Engineering)

Radio News Reporter (WHCU Radio)

Executive Staff Assistant I (Graduate School)

Staff Writer I (University Development)

Research Support Specialist I (Division of Nutritional Sciences)

Development Assistant (University Development) (2)

Director of Corporate Development (University Development)

Clerical

Administrative Aide, GR22 (Transportation Services)

Secretary, GR20 (Summer Session/Extramural)

Secretary, GR19 (Veterinary Administration)

Collections Representative, GR19 (Bursar's Office)

Accounts Assistant, GR18 (Summer Session/Extramural)

Word Process Operator, GR18 (Agricultural Engineering)

General Services

Photo Assistant, GR19 (DCS - Biomedical Communications)

Cook, SO18 (Cornell Dining)

Material Handler, SO18 (Campus Store)

Nurses Aide, SO17 (University Health Services)

Custodian, SO16 (Varied)

Dishmachine Operator, SO16 (Statler Inn)

Food Service Worker, SO16 (Statler Inn)

Technical

Technician, GR 12 (Vet MicrobiologyI

Technician, GR20 (Division of Nutritional Sciences)

Lab Technician (Boyce Thompson Institute: Contact T. LaRue, 257-2030 directly)

Animal Health Technician, GR18 (Clinical Sciences)

Technical Assistant, GR16 (Agronomy)

Part-Time

Office Assistant, GR16 (Cooperative Extension Admin., SUNY Potsdam)

Academic

Assistant Professor, African Politics (Africana Studies and Research Center)

Assistant Professor, African-American Politics (Africana Studies and Research Center)

Assistant Professor, African-American Culture (Africana Studies and Research Center)

The Job Opportunities list is mailed to all Cornell departments. In addition, it is posted in the following places: Day Hall Information Desk, second floor lobby; at the Circulation and Reference Desks of all university libraries; in the Map and Newspaper Section, Olin Library; all college and technical libraries; Roberts Hall Post Office substation and in the Upper Activities corridor, Willard Straight Hall.

Roelofs Wins Wolf Prize

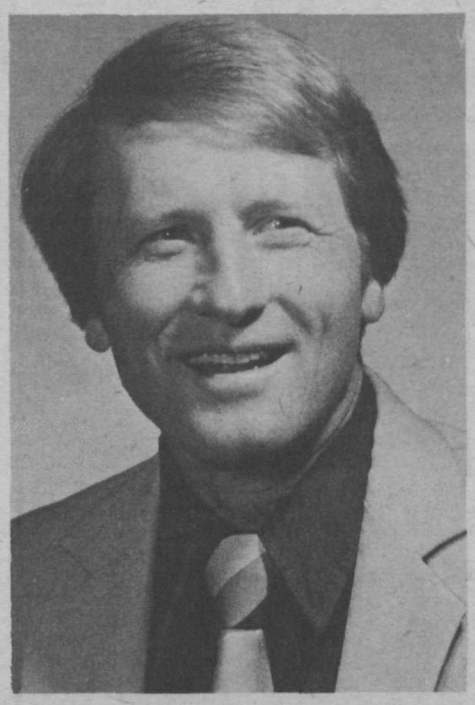
Wendell Roelofs, Liberty Hyde Bailey professor of insect biochemistry in the department of entomology at the university's State Agricultural Experiment Station in Geneva, will be awarded the 1983 Wold Prize in Agriculture by the Wolf Foundation in Israel.

For this honor, Roelofs will receive $100,000 and will attend the prize award ceremony at the Knesset Israel Parliament in Jerusalem in May. The Wolf Prize is considered to be the top award in agriculture in the world. Five awards are given annually, one each in the fields of agriculture, physics, chemistry, medicine and mathematics. A sixth award may be given in the field of art if applicable.

Roelofs is a scientist in the field of insect sex pheromones (attractants). He came to the Experiment Station in 1965 and was the first biochemist hired by the department of entomology. Roelofs has conducted pioneering studies on the isolation, identification, synthesis, and use of insect sex pheromones. He has compiled large quantities of data on the chemistry, perception, and utilization of sex pheromones in the field of agriculture. In order to do this, he has had to interface the disciplines of chemistry and biology and to cooperate effectively with a variety of entomologists throughout the world.

When Roelofs began his studies, identification of individual pheromones was a laborious process requiring the use of thousands of female insects. He developed a special technique, known as the electroantennogram, to monitor for biologically active compounds in pheromone extracts.

This was recognized as a monumental breakthrough. This discovery and the technique of using a series of synthetic compounds greatly decreased the amount of time required to make identifications of sex pheromones. It also reduced the number of female insects required from thousands to hundreds or less.



WENDELL ROELOFS

Roelofs has not stopped with the identification of these pheromones. He has seen that they are put to practical use. In addition to determining pheromone blends, he cooperates closely with industry in designing insect traps and pheromone dispensers in practical kits. This procedure is used as a pest monitoring device, and has become a vital part of orchard pest-management programs. It is resulting in growers eliminating unnecessary pesticide treatments.

Nabokov's Memory Celebrated With Multi-Media Festival

The life and work of author Vladimir Nabokov will be the subject of a multi-media festival at the university during the 1983 spring semester.

The five-month Nabokov Festival will include an exhibition of his butterfly collection as well as some of his correspondence, a film series and a recital, by his son, of Russian songs connected with the author's work.

During the semester men and women will be on campus to "consider the various aspects of Nabokov: the writer, the translator, the critic, the teacher and the friend," according to George Gibian, the Goldwin Smith Professor of Russian Literature at Cornell.

Nabokov, who died in 1977, wrote his best-known novel, "Lolita," while a professor of Russian and world literature at Cornell.

He was on the faculty here from 1948 to 1958, during which time he also wrote his autobiography, "Speak, Memory," the novel "Pnin," and commentaries on and translations of the "Song of Igor's Campaign" and "Eugene Onegin."

Gibian said the Nabokov Festival is "celebrating the famous author...and former Cornell professor...for his achievements and continuing influence on creative writers and on literature and film."

Cornell's Council of the Creative and Performing Arts and the Committee of Soviet Studies are bringing to the campus writers, critics, and scholars to discuss Nabokov and his work.

The Nabokov exhibition will be in Olin Library from Jan. 20 to March 31. Nabokov's butterfly collection, which he gave to Cornell in the keeping of Professor Emeritus John G. Franclemont, is on loan from the entomologist. The correspondence between Nabokov and Cornell historian Morris Bishop is on loan from the late professor's wife, Alison.

In March, a Wednesday night film series on Nabokov will consist of "Laughter in the Dark," "Lolita," "Despair" and "King, Queen, Knave."

On April 22, Nabokov's son, Dmitri, who has played leading bass roles in operas in Italy, France and the United States, will present the Russian song recital.

Among the commentators scheduled to appear are authors Herbert Gold (April 13-14), William Gass (May 4), Nina Berberova (March 22) and Edmund White (March 16) and critic Alfred Appel (April 22-23).

Friends and associates will reminisce about Nabokov in a session on April 15. Cornell professors M.H. Abrams, Max Black, Milton Cowan and others will participate.

For complete details on the Nabokov Festival, contact Anna D. Geske, program director, Creative and Performing Arts Council, 204 A.D. White House.

Trustees Meet This Weekend in New York City

The Executive Committee and the Board of Trustees will meet in New York City today through Saturday.

Both the Executive Committee and the full Board will convene in open sessions with executive and closed sessions after the open meetings.

The meetings will be held in the Executive Faculty Room of the Harkness Medical Research Building, 1300 York Ave. The Executive Committee meeting begins at 2 p.m., today. The full Board begins its meeting at 10 a.m., Jan. 28, and continues at 9:30 a.m. Jan. 29.

The agenda for the Executive Committee open session will include:

A report of the president.

A recommendation for an exception to the university's patent policy.

A report on the establishment of new funds for the statutory colleges.

A report of the Buildings and Properties Committee.

Agenda for the executive and closed sessions of the Executive Committee will include:

A report of the president.

Personnel matters affecting the statutory and endowed colleges at Ithaca and the Medical College at New York City.

Approval of minutes of the Executive Committee of Dec. 7, 1982.

A recommendation to authorize the purchase of Financial Accounting System software for the Medical College at New York City.

A report on the establishment of new funds for the endowed colleges at Ithaca and for the Medical College at New York City.

A series of recommendations to authorize renovation, construction and analyses of projects at South Balch Hall, Helen Newman Athletic Fields, Clark Hall and the Central Heating Plant.

A report of the Buildings and Properties Committee.

A report on a contract amendment from the National Science Foundation for operation and support of the Cornell Electron Storage Ring.

A recommendation to authorize formation of a transportation corporation, pursuant to the New York State Transportation Corporations Law, to be wholly owned by the university. The State Department of Transportation has called on the university to establish the corporation in order to continue to operate public transit routes off campus.

The agenda for the open session of the full Board meeting will include the following:

A report of the president.

A report on the reelection of Bernard W. Potter as president of the New York State Agriculture Society and his continuance as an ex officio member of the Board.

A report that Gov. Mario M. Cuomo, Lt. Gov. Alfred Del Bello and Commissioner of Commerce William J. Donohue Jr. are now ex officio members of the board, pursuant to the University Charter.

The annual report of the Investment Committee.

The annual report of the Audit Committee.

A report from the Executive Committee from the open sessions of meetings held Dec. 7, 1982 and Jan. 27, 1983.

A report from the Ad Hoc Committee to Study the Structure and Functioning of the Board of Trustees.

A recommendation for ratification of Trustee bylaw revisions to implement the actions taken Dec. 7, 1982, regarding the membership of the Board.

Election of the Committee on Board Membership.

A recommendation that the Committee on Board Membership be authorized to prepare and promulgate a transition plan that would reconstitute the Board at 42 members at the earliest convenient time.

Election of a subcommittee of the Board's Academic Affairs Committee to study minority education at Cornell.

A recommendation to establish the positions of Senior Scholar and Senior Scientist as nonprofessorial members of the staff of instruction and research.

A progress report on development of budget and financial aid policies for 1983-84.

A recommendation to authorize the president to confer degrees in January, May and August.

Reports on the Cornell Fund and the Tower Club.

A report of gifts received through Dec. 31, 1982.

The annual report on sponsored research at Cornell.

A report on career counseling and placement at Cornell.

Agenda for the executive and closed sessions of the Board will include:

A report of the president.

A report on deaths of tenured faculty and emeritus members occurring since the last meeting of the Board.

Appointments and election of faculty to emeritus status.

Approval of minutes of the Board meetings held Oct. 22-23, 1982 and Dec. 7, 1982.

Reports and recommendations from the Executive Committee meetings of Dec. 7, 1982 and Jan. 27, 1983.

Personnel matters affecting the endowed colleges at Ithaca and the Medical College at New York City.

A report on the College of Engineering.

A presentation on long-range planning for facilities at the Medical College.

Seven Open Meetings Scheduled

Several open sessions are scheduled in conjunction with the meetings, today through Saturday in New York City, of the University Board of Trustees:

— The Buildings and Properties Committee will meet in open session at 9 a.m. today in the Board of Governors' Room, New York Hospital, 525 E. 68th St.

— The Executive Committee will meet in open session at 2 p.m. today in the Executive Faculty Room, A-126, Harkness Building, 1300 York Ave.

— The Committee on Land Grant and Statutory College Affairs will meet in open session at 5 p.m. today in the Executive Faculty Room, A-126, Harkness Building, 1300 York Ave.

— The Academic Affairs Committee will meet in open session at 6 p.m. today at the Cornell Club of New York, 155 East 50th St.

— The Audit Committee will meet in open session at 6 p.m. today in the Cornell Club of New York, 155 East 50th St.

— The Development Advisory Committee will meet in open session at 8:30 a.m. Friday, Jan. 28, in the Board of Governors' Room, New York Hospital, 525 East 68th St.;

— The Board of Trustees will meet in open session at 10 a.m. Friday, Jan. 28, in the Board of Governors' Room, New York Hospital, 525 East 68th St.

Calendar

All items for publication in the Calendar section, except for Seminar notices, must be submitted (typewritten, doublespaced) by mail or in person to Fran Apgar, Central Reservations, 532 Willard Straight Hall at least 10 days prior to publication. Seminar notices should be sent to Barbara Jordan-Smith, News Bureau, 110 Day Hall, by noon Friday prior to publication. Items should include the name and telephone number of a person who can be called if there are questions, and also the subheading of the Calendar in which it should appear (lectures, colloquia, etc.). ALL DEADLINES WILL BE STRICTLY ENFORCED.
***—Admission charged.**

Announcements

Transformation Workshop
A new 8-week series on self-discovery and growth. Thurs., 7-10 p.m., beginning Jan. 27, Anabel Taylor Edwards Room. Fee charged. Co-sponsored by CRESP. To register, call Let Davidson, 272-4131.

Experimental College Cross Country Ski Workshop
Registration for a one-day workshop will be held on Thurs. Jan. 27 from 10 a.m.-12 noon and 1-3 p.m. in the Willard Straight Terrace Lounge. Registration will also be held on Fri., Jan. 28 from 10 a.m.-12 noon. There are two sections offered: one on Feb. 5, 10 a.m.-4:30 p.m., the other to be held on Feb. 12, 10 a.m.4:30 p.m. Cost is $7 for students, $9 for non-students.

Olin Library Research Seminar
A two-hour presentation, for faculty members and graduate students, on the use of the library for research will be given on Wednesday, February 2, 10 a.m.-12 noon., in Olin Library Room 214. Sign-up at the Reference Desk, or call 256-3319.

Academic Survival Workshops
Study Skills Jan. 31-Feb. 9, Mondays & Wednesdays, 4:30-5:30 p.m.: Reading Skills Feb 1-10, Tuesdays and Thursdays. Call 256-8269 or drop by 375 Olin Hall.

HE 100 Critical Reading & Thinking
Reading and learning strategies. Call 256-8269.

Tours of Uris Undergraduate Library
Tours will occur on weekdays through Jan. 28. Interested persons should meet at the Uris Circulation Desk at the following times and days: Jan. 27 10:10 a.m.; Jan. 28 11:15 a.m. Tours of Uris will also include a brief tour of Olin Library. Handicapped students needing a special tour should call 256-2339.

Cornell Recreation Club
Feb. 6, 12 noon-6 p.m. *Helen Newman Lanes. Family Bowling Party.

Chinese Cultural Society
Third Annual New Year Celebration will occur on Saturday, Jan. 29 in the Willard Straight Memorial Room. In this Year of the Boar, the Chinese Cultural Society once again will continue a line of tradition by hosting a day-long celebration in a place far-removed from any major Chinatown area—right on the Cornell campus. A professional martial arts troupe from New York City is the main feature of the event. Their performance of the traditional, ferocious Lion Dance heralds the beginning of a series of rites that frighten away old and evil spirits and welcome in good luck for the new year. Also featuring traditional Chinese folk dances, martial arts demonstrations, folksongs, music, swordplay, magic and mime.

Resident Advisor Selection Process
The Department of Residence Life is seeking students who are in good academic standing and who are in possession of good interpersonal skills to try out for what could be one of the most valuable experiences in their lives. Prospective candidates can obtain information by attending one of the following information sessions: Sun., Jan. 30; Wed., Feb. 2, Mon., Feb. 7. All sessions will be held at 7 p.m. in Goldwin Smith Hollis Cornell Audit.

Disarmament Study Group Breakfast
Held every Thursday morning at 7:30 a.m. in the One World Roon of Anabel Taylor Hall. All welcome. 50 cents to $1 charged to cover cost of breakfast.

Transformation Workshop
A new 8-week series on self-discovery and growth, Thursdays 7-10 p.m, beginning Jan. 27, Anabel Taylor Edwards Room. Fee charged. Co-sponsored by CRESP. To register, call Let Davidson, 272-4131.

Head Residents Needed
Applications are being accepted for several Head Resident positions in the Graduate Resident Halls for the 1983-84 academic year. Graduate students and undergraduate students of graduate student age are eligible. Applications are available at the Sage Hall Office beginning Jan. 24 and must be returned to that office before Feb. 4.

Intramural Office Has Moved
The Intramural Office is now located in Helen Newman Hall.

Intramural Volleyball (Women)
Deadline on entries is Monday, February 7 at 4 p.m. in the Intramural Office, located in Helen Newman Hall. Play will be in Helen Newman Hall. Minimum of 9 to enter. Specify your preferred day of play: 1st, 2nd, 3rd choice: Monday, Tuesday, Thursday9-11 p.m.; Wednesday-10-12 midnight; Friday (if necessary)7-11 p.m. You do not have a choice of times. Forfeit fee of $10 per team due with your roster to enter. Checks only payable to "Dept. of Phys. Ed. & Ath., Intra. Div." If you do not forfeit any of your regularly scheduled games, we will void your check at the end of the volleyball season. Play will probably begin March 14. Post-date checks May 9, 1983.

English as a Second Language
Two oral skills courses will be available for foreign students who wish to improve their speaking abilities. The courses will be particularly valuable for those who expect to be teaching assistants. The courses carry one credit each and each one meets two hours weekly. For further information, contact Marilyn Martin, 323B Morrill Hall, 256-3384.

Dance

Wednesday
Feb. 2, 7:30 p.m. Straight Memorial Room. International Folk Dancers. Beginners teaching all evening. All welcome to attend.

Every Thursday
Anabel Taylor One World Room, 8 p.m. 8-9 p.m. teaching, 9-11 p.m. requests. Beginners through advanced. Everyone welcome.

Every Sunday
Willard Straight North Room, 7:30 p.m. 7:30-8:30 p.m. teaching, 8:30-10:45 p.m. requests. Beginners and dancers at all levels welcome. Cornell International Folk Dancers.

Exhibits

Herbert F. Johnson Museum "Danish Ceramic Design" through January 30; "Art Department: Faculty Exhibition" through January 30. Also on view: French Posters; 19th Century French Prints; Woodcuts and engravings by Albrecht Durer; American Works on Paper. Museum hours: 10 a.m.-5 p.m., Tuesday through Sunday.

The John Hartell Gallery, Sibley Hall: "Impressions: Our World, Volume One," Feb. 1-16, the first in a series of four print portfolios dedicated to the Black Experience. It features original works by seven Black artists, living and working in the United States. In addition to the portfolio, the exhibition includes other prints by Black artists from the Printmaking Workshop in New York City.

Films

Unless otherwise noted films are under sponsorshio of Cornell Cinema.

Friday
Jan. 28, 8 p.m.1 Bailey Auditorium. Natural History Continuing Educational Special Event; an open forum entitled "Film and Television in the Exploration of Nature." The prizewinning BBC film "Water Walkers" will be shown. Free and open to the public. Sponsored by Summer Session and Extramural Courses, Cornell.

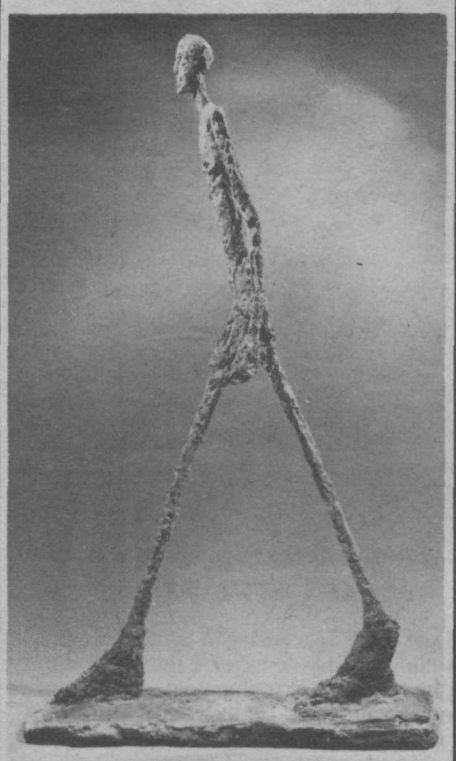
Jan. 28, 8 p.m. *Statler Auditorium. "Apocalypse Now" (1979), directed bv Francis Ford Coppola, with Martin Sheen, Marlon Brando, Robert Duvall.

Jan. 28, 9 p.m. *Uris Hall Auditorium. "Moonlighting" (1982), directed by Jerzy Skolimowski, with Jeremy Irons, Eugene Lipinski. Shown with "The Haircut." An Ithaca premiere.

Jan. 28, 11:15 p.m. *Statler Auditorium. "Monty Python at the Hollywood Bowl" (1982), directed by Terry Hughes and Monty Python, with Monty Python.

Saturday
Jan. 29, 8 p.m. *Statler Auditorium. "Monty Python at the Hollywood Bowl."

Jan. 29, 8 & 10:30 Q.m. *Uris Hall Auditorium. "Moonlighting."



'Walking Man II' is the title of this sculpture by Alberto Giacometti, a bronze that is a gift to the Johnson Museum from Mr. and Mrs. Percy Uris.

Jan. 29, 10 p.m. *Statler Auditorium. "Apocalypse Now."

Sunday
Jan. 30, 8 p.m. *Uris Hall Auditorium. "Lady Sings the Blues" (1972), directed by Sidney Furie, with Diana Ross, Billy Dee Williams.

Monday
Jan. 31, 9 p.m. *Uris Hall Auditorium. "Z" (1969), directed by Costa-Gavras with Yves Montand, Irene Pappas. Limited to film club members only. Film club memberships available at door: $8.50 for series of 12 films.

Tuesday
Feb. 1, 4:30 p.m. Rockefeller D (230). Southeast Asia Free Film Series: "Shadow Master." A documentary focusing on a Balinese dalang (puppeteer) and his family of performers. Outstanding footage of contemporary Balinese culture; the film examines the juxtaposition of tradition (masked dance, temple ceremonies, a cremation, a cock fight, and especially shadow play training and performance) with modern society represented by motorbikes, tourists, and televisions.

Feb. 1, 8 p.m. *Uris Hall Auditorium. "Peeping Tom" (1962), directed by Michael Powell, with Carl Boehm, Moir Shearer, Anna Massey. Introduction by Prof. Patty Zimmermann.

Wednesday
Feb. 2, 8 p.m. *Uris Hall Auditorium. "Ali-Fear Eats the Soul" (1974), directed by Rainer Werner Fassbinder, with Brigitte Mira. Shown with: "Al That Heaven Allows," directed by Douglas Sirk.

Thursday
Feb. 3, 8 p.m. *Uris Hall Auditorium. "Uncle Vanya" (1972), directed by Andrei Mikhalkov-Konchalovsky, with Innokenty Smoktunovsky, Sergei Bondarchuk. The director will be present at the screening.

Friday
Feb. 4, 8 p.m. *Statler. "The Tin Drum" (1979), directed by Volker Schlondorff, with David Bennent, Charles Aznavour, Angela Winkler.

Feb. 4, 10 p.m. *Uris Hall Auditorium. "Women in Love" (1970), directed by Ken Russell, with Glenda Jackson, Alan Bates, Oliver Reed.

Feb. 4, 11 p.m. *Statler. "Eraserhead" (1977), directed by David Lynch, with John Nance, Charlotte Stewart.

Saturday
Feb. 5, 8 p.m. *Statler. "Man of Marble" (1977), directed by Andrezej Wajda, with Krystyna Janda, Jerzy Radziwillowicz.

Feb. 5, 8 & 10:15 p.m. *Uris Hall Auditorium. "Singin' in the Rain" (1952), directed by Gene Kelly, Stanley Donen, with Gene Kelly, Debbie Reynolds.

Feb. 5, 12 midnight *Statler. "Eraserhead."

1983	JANUARY					1983
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Sunday
Feb. 6, 2 p.m. *Uris Hall Auditorium. "Willie Wonka and the Chocolate Factory" (1971), directed by Mel Stewart, with Gene Wilder, Jack Albertson. Co-sponsored by Ithaca Youth Bureau.

Feb. 6, 8 p.m. *Uris Hall Auditorium. ,'Get Rollin'" (1980), directed by J. Terrance Mitchell, with Pat (the Cat) Richardson, Vinzarelli Brown, Inez Daniels. The director will be present at the screening. Co-sponsored by 3rd World Student Programming Board and Black Graduate Student Association. This is a Gospel Music film.

Lectures

Thursday
Jan. 27, 12:15 p.m. Uris Hall 153. Western Societies Program brown-bag seminar: "The History of the Orgasm," Thomas Laqueur, Associate Professor of History, University of California at Berkeley.

Jan. 27, 12:20 p.m. 102 West Ave. Southeast Asia Program brown-bag seminar: "Indonesian Inequality: Attempts at Social Accounting," Roger Downey, Ph.D. Candidate in Economics, Cornell.

Jan. 27, 4:30 p.m. A.D. White House Guerlac Room. Society for the Humanities Lecture: "Murdering Peasants: Status, Genre, and the Representation of Rebellion," Stephen Greenblatt, Professor of English, University of California, Berkeley; Fellow, Society for the Humanities.

Jan. 27, 4:30 p.m. Goldwin Smith 124. Western Societies Lecture: "The Body's Death and Pauper Funerals," Thomas Laqueur, Associate Professor of History, University of California Berkeley.

Friday
Jan. 28, 8 p.m. Bailey Auditorium. Natural History Continuing Education Special Event: an open forum entitled "Film and Television in the Exploration of Nature," Chris Parsons, BBC Natural History Film Unit; Carl Sagan, Department of Astronomy, Cornell; Thomas Eisner, Division of Biological Sciences, Cornell; Charles Walcott, Laboratory of Ornithology, Cornell. The prize-winning film "Water Walkers" will be shown. The entire evening is free and open to the public. A Film Festival, BBC nature films, free and open to the public, on Wednesdays, in Ives 120. For more information about: "A Special Course: Beyond Natural History" call 256-4987. Sponsored by Summer Session and Extramural Courses, Cornell.

Monday
Jan. 31, 7:30 p.m. Anabel Taylor One World Room. "America and World Community," Now and in the Future": an interdisciplinary course open to all, undergraduates, grads, and non-students (3 credits). "Consciousness, the Future and World Community," Eldon Kenworthy, Associate Professor, Government. Sponsored by Center for World Community and IRIM. For more information contact Bob Beggs, Director, 256-4864.

Wednesday
Feb. 2, 7 p.m. Ives 120. Natural History Continuing Education Program. BBC Nature Film Festival "Animal Olympians." Followed by a special course: "Beyond Natural History," Thomas Eisner, Biological Sciences, Cornell and Charles Walcott, Laboratory of Ornithology, Cornell. **For details call 256-4987.**

Thursday
Feb. 3, 12:20 p.m. 102 West. Ave. Southeast Asia Program brown-bag seminar: "Infant Feeding Practices in Thailand and Indonesia," Dr. Penny Van Esterik, Research Associate, Dept. of Nutrition, Cornell. Bring your lunch; we provide the coffee and cookies.

Music

Organist to Present Recital
Organist Stephen May will present a free public recital in Cornell's Sage Chapel at 8:15 p.m. Friday, Jan. 28, under the auspices of the University music department.

The program consists of Four Pieces by Johann Hummel, an early 19th century German composer; Symphonie Gothique, Opus 70 by Charles-Marie Widor, a late 19th and early 20th century Frenchman; and Essay by Nicholas Maw, born in England in 1935.

May, who holds a bachelor's degree in music and master's degree in fine arts from Georgia State University, received his Doctor of Musical

Cornell Summer 1983

General Information

The rate of tuition for courses in the regular sessions is $180 a credit. In addition, some courses have course fees. More-detailed information is available from Cornell University Summer Session, B12 Ives Hall, Ithaca, New York 14853 (telephone: 607/256-4987), or in the Announcement, which will be published in March 1983.

The names of the days classes are held are listed by their first letter except in the case of Thursday, for which **R** is used.

The courses and teaching personnel listed herein are subject to change at any time by official action of Cornell University.

Three-Week Session

June 1-24

AFRICANA STUDIES AND RESEARCH CENTER

345 (also Psychology 345) Psychological Research and Afro-Americans 3 credits. Prerequisite: an introductory course in psychology or Africana Studies and Research Center 171. M-F 10-12:30. Uris 259. L. Fitzgerald.

AMERICAN INDIAN STUDIES

242 (also Anthropology 242) American Indian Philosophies 3 credits (4-credit option available). M-F 12-2:30. Warren 260. S. C. Saraydar.

ANTHROPOLOGY

113 The Comparison of Cultures 3 credits (4-credit option available). M-F 9:30-12. McGraw 303. D. H. Holmberg.

242 (also American Indian Studies 242) American Indian Philosophies 3 credits (4-credit option available). M-F 12-2:30. Warren 260. S. C. Saraydar.

328 Law and Culture 4 credits. M-F 9-11:30. McGraw 305. C. J. Greenhouse.

ARCHAEOLOGY

275 (also Near Eastern Studies 261) Ancient Seafaring 3 credits. M-F 9-10:15, 10:45-12. Rockefeller 381. D. Owen.

ARCHITECTURE

251 (also Art 261) Introductory Photo I 3 credits. Limited to 30 students. M-F 9-12. Sibley B20. Staff.

ART

151 First-Year Drawing 3 credits. M-F 8:30-12. Tjaden Hall. Z. Blum.

261 (also Architecture 251) Introductory Photo I 3 credits. Limited to 30 students. M-F 9-12, plus darkroom work (average, two hours a day). Sibley B20. Staff.

361 Third-Year Photo: Color I 4 credits. Prerequisite: Art 261 or 262 or permission of the instructor. M-F 1-4. Tjaden Hall. S. Bowman.

370 Independent Studio Courses Variable credit. By arrangement.

BIOLOGICAL SCIENCES

421 Comparative Vertebrate Ethology 3 credits. Limited to 15 students. Prerequisites: one year of introductory biology at the college level and permission of the instructor. M-F 9-11, plus daily field trips. Rice 300. W. C. Dilger.

CHEMICAL ENGINEERING

220 Mass and Energy Balances 3 credits. Self-paced audiovisual instruction. Olin Hall 222. R. G. Thorpe.

CHEMISTRY

300 Quantitative Chemistry 2 credits. Prerequisite: Chemistry 208 or advanced placement in chemistry. Lectures M-F 10-10:50, Baker G19. Laboratories and recitations M-F 12:20-4:25. T. A. McCarrick.

COMMUNICATION ARTS

360 Scientific Writing for Public Information 3 credits. Limited to 17 students; not open to freshmen. M-F 9-12. E. Roberts 225. J. Hardy.

363 Organizational Writing 3 credits. Limited to 17 students; not open to freshman. M-F 9-12. Warren 232. A. M. Wilkinson.

460 Video Communication I 3 credits. Limited to 15 students. Prerequisite: permission of the instructor. M-R 9:30-12:30. CA Graduate Center, 640 Stewart Avenue. S. White and staff.

COMPARATIVE LITERATURE

312 Comedy 4 credits. M-F 10:45-12, 1-2:15. Goldwin Smith 348. W. Kennedy.

ECONOMICS

101 Introductory Microeconomics 3 credits. M-F 9:30-12. Uris G92. J. Svejnar.

102 Introductory Macroeconomics 3 credits. M-F 9:30-12. Uris G94. P. McClelland.

306 Economics of Defense Spending 4 credits. Prerequisite: Economics 101-102. M-F 9:30-12. Rockefeller 101. W. Weida.

311 Intermediate Microeconomic Theory 4 credits. Prerequisite: Economics 101-102 or permission of the instructor. M-F 9:30-12. Uris 494. H. Wan.

312 Intermediate Macroeconomic Theory 4 credits. Prerequisite: Economics 101-102 or permission of instructor. M-F 9:30-12. Uris 498. G. Staller.

313 Intermediate Microeconomics (calculus section) 4 credits. Prerequisites: Economics 101-102 and calculus (Mathematics 111 or equivalent). M-F 9:30-12. Uris 340. A. Mukherji.

314 Intermediate Macroeconomics (calculus section) 4 credits. Prerequisites: Economics 101-102 and calculus (Mathematics 111 or equivalent). M-F 9:30-12. Rockefeller 102. K. Burdett.

319 Quantitative Methods 4 credits. Prerequisite: thorough understanding of microeconomic and macroeconomic theory and elementary calculus. M-F 9:30-12. Rockefeller 103. N. Kiefer.

331 Money and Credit 4 credits. Prerequisite: Economics 101-102. M-F 9:30-12. Uris 438. U. Possen.

333 Theory and Practice of Asset Markets 4 credits. Prerequisites: Economics 311 or 313, and 312 or 314. M-F 9:30-12. Uris 420. T. Davis.

335 Public Finance: Resource Allocation and Fiscal Policy 4 credits. Prerequisite: Economics 101-102. M-F 9:30-12. Rockefeller 104. E. Grinols.

362 International Monetary Theory and Policy 4 credits. Prerequisite: Economics 101-102 or permission of the instructor. M-F 9:30-12. Rockefeller 105. L. Ebrill.

ELECTRICAL ENGINEERING

476 Microprocessor Systems 3 credits. Prerequisites: Electrical Engineering 475 or a course in logic design (Electrical Engineering 230), and Computer Science 314 or equivalent. Lectures M-F 9-10:15, 10:30-11:30. Phillips 203. N. M. Vrana.

HISTORY

151 Introduction to Western Civilization to 1600 4 credits. M-F 11-12:15, 1:30-2:45. McGraw 366. C. Holmes.

363 Russian History since 1800 4 credits. M-F 9:15-10:30, 11-12;15. McGraw 365. W. M. Pintner.

377 From Pericles to Plato: Democracy and Ideal State in Classical Greece 4 credits. M-F 11-12:15, 2:30-3:45. McGraw 145. B. Strauss.

INDUSTRIAL AND LABOR RELATIONS

COLLECTIVE BARGAINING

200 (also Industrial and Labor Relations 500) Collective Bargaining 3 credits. M-F 9-12. Ives 112. R. Seeber.

686 Collective Bargaining in the Public Sector 3 credits. Prerequisite: Industrial and Labor Relations 200-201, 500-501, or permission of the instructor. M-F 5:30-8:30. Ives 114. J. Burton.

ENGLISH

270 The Reading of Fiction 3 credits. M-F 9-10:15, 10:30-11:45. Rockefeller 15. H. Shaw.

288 Expository Writing 3 credits. M-F 9-10:15, 10:30-11:45. Rockefeller 16. N. Kaplan.

311 A Sampler of Fantasy and Science Fiction: Heroic Pasts and Perplexing Futures 4 credits. M-F 9-10:15, 10:30-11:45. Rockefeller 306. R. Farrell.

348 Blake, Hopkins, Frost 4 credits. M-F 9-10:15, 10:30-11:45. Goldwin Smith 356. S. Parrish.

380 Creative Writing Workshop 4 credits. M-F 9-10:15, 10:30-11:45. Rockefeller 354. L. Herrin.

477 Children's Literature 4 credits. M-F 9-10:15, 10:30-11:45. Goldwin Smith 350. T. Hill.

GOVERNMENT

111 The Government of the United States 3 credits. M-F 10:30-1. McGraw B20. B. Ginsberg.

310 Power and Society in America 4 credits. M-F 9:30-12. Goldwin Smith 340. Z. Eisenstein.

350 Comparative Revolutions 4 credits. M-F 8:30-11. McGraw 145. I. Kramnick.

687 Current Issues in Collective Bargaining 3 credits. M-F 10-1. Ives 118. D. Lipsky.

LABOR ECONOMICS

150 Labor Problems in American Society 3 credits. M-F 9-10:15, 10:45-12. Ives 212. V. Briggs.

240 (also Industrial and Labor Relations 540) Economics of Wages and Employment 3 credits. Prerequisite: Economics 101-102 or equivalent, or permission of the instructor. M-F 11-12:15, 3-4:15. Ives 114. R. Smith.

ORGANIZATIONAL BEHAVIOR

322 Comparative Theories of Organizational Behavior 3 credits. M-F 9:30-12. Ives 218. S. Bacharach.

370 The Study of Work Motivation 4 credits. M-F 8-10:30. Ives 112. M. Eres.

PERSONNEL AND HUMAN RESOURCE MANAGEMENT

361 Effective Supervision 1 credit. T 6-9 p.m. Ives 116. W. Wasmuth.

MATHEMATICS

111 Calculus 3 credits. Prerequisite: three years of college preparatory mathematics, including trigonometry. M-F 9:30-10:45, 2-3:15. White 310.

MUSIC

101 The Art of Music 3 credits. Limited to 15 students. M-F 9-10:15, 10:30-11:45. Lincoln 116. T. Sokol.

105 Introduction to Music Theory 3 credits. Limited to 15 students. M-F 9-10:15, 10:30-11:45. Lincoln 309. R. Parker.

NATURAL RESOURCES

230 Diet for a Small Planet 3 credits. M-F 10:30-1. Fernow 210. G. Berardi.

NEAR EASTERN STUDIES

103 Elementary Modern Hebrew: Second Semester 4 credits. Prerequisite: one semester of college Hebrew or permission of the instructor. M-F 9-1. Goldwin Smith 181. N. Scharf.

261 (also Archaeology 275) Ancient Seafaring 3 credits. M-F 9-10:15, 10:45-12. Rockefeller 381. D. Owen.

399 French Film and Thought: The Untrammeled Eye 3 credits. Prerequisite: a reading knowledge of French is desirable but not essential. M-F 12:30-2:45. Goldwin Smith 281. D. Grossvogel.

RURAL SOCIOLOGY

360 The Old Order Amish: Folk Society or Model for the Future? 3 credits. M-F 9-11:30. Warren 260. M. A. Olshan.

437 (also Sociology 347) Environment and Aging 3 credits. M-F 9:15-11:45. Uris 340. P. Taietz.

Accelerate and receive financial aid in the same proportion as in other terms. Details at the Office of Financial Aid.

PSYCHOLOGY

208 Consumer Behavior 3 credits. M-F 11:30-2. Uris 248. J. Cunningham.

209 Developmental Psychology 4 credits. Prerequisite: an introductory course in psychology. M-F 9-11:30. Uris 248. F. Keil and K. Keil.

214 Introduction to Cognitive Psychology 3 credits. Prerequisite: one course in psychology. M-F 9-11:30. Goldwin Smith 336. D. Irwin.

325 Introductory Psychopathology 3 credits (4-credit option available). Prerequisite: one course in psychology. M-F 10-12:30. Uris 204. R. Mack.

345 (also Africana Studies and Research Center 345) Psychological Research and Afro-Americans 3 credits. Prerequisite: an introductory course in psychology or Africana Studies and Research Center 171. M-F 10-12:30. Uris 259. L. Fitzgerald.

350 Statistics and Research Design 4 credits. Prerequisite: a course in the behavioral sciences. M-F 10-12:30. Uris 260. T. Gilovich.

ROMANCE STUDIES

FRENCH

201 Introduction to French Literature 3 credits. Prerequisite: three years of high school French, a CPT score of 560, or permission of the instructor. Readings and class discussions in French. M-F 9:30-11:45. Goldwin Smith 281. R. Klein.

SOCIOLOGY

101 Introduction to Sociology 3 credits. M-F 1-3:30. Uris 302. E. Auster.

221 Sociology of Organizations 3 credits. M-F 1-3:30. Uris 320. D. Fish.

243 Family 3 credits (4-credit option available). M-F 9:30-12. Uris 320. D. Hayes.

252 Public Opinion 3 credits (4-credit option available). M-F 9:30-12. Uris 302. J. McAdams.

282 Contemporary Issues in Sex Roles: Egalitarian Relationships 3 credits (4-credit option available). M-F 12:30-3. Uris 340. M. Maier.

347 (also Rural Sociology 437) Environment and Aging 3 credits. M-F 9:15-11:45. Uris 340. P. Taietz.

THEATRE ARTS

474 Intensive 16-mm Film Production 4 credits. Limited to 12 students. Prerequisites: Theatre Arts 377 or equivalent and permission of the instructor. M-F 10-11, 1-3, plus production hours. Lincoln 305. M. Rivchin.

THEORETICAL AND APPLIED MECHANICS

202 Mechanics of Solids 3 credits. M-F 8:30-9:30, 10:30-11:15; laboratory to be arranged. Thurston 202.

Six-Week Session

June 27-August 9

AFRICANA STUDIES AND RESEARCH CENTER

131 Swahili I 4 credits. *June 27-July 15.* M-F 8:30-12. Triphammer 310. A. Nanji.

132 Swahili II 4 credits. *July 18-August 9.* Prerequisite: Africana Studies and Research Center 131 or equivalent. M-F 8:30-12. Triphammer 310. A. Nanji.

204 History and Politics of Racism and Segregation 4 credits. M-F 11:30-12:45. McGraw 366. J. C. Mbata.

470 Nineteenth-Century Resistance Movements 4 credits. M-F 2:30-3:45. Triphammer 310.

ANTHROPOLOGY

122 (also Women's Studies 122) The Anthropology of Sex and Gender 3 credits. M-F 10-11:15. McGraw 305. J. Corbin and M. P. Corbin.

130 Apes and Languages 3 credits. M-F 10-11:15. McGraw 303. B. J. Isbell.

ARCHAEOLOGY

100 Introduction to Archaeology 3 credits. M-F 10-11:15. Lincoln 209. M. B. Anders.

ARCHITECTURE

125 Introduction to Architecture 6 credits. Enrollment restricted to out-of-department students. Prerequisite: permission of the instructor. Previous drawing experience not required. Morning and afternoon sessions. Rand Hall.

251 (also Art 261) Beginning Photography 3 credits. Limited to 30 students. M-F 2:30-4:30, plus darkroom work (average, two hours a day). Sibley B20.

ART

110 Color, Form, and Space 3 credits. M-F 10-11:15. Tjaden Hall. N. Daly.

121 Introductory Painting 3 credits. M-F 11:30-1:30. Tjaden Hall.

123 Landscape Painting 3 credits. M-F 8:30-10:30. Tjaden Hall. E. Mikus.

131 Introductory Intaglio Printing 3 credits. M-F 2:30-4:30. Tjaden Hall. S. Winters.

141 Introductory Sculpture 3 credits. M-F 2:30-4:30. Foundry. J. Cole.

154 Life and Still-Life Drawing 2 credits. *June 27-July 15.* M-F 8:15-10:45. Tjaden 200. A. Singer.

155 Conceptual Drawing 2 credits. *July 18-August 9.* M-F 8:15-10:45. Tjaden 200. R. Bertoia.

261 (also Architecture 251) Beginning Photography 3 credits. Limited to 30 students. M-F 2:30-4:30, plus darkroom work (average, two hours a day). Sibley B20.

263 Advanced Photography Workshop 3 credits. Limited to 15 students. M-F 9:30-11:30, plus darkroom work. West Sibley 102.

370 Independent Studio Courses Credits and hours by arrangement.

ASTRONOMY

105 An Introduction to the Universe 3 credits. Prerequisite: one unit of high school physics highly desirable but not required. M-F 11:30-12:45; evening laboratories to be arranged. Space Sciences 105.

106 Essential Ideas in Relativity and Cosmology 3 credits. Prerequisites: high school algebra and trigonometry. M-F 10-11:15. Space Sciences 105

BIOLOGICAL SCIENCES

100 General Biology 7 credits. Lectures M-R 9-12, Bradfield 101. Laboratories M-R 1:30-4:30, F 9-12, East Roberts 222.

205 (also Philosophy 245) Biomedical Ethics 3 credits. M-F 11:30-12:45. Goldwin Smith 340.

240 Plant Physiology 5 credits. Limited to 32 students. Prerequisites: one year of introductory biology and chemistry at the college level. Lectures M-F 8:30-9:45, Plant Science 141. Laboratories T R 1:30-4:30 (or T R 9:30-12:30 if enrollment is large), Plant Science 227. S. Williams and C. Reiss.

331 Principles of Biochemistry, Lectures 4 credits. Prerequisite: elementary organic chemistry (Chemistry 253) or equivalent. M-F 8-10. Savage 100. J. Griffiths.

360 General Ecology 3 credits. Prerequisite: one year of introductory biology at the college level. Lectures M-F 1-2:15; afternoon field trips to be arranged. Stimson 105.

389 Embryology 4 credits. Prerequisite: one year of introductory biology. Lectures M-R 11:30, Stimson G-1. Laboratories T-R 1-3:45, Fernow 14. A. W. Blackler.

432 Survey of Cell Biology 3 credits. Prerequisites: one year of introductory biology and chemistry at the college level. Recommended: biochemistry (Biological Sciences 330 or 331). M-F 10-11:15. Riley-Robb 105. M. V. Hinkle.

475 Ornithology 6 credits. Recommended: an introductory vertebrate biology course at the college level (Biological Sciences 274) or permission of the instructor. Lectures M-F 8:30-10:30 (fifteen lectures, days to be announced); morning field trips 6:30-8:30; two four-day trips. First lecture, Stimson 105; all other lectures, Laboratory of Ornithology.

BUSINESS AND PUBLIC ADMINISTRATION

NCE COMMON COURSE ELECTIVE

590 Management Communication 3 credits. Limited to 15 students. M-F 11:30-12:45. Malott 224. C. Rosen.

CHEMICAL ENGINEERING

220 Mass and Energy Balances 3 credits. Prerequisite: one year of freshman chemistry. Self-paced audio-visual instruction, at the convenience of the student. Olin Hall 222. R. Thorpe.

CHEMISTRY

103 Introduction to Chemistry 3 credits. *June 27-July 15.* Lectures M-F 9:30-11:30, Baker 119. Laboratories and recitations M-F 12:30-3:15. J. F. Cullen, Jr., and assistants.

104 Introduction to Chemistry 3 credits. *July 18-August 9.* Prerequisite: Chemistry 103 or equivalent. Lectures M-F 9:30-11:30, Baker 119. Laboratories and recitations M-F 12:30-3:15. J. F. Cullen, Jr., and assistants.

207 General Chemistry 4 credits. *June 27-July 15* (three weeks). Prerequisites: at least two units of mathematics and one unit of secondary school chemistry. Lectures M-F 8-9:50, Baker 219. Recitations M-F 10-10:50, prelabs M-F 11:30-1:30, laboratories M-F 12:30-3:30. S. T. Marcus and assistants.

207 General Chemistry 4 credits. *June 27-August 9* (six weeks). Prerequisites: at least two units of mathematics and one unit of secondary school chemistry. Lectures M W F 12:20-2:15, Baker 219. Laboratories and recitations T R 12:20-4:25. S. T. Marcus and assistants.

208 General Chemistry 4 credits. *July 18-August 9* (three weeks). Prerequisite: Chemistry 207 or equivalent. Lectures M-F 8-9:50, Baker 219. Recitations M-F 10-10:50, prelabs M-F 11:30-1:30, laboratories, M-F 12:30-3:30. J. Terry and assistants.

208 General Chemistry 4 credits. *June 27-August 9* (six weeks). Prerequisite: Chemistry 207 or equivalent. Lectures M W F 10:10-12:05, Baker 219. Laboratories and recitations T R 8-12:05, Baker 101. J. Terry and assistants.

CLASSICS

GREEK

101 Greek for Beginners 4 credits. *June 27-July 15.* M-F 10-11:15, 1-2:15, plus one laboratory session a week. Goldwin Smith 181. K. Clinton.

103 Attic Greek 4 credits. *July 18-August 9.* Prerequisite: Greek 101. M-F 10-11:15, 1-2:15. Goldwin Smith 181. E. Adler.

LATIN

105 Latin for Beginners 4 credits. *June 27-July 15.* M-F 8:30-9:45, 11:30-12:45, plus one laboratory session a week. Goldwin Smith 336. E. Adler.

106 Elementary Latin 4 credits. *July 18-August 9.* Prerequisite: Latin 105. M-F 8:30-9:45, 11:30-12:45. Goldwin Smith 336. P. Kirkwood.

CLASSICAL CIVILIZATION

100 Word Power 3 credits. Section 1, M-F 8:30-9:45; Goldwin Smith 350; S. Rogers. Section 2, M-F 8:30-9:45; Goldwin Smith 354; P. Mitsis. Section 3, M-F 10-11:15; Goldwin Smith 336; M. Stokes. Section 4, M-F 10-11:15; Goldwin Smith 350; staff.

109 (also English 109) Introduction to Rhetoric 3 credits. M-F 11:30-12:45. Goldwin Smith 350. F. Ahl.

150 The Myths of Greece and Rome 3 credits. M-F 1-2:15. Uris 498. P. Mitsis.

COMMUNICATION ARTS

301 Oral Communication 3 credits. Section 1, M-F 8:30-9:45; section 2, M-F 10-11:15; section 3, M-F 11:30-12:45. Warren 131. B. Earle and staff.

312 Advertising and Promotion 3 credits. Limited to 25 students. M-F 10-11:15. Warren 201. S. Johnston.

360 Scientific Writing for Public Information 3 credits. Limited to 17 students; not open to freshmen. M-F 11:30-12:45. Warren 201. B. Pegg.

365 Writing in the Sciences and Engineering 3 credits. Limited to 17 students. Prerequisite: permission of the instructor. M-F 8:30-9:45. Warren 361. B. Pegg.

413 Writing for Magazines 3 credits. Limited to 17 students; not open to freshmen. T R 6:30-9:30 p.m. Room 3, CA Graduate Center, 640 Stewart Avenue. M. A. Shapiro.

COMPARATIVE LITERATURE

113 Science Fiction 3 credits. M-F 11:30-12:45. Uris 494. A. Groos.

121 Literatures from the Third World 3 credits. M-F 10-11:15. Goldwin Smith 281. E. Hower.

327 Responses to Tyranny in the Bible 4 credits. M R 7:15-10:15 p.m. Goldwin Smith 181. C. Carmichael.

COMPUTER SCIENCE

100 Introduction to Computer Programming 4 credits. M-F 10-11:15. Olin M155.

101 The Computer Age 3 credits. M-F 10-11:15. Upson 315.

211 Computers and Programming 3 credits. Prerequisite: Computer Science 100 or equivalent programming experience. M-F 10-11:15. Upson B17.

314 Introduction to Computer Systems and Organization 4 credits. Prerequisite: Computer Science 211 or equivalent programming experience. M-F 10-11:15, plus laboratory. Upson 357.

410 Data Structures 4 credits. Prerequisite or corequisite: Computer Science 314. Recommended: Computer Science 280. M-F 11:30-12:45. Upson 315.

ECONOMICS

101 Introductory Microeconomics 3 credits. Section 1, M-F 8:30-9:45; Uris G92; P. Burdett. Section 2, M-F 10-11:15; Uris 260; C. Gunn. Section 3, M-F 11:30-12:45; Rockefeller 104; staff.

102 Introductory Macroeconomics 3 credits. Section 1, M-F 8:30-9:45; Uris G94; C. Ellis. Section 2, M-F 10-11:15; Uris G94; P. Burdett.

105 Principles of Accounting 3 credits. M-F 11:30-12:45. Uris G92. E. Carlsen.

205 Managerial Accounting for Planning and Control 3 credits. Prerequisite: one course in accounting or equivalent experience or permission of the instructor. M-F 10-11:15. Uris G92. E. Carlsen.

311 Intermediate Microeconomic Theory 4 credits. Prerequisite: Economics 101-102 or permission of the instructor. M-F 8:30-9:45. Uris 498. M. Falkson.

312 Intermediate Macroeconomic Theory 4 credits. Prerequisite: Economics 101-102 or permission of the instructor. M-F 10-11:15. Uris 498. C. Ellis.

315 History of Economic Thought 4 credits. Prerequisite: Economics 101-102. M-F 11:30-12:45. Uris 498. M. Falkson.

361 International Trade: Theory and Policy 4 credits. Prerequisite: Economics 101-102. M-F 10-11:15. Uris 494. M. Yano.

383 Marxist Political Economy 4 credits. Prerequisite: Economics 101-102. M-F 8:30-9:45. Uris 494. C. Gunn.

ENGLISH

133 Basic Forms of Writing 3 credits. Section 1, M-F 8:30-9:45; Rockefeller 381; staff. Section 2, M-F 8:30-9:45; Goldwin Smith 356. E. Ó'Carrigáin. Section 3, M-F 10-11:15; Rockefeller 381; staff. Section 4, M-F 10-11:15; section 5, M-F 11:30-12:45; Rockefeller 15; D. Keller. Section 6, M-F 11:30-12:45; Rockefeller 16; E. Ó'Carrigáin.

135 Writing from Experience 3 credits. Section 1, M-F 8:30-9:45; Rockefeller 306; P. Balbert. Section 2, M-F 10-11:15; Rockefeller 306; S. Tapscott. Section 3, M-F 11:30-12:45; Uris 340; M. Hite.

136 Practical Prose Composition 3 credits. Section 1, M-F 8:30-9:45; section 2, M-F 10-11:15; Rockefeller 307; L. Fakundiny. Section 3, M-F 11:30-12:45; Rockefeller 306; L. Bogel.

137 Writing Workshop 1 credit (2-credit option available). Prerequisite: permission of the director, Emphasis on Writing Program. M-F tutorial, hours to be arranged.

150 Introduction to Fiction 3 credits. M-F 8:30-9:45. Uris 204. D. Schwarz.

151 Reading Modern Literature 3 credits. M-F 10-11:15. Rockefeller 16. P. Marcus.

157 Classic American Authors 3 credits. M-F 8:30-9:45. Uris 340. M. Colacurcio.

158 Modern American Authors 3 credits. Section 1, M-F 10-11:15; section 2, M-F 11:30-12:45. Goldwin Smith 356. A. Emery.

209 Myth and Heroic Legend 4 credits. M-F 11:30-12:45. Uris 240. J. Harris.

249 Major Women Novelists 4 credits. M-F 10-11:15. Uris 340. M. Hite.

270 The Reading of Fiction 3 credits. M-F 8:30-9:45. Uris 248. L. Green.

280 Creative Writing 3 credits. M-F 11:30-12:45. McGraw 305. S. Tapscott.

289 The Art of the Essay 3 credits. M-F 10-11:15. Goldwin Smith 354. P. Balbert.

319 Chaucer 4 credits. M-F 10-11:15. Uris 420. J. Harris.

327 Shakespeare 4 credits. M-F 8:30-9:45. Goldwin Smith 281. W. Wetherbee.

351 The Modern Imagination 4 credits. M-F 8:30-9:45. Rockefeller 335. P. Marcus.

362 The American Renaissance 4 credits. M-F 10-11:15. Uris 320. M. Colacurcio.

380 Creative Writing 4 credits. M-F 11:30-12:45. Rockefeller 307. R. Morgan.

470 James Joyce: *Ulysses* 4 credits. M-F 10-11:15. Uris 248. D. Schwarz.

FLORICULTURE

210 Architectural Sketching in Watercolor 3 credits. M-F 11:30-12:45. Mann 500. R. Lambert.

GEOLOGICAL SCIENCES

101 Introductory Geological Science 3 credits. *June 27-July 15.* Lectures M-F 10-11:50, laboratories M T W 2-4:30. Kimball 212. W. Brice.

102 Introduction to Historical Geology 3 credits. *July 18-August 9.* Prerequisite: Geological Sciences 101 or equivalent. Lectures M-F 10-11:50, laboratories M-F 2-4:30. Kimball 212. W. R. Brice.

GERMAN LITERATURE

108 The Image of America in European Literature 3 credits. M-F 8:30-9:45. Goldwin Smith 181. R. Ruppel.

GOVERNMENT

100 Politics and Moral Choice 3 credits. M-F 8:30-9:45. McGraw B20. E. Eisenach.

111 The Government of the United States 3 credits. M-F 8:30-9:45. McGraw 145. E. W. Kelly.

131 Introduction to Comparative Government and Politics 3 credits. M-F 11:30-12:45. McGraw 145. A. Milnor.

161 Introduction to Political Theory 3 credits. M-F 10-11:15. McGraw B20. E. Eisenach.

181 Introduction to International Relations 3 credits. M-F 8:30-9:45. McGraw 305. G. Sheffer.

300 Politics of Terrorism 4 credits. M-F 8:30-9:45. McGraw 366. D. Driscoll.

358 Politics of the Middle East 4 credits. M-F 10-11:15. McGraw 305. G. Sheffer.

380 Supranational Institutions, Sovereignty, and Human Freedom 4 credits. M-F 1-2:15. McGraw 145. F. Rosenstiel.

389 International Law 4 credits. M-F 10-11:15. McGraw 365. D. Driscoll.

406 The Politics of Education 4 credits. M-F 10-11:15. McGraw 145. E. W. Kelley.

HISTORY

104 Communes and Utopias: Alternative Life-Styles in American History 3 credits. M-F 11:30-12:45. Goldwin Smith 348. G. C. Altschuler.

141 Man and His Values in the Western Tradition 4 credits. M-F 10-11:15. Small discussion groups. McGraw 165. L. P. Williams.

152 Introduction to Western Civilization 4 credits. M-F 10-11:15. McGraw 366. R. Whalen.

303 The American Dream 4 credits. T F 2:30-5. McGraw 365. F. Somkin.

356 The Era of the French Revolution and Napoleon 4 credits. M-F 8:30-9:45. McGraw 365. A. Forrest.

385 Historical Studies in the Development of Modern Science 4 credits. M-F 11:30-12:45. McGraw 165. L. P. Williams.

HISTORY OF ART

202 Survey of European Art: Renaissance to Modern 3 credits. M-F 8:30-9:45. Goldwin Smith 340. J. Peters-Campbell.

261 Introduction to Art History: Modern Art 3 credits. M-F 10-11:15. Goldwin Smith 340. N. Prendergast.

HOTEL ADMINISTRATION

161 Typewriting 2 credits. M-F 8:30-9:20. Statler 337. B. David.

HUMAN DEVELOPMENT AND FAMILY STUDIES

115 Human Development: Infancy and Childhood 3 credits. M-F 10–11:15. Martha Van Rensselaer NG35.

116 Human Development: Adolescence and Youth 3 credits. M-F 11:30–12:45. Martha Van Rensselaer NG35.

150 The Family in Modern Society 3 credits. M-F 11:30–12:45. Martha Van Rensselaer NG32.

HUMAN ECOLOGY (INTERDEPARTMENTAL)

200 Preparation for Field Study: Perspectives in Human Ecology 4 credits. Limited to 25 students. Prerequisite: permission of the instructor. Enrollment priority given to students of at least sophomore standing who intend to do field study the following academic year. M T R 2:30–4:50, plus field experience. Martha Van Rensselaer 124.

HUMAN SERVICE STUDIES

315 Human Sexuality: A Biosocial Perspective 3 credits. Prerequisites: an introductory course in human development and family studies, psychology, or sociology, or equivalent social science course, and one course in biology. M-F 8:30–9:45. Martha Van Rensselaer N225. A. P. Eggleston.

529 Research Design and Analysis 3 credits. T R 5:30–8:30 p.m. Martha Van Rensselaer N225. R. Bar-El.

INDUSTRIAL AND LABOR RELATIONS

COLLECTIVE BARGAINING

100 History of Industrial Relations in the United States 3 credits. M-F 8:30–9:45. Ives 212. G. Korman.

201 (also Industrial and Labor Relations 501) Labor Relations Law and Legislation 3 credits. M-F 10–11:15. Ives 215. M. Gold.

405 Dramatic Events in Labor History as Told by Those Who Made It 3 credits. M-F 3–4:15. Ives 118. J. Morris.

ECONOMIC AND SOCIAL STATISTICS

510 Introductory Statistics for the Social Sciences 3 credits. Lectures M-F 10:20–11:15; laboratory to be arranged. Ives 117. I. Blumen.

ORGANIZATIONAL BEHAVIOR

222 Studies in Organizational Behavior: Regulating the Corporation 3 credits. M-F 1–2:15. Ives 112. R. Stern.

326 Sociology of Occupations 3 credits. Prerequisite: one or more courses in sociology. M-F 11:30–12:45. Ives 114. H. Trice.

371 Individual Differences and Organizational Behavior 4 credits. Recommended: some acquaintance with substance and methods of behavioral or social science. M-F 10–11:15. Ives 114. L. Gruenfeld.

373 Organizational Behavior Simulations 2 credits. M T 7–10 p.m. Prerequisite: Industrial and Labor Relations 120–121 or equivalent. Ives 112. R. Stern.

520 Organizational Behavior I 3 credits. M-F 8:30–9:45. Ives 112. L. Gruenfeld.

PERSONNEL AND HUMAN RESOURCE MANAGEMENT

260 (also Industrial and Labor Relations 560) Personnel Management 3 credits. M-F 9:30–10:45. Ives 118. Y. Vardi.

MATHEMATICS

107 Finite Mathematics 3 credits. Prerequisite: three years of high school mathematics. M-F 8:30–9:45. White B25.

109 Precalculus Mathematics 3 credits. Prerequisite: high school algebra. M-F 8:30–9:45. White B29.

111 Calculus 4 credits. Prerequisite: three years of college preparatory mathematics, including trigonometry. M-F 8:30–9:45. White 328.

112 Calculus 4 credits. Prerequisites: Mathematics 106, 111, or 113 with a grade of C or better, or exceptional performance in Mathematics 108. M-F 8:30–9:45. White 310.

121 Calculus 4 credits. *June 27–July 15.* Prerequisite: high school mathematics through trigonometry and plane analytic geometry. No other summer session course may be taken concurrently. M-F 10–11:15, 2:30–3:45. White B15.

122 Calculus 4 credits. *July 18–August 9.* Prerequisite: Mathematics 121 or permission of the instructor. No other summer session course may be taken concurrently. M-F 10–11:15, 2:30–3:45. White B15.

123 Analytic Geometry and Calculus 4 credits. Prerequisite: high school mathematics through trigonometry and plane analytic geometry. M-F 8:30–9:45. White B9.

231 Linear Algebra 4 credits. Prerequisite: Mathematics 112 or equivalent. M-F 11:30–12:45. White B25.

372 Elementary Statistics 4 credits. Prerequisite: Mathematics 112 or equivalent. M-F 10–11:15. White B29.

451 Classical Geometries 4 credits. Limited to 10 students. Prerequisite: linear algebra or consent of the instructor. M R 6:30–9:30 p.m. White B9. D. Henderson.

MECHANICAL AND AEROSPACE ENGINEERING

302 Technology, Society, and the Human Condition 3 credits. M-F 11:30–12:45. Hollister 110. B. Conta.

MEDIEVAL STUDIES

102 King Arthur and His Knights 3 credits. M-F 8:30–9:45. Uris 420. B. Buettner.

MICROBIOLOGY

290 General Microbiology, Lectures 3 credits. Prerequisites: a college course in general biology and introductory chemistry. M-F 10–11:15. Stocking 124.

291 General Microbiology, Laboratory 3 credits. Prerequisites: a college course in general biology and introductory chemistry. M-F 1–3:30. Stocking 301.

MODERN LANGUAGES AND LINGUISTICS

DUTCH

131 Dutch Elementary Reading Course I 3 credits. M-F 8; twenty hours of instruction a week. Morrill 408. Staff.

132 Dutch Elementary Reading Course II 3 credits. Prerequisite: Dutch 131 or equivalent. M-F 8; twenty hours of instruction a week. Morrill 408. Staff.

FRENCH

101 French Basic Course I 6 credits. M-F 8; twenty hours of instruction a week. Morrill 105. Staff.

123 Continuing French 4 credits. Limited to students who have previously studied French and have a CPT achievement score between 450 and 559. M-F 9–11, lectures T R 8. Morrill 220. Staff.

203 Intermediate Composition and Conversation 3 credits. M-F 10–11:15, lectures T R 8:30. Morrill 111. Staff.

MUSIC

101 The Art of Music 3 credits. Limited to 15 students. M-F 11:30–12:45. Lincoln 309. S. Sandman.

221 Popular Music 3 credits. Limited to 25 students. M-F 10–11:15. Lincoln 116. B. Kernfeld.

331 Summer Session Choir 1 credit. Enrollment *for credit* is limited to those who are registered for another course or courses in the six- or eight-week summer session. Rehearsals Tuesday 7:15–9 p.m. and Sunday 9:30 a.m. Sage Chapel. D. Paterson.

GAELIC

131 Introduction to Modern Gaelic 3 credits. M-F 2:30–3:45. Uris 340. M. Ó'Carragáin.

GERMAN

101 German Basic Course I 6 credits. M-F 8; twenty hours of instruction a week. Morrill 214.

123 Continuing German 4 credits. Limited to students who have previously studied German and have a CPT achievement score between 450 and 559. M-F 9–11, lectures T R 8. Morrill 102.

131 German Elementary Reading Course I 3 credits. *June 27–July 15.* M-F 8; twenty hours of instruction a week. Morrill 406.

132 German Elementary Reading Course I 3 credits. *July 18–August 9.* Prerequisite: German 131 or equivalent. M-F 8; twenty hours of instruction a week. Morrill 406.

LINGUISTICS

101 Introduction to the Scientific Study of Language 4 credits. M-F 12:30–1:45. Morrill 227. J. Bowers.

103 Language and Control: Communication in 1984 3 credits. M-F 10–11:15. Morrill 405. G. Kelley.

SPANISH

101 Spanish Basic Course I 6 credits. M-F 8; twenty hours of instruction a week. Morrill 227.

123 Continuing Spanish 4 credits. Limited to students who have previously studied Spanish and have a CPT achievement score between 450 and 559. M-F 9–11, lectures T R 8. Morrill 224.

203 Intermediate Composition and Conversation 3 credits. M-F 10–11:15, lectures T R 8:30. Morrill 110.

NATURAL RESOURCES

201 Environmental Conservation 3 credits. M-F 10–11:15. Fernow 210. W. N. Naegeli.

230 Diet for a Small Planet 3 credits. M-F 11:30–12:45. Fernow 210. G. M. Berardi.

450 Current Topics in Energy and Food Resources. 3 credits. M-F 1–2:15. Fernow 210. G. Berardi.

NEAR EASTERN STUDIES

241 The Holocaust: European Jewry, 1933–45 3 credits. M-F 11:30–12:45. Rockefeller 381. G. Korman.

294 Modern History of the Middle East: Changing Politics, Society, and Ideas 4 credits. M-F 1–2:15. Rockefeller 381. U. Dann.

NUTRITIONAL SCIENCES

116 Introductory Principles of Nutrition 3 credits. M-F 10–11:15. Martha Van Rensselaer NG02. D. Blair.

OPERATIONS RESEARCH AND INDUSTRIAL ENGINEERING

260 Introductory Engineering Probability 3 credits. Prerequisite: first-year calculus. M-F 8:30–9:45. Upson 363.

270 Basic Engineering Probability and Statistics 3 credits. M-F 10–11:15. Upson 330.

622 Operations Research I 3 credits. Prerequisite: permission of the instructor. Not open to students who have had Operations Research and Industrial Engineering 320. M-F 10–11:15. Upson 363.

PHILOSOPHY

100 Philosophical Thinking 3 credits. M-F 8:30-9:45. Goldwin Smith 348. H. Newell.

101 Introduction to Philosophy 3 credits. M-F 10-11:15. Goldwin Smith 156.

103 Reasoning and Writing 3 credits. M-F 10-11:15. Goldwin Smith 348. H. Newell.

131 Logic: Evidence and Argument 3 credits. M-F 11:30-12:45. Goldwin Smith 156.

145 Contemporary Moral Issues 3 credits. M-F 1-2:15. Goldwin Smith 340.

245 (also Biological Sciences 205) Biomedical Ethics 3 credits. M-F 11:30-12:45. Goldwin Smith 340.

PHYSICAL EDUCATION

101 Basic Mountaineering T 2-6, S 9-1. On location. D. Morrissey.

107 Canoeing Sessions to be arranged. D. Moriah.

110 Beginning Swimming M-R 5 p.m. Teagle Hall. F. DeBruyn.

117 Scuba Diving—National Certification Hours to be arranged.

156 Equitation Hours to be arranged. Oxley Polo Arena. D. Sheraga.

157 Principles of Sailing T W 4:45 p.m. Schoellkopf Hall, Robison Room. L. Bart.

173 Jogging Hours to be arranged. Teagle Hall.

331 Nautilus M W F 11:30 a.m. Schoellkopf Hall.

434 Ballet III M-R 6-7:30 p.m. Prerequisite: Physical Education 431 or permission of the instructor. Helen Newman Hall. P. Saul.

PHYSICS

112 Physics I: Mechanics and Heat 4 credits. Prerequisites: one year of high school physics and Mathematics 111 or 191; coregistration in Mathematics 111 may be acceptable, provided the student has had substantial previous experience with calculus. Lectures and discussions M-F 11:30-12:45, Rockefeller 101. Laboratories T R 2-5, Rockefeller 2.

213 Physics II: Electricity and Magnetism 4 credits. Prerequisites: Physics 112 or 207 and Mathematics 192 or 112 or coregistration in one of these math courses. Lectures and discussions M-F 10-11:15, Rockefeller 101. Laboratories T R 2-5, Rockefeller 22.

214 Physics III: Optics, Waves, and Particles 4 credits. Prerequisites: Physics 213 and continuation of mathematics sequence required for Physics 213. Lectures and discussions M-F 11:30-12:45, Rockefeller 102. Laboratories T R 2-5, Rockefeller 26.

400 Informal Advanced Laboratory 3 credits. Prerequisites: Physics 214, 310, or 360, and 431 or 318, and 432 or 325, and permission of the instructor.

500 Informal Graduate Laboratory 1 credit (2-credit option available). Prerequisites: an undergraduate course in experimental physics, a junior-senior course in contemporary physics, and permission of the instructor. Laboratories M-F 2-5. Clark 308.

PSYCHOLOGY

101 Introduction to Psychology: The Frontiers of Psychological Inquiry 3 credits. M-F 1-2:15. Uris Auditorium. S. Matteo.

124 Control of Human Behavior: A Neuropsychological Perspective 3 credits. M-F 10-11:15. Uris 257. J. Janowsky and J. Sandson.

128 Introduction to Psychology: Personality and Social Behavior 3 credits. M-F 11:30-12:45. Rockefeller 231. D. Frable and B. MacEvoy.

195 Art and Psychology 3 credits. M-F 11:30-12:45. Limited to 40 students. Rockefeller 103. D. Foerster.

281 (also Sociology 281) Interpersonal Relations and Small Group Processes 3 credits. M R 7-10 p.m. Uris 202. L. Meltzer.

282 Psychology of Stereotyping and Prejudice 3 credits. M-F 11:30-12:45. Uris 259. C. Kerens.

286 (also Sociology 286) Nonverbal Behavior and Communication 3 credits. M-F 1-2:15. Uris G77. L. Meltzer.

305 Visual Perception Three credits. Prerequisite: Psychology 205 or permission of the instructor. M-F 10-11:15. Uris 259. M. Zanforlin.

321 Psychological Development through the Life Span 3 credits. M-F 11:30-12:45. Uris 248. D. Ricks.

326 Evolution of Human Behavior 4 credits. M-F 1-2:15. Uris 260. M. Zanforlin.

402 Current Research on Psychopathology 4 credits. Prerequisite: Psychology 325. M-F 1-2:15. Uris 259. M. Green.

440 The Psychology of Dreams and Dreaming 4 credits. Prerequisite: Psychology 325. M-F 11:30-12:45. Uris 204. R. Jones.

469 Psychotherapy: Its Nature and Influence 3 credits. Prerequisite: one course in psychology. M-W 9:30-10:45; other meeting times to be arranged. Uris 205. R. Mack, R. Jones, and D. Ricks.

ROMANCE STUDIES

FRENCH

201 Introduction to French Literature 3 credits. Prerequisite: three years of high school French, a CPT score of 560, or permission of the instructor. M-F 11:30-12:45. Goldwin Smith 281. J. Béreaud.

SPANISH

201 Introduction to Hispanic Literature 3 credits. Prerequisite: three years of high school Spanish, a CPT score of 560, or permission of the instructor. M-F 1-2:15. Goldwin Smith 281. E. Santi.

RURAL SOCIOLOGY

299 (also Sociology 299 and Women's Studies 299) Women and Development in the Third World: A Sociological Approach 3 credits. M-F 11:30-12:45. Uris 320. E. Polakoff.

463 Industrialization as an Instrument for the Development of Rural Areas. 3 credits. T W R 2:30-4:30. Warren 261. R. Bar-El.

RUSSIAN LITERATURE

105 Writing about Russia in the Twentieth Century 3 credits. M-F 11:30-12:45. Goldwin Smith 181. P. Carden.

311 1984: The Case of Russia 4 credits. M-F 11:30-12:45. Uris 438. C. Emerson.

SOCIOLOGY

101 Introduction to Sociology 3 credits. M-F 10-11:15. Uris 302. G. Gillespie.

104 Writing Craft in American Detective Fiction 3 credits. M-F 8:30-9:45. Uris 302. S. Caldwell.

130 Introduction to Population Problems 3 credits. M-F 2:30-3:45. Uris 302. B. Edmonston.

243 Family 3 credits (4-credit option available). M-F 8:30-9:45. Uris 320. S. Rose.

252 Public Opinion 3 credits (4-credit option available). M-F 1-2:15. Uris 302. J. McAdams.

281 (also Psychology 281) Interpersonal Relations and Small Group Processes 3 credits. M R 7-10 p.m. Uris 202. L. Meltzer.

286 (also Psychology 286) Nonverbal Behavior and Communication 3 credits. M-F 1-2:15. Uris G77. L. Meltzer.

299 (also Rural Sociology 299 and Women's Studies 299) Women and Development in the Third World: A Sociological Approach 3 credits. M-F 11:30-12:45. Uris 320. E. Polakoff.

THEATRE ARTS

125 Writing for the Theatre 3 credits. M-F 11:30-12:45. Lincoln 209. R. Gross.

245 The Political Theatre of England: From 1956—towards 1984 3 credits. M-F 1-2:15. Lincoln 305. R. Gross.

287 Summer Acting Workshop 3 credits. Limited to 16 students a section. Section 1, M-F 8:30-9:45; Lincoln 101; S. Cole. Section 2, M-F 8:30-9:45; Lincoln 301; E. Johnson. Section 3, M-F 10-11:15; Lincoln 101; R. Shank. Section 4, M-F 10-11:15; Lincoln 301; A. Van Dyke.

374 Introduction to Film Analysis: Meaning and Value 4 credits. M W F 2:30-5. Lincoln 209. D. Fredericksen.

475 Seminar in the Cinema—1984: How Close Are We? 4 credits. M W 7-10 p.m. Goldwin Smith, Hollis Cornell Auditorium. D. Fredericksen.

WOMEN'S STUDIES

122 (also Anthropology 122) The Anthropology of Sex and Gender 3 credits. M-F 10-11:15. McGraw 305. J. Corbin and M. P. Corbin.

299 (also Rural Sociology 299 and Sociology 299) Women and Development in the Third World: A Sociological Approach 3 credits. M-F 11:30-12:45. Uris 320. E. Polakoff.

Eight-Week Session

June 13-August 9

CHEMICAL ENGINEERING

220 Mass and Energy Balances 3 credits. Self-paced audiovisual instruction. Olin Hall 222. R. Thorpe.

CHEMISTRY

251 Introduction to Experimental Organic Chemistry 2 credits. *June 13-August 9* (eight weeks). Prerequisite or corequisite: Chemistry 253 or equivalent. Laboratories T R 1:25-4:25, laboratory-lectures M W 10-10:50. Baker Laboratory 335. C. Wilcox.

251 Introduction to Experimental Organic Chemistry 2 credits. *June 13-July 8* (four weeks). Prerequisite or corequisite: Chemistry 253 or equivalent. Laboratories M-R 1:25-4:25, and F 8-11 at the discretion of the instructor. Laboratory-lectures M-F 11-11:50, Baker Laboratory 335. C. Wilcox.

252 Introduction to Experimental Organic Chemistry 2 credits. *July 11-August 9* (four weeks). Prerequisite: Chemistry 251 or equivalent. C. Wilcox.

253 Elementary Organic Chemistry 4 credits. *June 13-August 9* (eight weeks). Prerequisite: Chemistry 104 with a grade of at least C or Chemistry 208 or Chemistry 216, or equivalent. Lectures M-R 8-9:50. Baker Laboratory 335. C. Wilcox.

MATHEMATICS

192 Calculus for Engineers 4 credits. Prerequisite: Mathematics 191 or 193. M-F 8:30-9:20. White 400. Staff.

213 Calculus 4 credits. Prerequisite: Mathematics 112 or equivalent. M-F 11:30-12:20. White B15.

294 Engineering Mathematics 4 credits. Prerequisite: Mathematics 293 or equivalent. M-F 8:30-9:20. Thurston 203.

421 Applicable Mathematics 4 credits. Prerequisite: high level of performance in Mathematics 294, or Mathematics 213 and 331, or equivalent. M-F 11:30-12:20. White B9.

422 Applicable Mathematics 4 credits. Prerequisite: Mathematics 421 or equivalent. M-F 11:30-12:20. White B29.

PHYSICS

101 General Physics 4 credits. *June 13-July 8* (four weeks) or *June 13-August 9* (eight weeks). Prerequisite: three years of high school mathematics, including some trigonometry. Autotutorial. One group meeting on June 13, 10-11:15. Rockefeller 270/280.

102 General Physics 4 credits. *July 11-August 9* (four weeks) or *June 13-August 9* (eight weeks). Prerequisite: Physics 101, 112, or 207. Rockefeller 270/280.

500 Informal Graduate Laboratory 1 credit (2-credit option available).

510 Advanced Experimental Physics 3 credits. Prerequisites: an undergraduate course in experimental physics, a junior-senior course in contemporary physics, and permission of the instructor. M-F 2-5. Clark 308. D. Hartill and staff.

Special Programs

The following special programs of the Summer Session are often scheduled for periods not consistent with the regular session offerings. Tuition rates, application procedures, registration processes, and so forth, may also vary. For special programs offering academic credit, the courses are listed where known. The person or department to contact for information and applications is indicated for each program.

KEYS TO AGRICULTURAL DEVELOPMENT AT THE LOCAL LEVEL

Dates to be determined
Contact: L. W. Zuidema, 252 Roberts Hall.

International Agriculture 555 Informal Study 2 credits.

AGRICULTURAL AND OCCUPATIONAL EDUCATION

July 4–August 5
Contact: Richard Tenney, Agricultural and Occupational Education Summer Program, Stone Hall.

JULY 4–8

Education 430 Section 1. Special Problems in Agricultural Education: Application of Microcomputers to Instruction in Agriculture 1 credit. M-F 8–12, M-R 1–5. D. Sutphin and J. Wood.

Agricultural Economics 326 Agricultural and Business Law 2 credits. M-F 8:30–11:30, M-R 1–4. K. Seremet.

Agricultural Engineering 402 Tractor Hydraulic Systems 1 credit. M-F 9–12, M-R 1–4. F. Lechner.

JULY 8–9

Education 590 Student Teachers 1 credit. F S 9–12, 1–4.

JULY 11–29

Education 730 Seminar in Agricultural and Occupational Education: Program Planning and Development 2 credits. M-F 8–9:50. W. Drake and D. Sutphin.

Education 532 Methods and Materials of Teaching Agricultural and Occupational Education 2 credits. M-F 10–11:50. A. Berkey.

Agricultural Engineering 499 Small Gasoline Engine Maintenance and Repair 2 credits. M-F 10–11:50, M T R 1–4. F. Lechner.

AUGUST 1–5

Education 430 Section 2. Special Problems in Agricultual and Occupational Education: Application of Microcomputers to Instruction in Agriculture 2 credits. M-F 8–12, M-R 1–5. D. Sutphin and J. Wood.

JULY 4–AUGUST 5

Education 497 Informal Study in Education

Education 620 Internship in Education

Education 630 Special Problems in Agricultural and Occupational Education

Education 800 Master's-Level Thesis Research

Education 900 Doctoral-Level Thesis Research

FIELD ARCHAEOLOGY

HONDURAS

June 10–August 6
Contact: Professor Thomas Murray, Department of Anthropology, McGraw Hall.

ISRAEL

July 3–July 29
Contact: Professor David I. Owen, Department of Near Eastern Studies, Rockefeller Hall.

SUMMER ARCHITECTURE DESIGN PROGRAM

ON-CAMPUS PROGRAM

Contact: Chairman, Department of Architecture, 143 East Sibley Hall.

Technology

Architecture 261, 362 3 credits each. M-F.

Architecture 262 3 credits. M-F.

History

Architecture 346, 347, 348, 349 3 credits each. M-F.

Structures

Architecture 222 4 credits. M-F.

Architecture 321, 322 3 credits each. M-F.

Elective Design

These courses are limited to out-of-department and transfer students only.

Architecture 200, 300, 400, 500 6 credits each. M-F.

Design Sequence

Architecture 201, 202 6 credits each. M-F 1–5.

Architecture 301, 302 6 credits each. M-F 1–5.

Architecture 401, 402 6 credits each. M-F 1–5.

Architecture 501 6 credits. M-F 1–5.

Special Problems in Architectural Interiors and Design Development

Architecture 401, 402 6 credits each. M-F 1–5.

Architecture 501 6 credits. Limited to fourth- and fifth-year students. M-F 1–5.

Special Program

Architecture 601, 602 9 credits each. M-F 1–5.

Problems in Architectural Design

Architecture 711, 712 9 credits each. M-F.

Problems in Urban Design

Architecture 713, 714 9 credits each. M-F 1–5.

Thesis Research in Architecture

Architecture 811 9 credits. M-F.

Thesis Research in Urban Design

Architecture 812 9 credits.

OFF-CAMPUS PROGRAMS

GREECE

June 4–July 27

Architecture 300, 401, 402, 501 Design Studio 6 credits each.

Architecture 310 Special Problems in Architectural Design Variable credit.

Architecture 341 Architecture of the Classical World 3 credits.

Architecture 448 Lectures in Architectural History Variable credit. J. Miller.

Architecture 361/362 Environmental Controls: Lighting, Acoustics, Energy 3 credits.

Architecture 561 Special Problems in Architectural Science Variable credit.

Architecture 641 Seminar in Architecture of the Classical World 4 credits.

VICENZA

June 6–July 29

Architecture 300, 401, 402, 501 Design Studio 6 credits each.

Architecture 711, 712, 713, 714 Design Studio 9 credits each.

Architecture 310 Special Problems in Architectural Design Variable credit.

Architecture 331 Special Problems in Principles, Theories, and Methods Variable credit.

Architecture 346 The Renaissance 3 credits.

Architecture 448 Lectures in Architectural History Variable credit.

Architecture 458 Special Project in Design Communication Variable credit.

Architecture 543 Measured Drawing 3 credits.

Architecture 740 Informal Study in the History of Architecture Variable credit.

ARNOT FOREST SUMMER PROGRAM

May 30–June 17
Contact: Arnot Forest, Cornell University Summer Session, B12A Ives Hall.

Natural Resources 330 Ecological Integration 4 credits. A. Moen.

MAY 30–JUNE 3

Natural Resources 321 Field Ornithology 1 credit. C. Smith and D. McCrimmon.

JUNE 6–10

Natural Resources 312 Responses of Forest Trees to Their Environment 1 credit. J. Lassoie.

Natural Resources 322 Small Mammal Field Biology 1 credit. R. Howard and D. McCrimmon.

ASIAN LANGUAGE PROGRAM

June 8–August 9
Contact: Summer Asian Language Program, Morrill Hall.

Chinese 160 Introductory Intensive Chinese (Mandarin) 10 credits. M-F 8:30. J. McCoy and staff.

Chinese 201–202 Intermediate Chinese 4 credits each. Treated as a single eight-credit course. Meets four hours a day, five days a week; hours to be arranged. Prerequisite: qualification in Chinese (approximately two hundred contact hours). J. McCoy and staff.

Japanese 160 Introductory Intensive Japanese 10 credits. M-F 8:30. E. Jorden and staff.

COMPUTERS AND LOCAL GOVERNMENTS

July 13–15
Contact: Program in Urban and Regional Studies, West Sibley Hall.

INTERACTIVE COMPUTER GRAPHICS AND COMPUTER-AIDED DESIGN

May 23–27
Contact: Ann Merchant, Computer Aided Design Instructional Facility, 167 Hollister Hall.

CORNELL'S ADULT UNIVERSITY

July 3–August 6
Contact: Cornell's Adult University, 626C Thurston Avenue.

COSEP PREFRESHMAN SUMMER PROGRAM

June 26–August 9
Contact: Learning Skills Center, COSEP, 375A Olin Hall.

DESIGN FOR THE DOWNTOWN

June 20–22
Contact: Small Town Revitalization Workshop, Program in Urban and Regional Studies, 209A West Sibley Hall.

SPECIAL PROGRAM IN EDUCATION

Contact: Summer Study Coordinator, Department of Education, 100A Stone Hall.

SCHEDULED COURSES

Education 744 Improvement of College Teaching 2 credits. *June 13–17.* M-F 9–5. D. B. Gowin, D. Taylor-Way, and J. Novak.

Education 311 Educational Psychology 2 credits. *July 18–August 5.* M-F 8:30–12. D. Ridley.

INDIVIDUALIZED STUDY IN EDUCATION

Education 420 Field Experience 1 credit (4-credit option available).

Education 497 Informal Study Credit to be arranged. Hours to be arranged.

Education 620 Internship in Education 2 to 6 credits as arranged.

Education 800 Master's-Level Thesis Research Credit to be arranged. Prerequisite: permission of the instructor. Hours and dates to be individually arranged.

Education 900 Doctoral-Level Thesis Research Credit to be arranged. Prerequisite: permission of the instructor. Hours and dates to be individually arranged.

ENGINEERING COOPERATIVE PROGRAM—SUMMER TERM

May 31–August 26
Contact: Administrative Aide, Engineering Cooperative Program, 105 Hollister Hall.

ENGLISH AS A SECOND LANGUAGE

June 27–August 5
Contact: Erik J. Beukenkamp, Director, English as a Second Language, Summer Session, Morrill Hall.

TEACHING ENGLISH AS A FOREIGN LANGUAGE

Linguistics 407 Introduction to Teaching English as a Foreign Language 8 credits. M-F 9–12:30, 1:30–3:30. M. Martin and staff.

EXECUTIVE DEVELOPMENT PROGRAM

June 13–July 15
Contact: Professor Joseph Thomas, Director, Executive Development Program, Graduate School of Business and Public Administration, Malott Hall.

FORTEPIANO WORKSHOP

July 11–July 21
Contact: Professor Malcolm Bilson, Lincoln Hall.

FRESHMAN SUMMER-START PROGRAM

June 27–August 9
Contact: Freshman Summer-Start Program, Cornell University Summer Session, B12A Ives Hall.

History 141 Man and His Values in the Western Tradition 4 credits. M-F 10–11:15. Lectures plus small discussion groups. L. Williams.

FIELD GEOLOGY—SIERRA MADRE FIELD CAMP, WYOMING

June 6–July 15
Contact: Professor William Travers, Geological Sciences, 219 Kimball Hall.

Geological Sciences 401 Summer Field Geology 6 credits. Prerequisite: Geological Sciences 325 or permission of the instructor. W. Travers.

HEALTH EXECUTIVES DEVELOPMENT PROGRAM

June 13–23
Contact: Douglas R. Brown, Director, Health Executives Development Program, Malott Hall.

SUMMER INSTITUTE ON HISTORIC PRESERVATION PLANNING

June 12–17
Contact: Program Coordinator, Program in Urban and Regional Studies, 209A West Sibley Hall.

CENTER FOR PROFESSIONAL DEVELOPMENT IN HOTEL AND RESTAURANT ADMINISTRATION

June 13–29
Contact: Maureen C. McKenna, External Programs Administrator, School of Hotel Administration.

HUMAN ECOLOGY SUMMER PROGRAM FOR PROFESSIONALS

July 11–29
Contact: Director, Summer Program, College of Human Ecology, N111 Martha Van Rensselaer Hall.

Consumer Economics and Housing 312 Family Resource Management 2 credits. M-F 1:30–3:30. A. Davey.

Design and Environment Analysis 240 Clothing through the Life Cycle 2 credits. M-F 8:30–10. S. Watkins.

Human Development and Family Studies 258 Historical Development of Women as Professionals 2 credits. M-F 1:30–3:30. J. Brumberg.

Human Development and Family Studies 302 Family and Community Health 2 credits. M-F 11–1. Martha Van Rensselaer NG04. M. Doris.

Human Development and Family Studies 465 Topics in Social and Personality Development. Development of Black Identity across the Life Span: Theory and Research 2 credits. Prerequisite: one course in psychology or sociology. M-F 8:30–10:30. W. Cross.

Human Ecology (ID)500 The Professional in Computing 1 credit. *July 25–29.* M-F 8:30–12. S. Broderick.

Human Service Studies 507 Professional Improvement Open to human service professionals for graduate or in-service credit.

Section 1. Health Issues and the Sexual Development of Adolescents 1 credit. *July 11–15.* M-F 10:30–1, 2–4:30. A. Eggleston.

Section 2. Teaching Human Sexuality in Schools and Community Settings 2 credits. *July 18–22.* M-F 10–1, 2–5. A. Eggleston.

Section 3. Helping Children of Divorce to Cope through the School Environment 2 credits. *July 25–29.* M-F 9–12, 1–4. P. Patten-Seward.

Human Service Studies 610 Seminar in Adult and Community Education *July 11–29.*

Section 1. Design for Community-Issues Programming 2 credits. M-F 8:30–10:30. D. Deshler and C. Reed.

Section 2. Development of Volunteers 2 credits. M-F 11–1. D. Tobias.

Nutritional Sciences 607 Nutrition Update 1 credit; 24 hours continuing education credit from the American Dietetic Association. *June 27–July 1.* S-U grades only. M-F 9–12, 1–4. M. A. Morrison and staff.

JAPANESE TEACHER-TRAINING WORKSHOP

July 5–29
Contact: Japanese Teacher-Training Workshop, Morrill Hall.

MARINE SCIENCE PROGRAMS: SHOALS MARINE LABORATORY, APPLEDORE ISLAND, ISLES OF SHOALS, MAINE

Contact: Shoals Marine Laboratory, G14 Stimson Hall.

Natural Resources 306 Coastal and Oceanic Law and Policy 1 credit. *July 25–August 1.*

Biological Science 329 Ecological Behavior 2 credits. *June 15–29.* Prerequisite: a college-level biology course; experience in psychology or behavioral science preferred.

Biological Sciences 363 Field Marine Science for Teachers 1 credit. *July 5–15.* Prerequisite: college-level introductory biology. R. Zottoli and staff.

Biological Sciences 364 Field Marine Science 6 credits. Section 1, *June 1–29;* section 2, *August 1–29.* Prerequisite: one full year of college-level biology or other supporting science.

Biological Sciences 365 Underwater Research 2 credits. *August 1–15.* Prerequisites: recognized scuba certification, a medical examination, and one year of college biology. Daily lectures and fieldwork.

Biological Sciences 409 Research in Biology Variable credit.

Biological Sciences 413 Adaptation in Marine Organisms 4 credits. *July 5–25.* Prerequisite: Biological Sciences 364 or a course in physiological ecology.

Biological Sciences 441 Field Phycology 4 credits. *July 5–25.* Prerequisite: Biological Sciences 364 or familiarity with marine algae. P. Sze.

Biological Sciences 473 Marine Vertebrates 4 credits. *July 5–25.* Prerequisite: Biological Sciences 364 or a course in vertebrate biology.

Biological Sciences 482 Invertebrate Embryology 4 credits. *June 8–29.* Prerequisite: Biological Sciences 364 or a course in invertebrate zoology. Daily lectures, laboratories, and fieldwork.

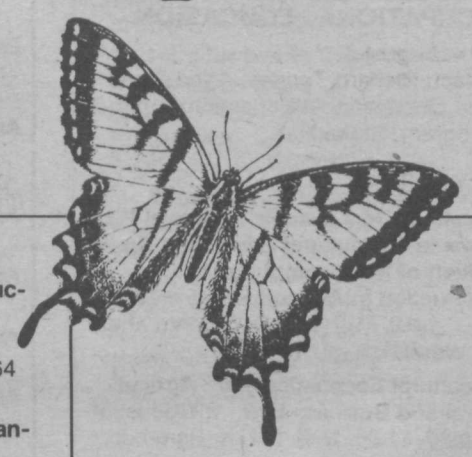
Natural Resources 417 Wetland Resources 1 credit. *July 25–August 1.* Prerequisite: one full year of college-level biology. Daily lectures, laboratories, and fieldwork.

Agricultural Economics 252 Marine Resource Economics 1 credit. *August 1–8.* Prerequisite: an introductory course in ecnomics or permission of the instructor.

Archaeology 319 Practical Archaeology under Water: A Basic Introduction 1 credit. *August 15–22.* Prerequisite: for those participants who will engage in underwater work, recognized scuba certification and a medical examination.

Geological Sciences 201 Geology of Our Coast: Terrestrial and Maritime Aspects 1 credit. *July 18–25.* Prerequisite: an introductory course in geology or permission of the instructor.

Summer study may enable you to plan an ideal fall schedule.



Agricultural Engineering 420 Introduction to Marine Pollution and Its Control 2 credits. *August 15–29.* Prerequisite: Biological Sciences 364 or permission of the instructor.

Marine Sciences 467 Chemical Oceanography in the Field 4 credits. Prerequisites: one year of introductory college chemistry and an introductory marine science course at the college level.

SEA SEMESTER

Biological Sciences 366 SEA Introduction to Marine Science 3 credits.

Biological Sciences 367 SEA Man and the Sea 3 credits.

Biological Sciences 368 SEA Introduction to Nautical Science 3 credits.

Biological Sciences 369 SEA Marine Science Laboratory 4 credits.

Biological Sciences 370 SEA Nautical Science Laboratory 4 credits.

CORNELL LAW SCHOOL PRELAW PROGRAM

June 6–July 19
Contact: J. Death, Cornell Law School, Myron Taylor Hall.

Law 497 Family Law 3 credits. W. Dean.

Law 498 Constitutional Law 3 credits. S. Johnson.

Law 499 Criminal Law 3 credits. N. Roth.

PROGRESSIVE PLANNING SUMMER PROGRAM

Contact: Pierre Clavel, Department of City and Regional Planning, 201 West Sibley Hall.

JUNE 6–24

City and Regional Planning 719 Special Topics in Planning Theory and Politics

Section 1. National Planning and Industrial Policy 4 credits. H. Wachtel.

Section 2. Rural Planning Issues 4 credits. C. Geisler and M. Lapping.

Section 3. Neighborhood Housing Strategies 4 credits. C. Hartman.

Section 4. Alternatives in Third World Development Planning 4 credits. I. Resnick.

JUNE 27–AUGUST 5

City and Regional Planning 511 Introduction to Planning 4 credits. H. Jacobs.

City and Regional Planning 729 Quantitative Techniques for Planners 4 credits. Staff.

DIRECTED STUDY

City and Regional Planning 849 Directed Study and Research Variable credit by arrangement with summer staff members. Any session.

INSTITUTES

Rational Reindustrialization: A New Agenda for Local Economic Planning *June 23–24.*

Management Training for Community Enterprises and Nonprofit/Local Government Agencies *June 27–July 1.*

SUMMER SEMINAR ON THE SUTRAS

June 7–24
Contact: Ithaca Zen Center, 312 Auburn Street, Ithaca.

TELLURIDE ASSOCIATION SUMMER PROGRAM

June 26–August 6
Contact: Administrative Director, Telluride Association, Ithaca, New York 14850.

VIDEO COMMUNICATION

July 4–9
Contact: CAVCL, Communication Arts Graduate Center, 640A Stewart Avenue.

Front
Etching by Zevi Blum '57 on the theme "1984: How Close Are We?"

1983 FEBRUARY 1983						
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Arts degree in composition from Cornell last spring. He is no stranger to Sage Chapel, having been assistant university organist and assistant conductor of the Sage Chapel Choir while a graduate student. He has also served as acting university organist and choirmaster during Cornell's Summer Session. Before coming to Cornell, he held the post of organist and choirmaster for seven years at Jonesboro, Georgia, his home state.

For the past 10 years he has given private instruction in organ and piano. His own organ teachers have been Ben Price and Cornell's Donald Paterson. During the past two years he presented a number of public recitals and lecture-recitals on both the Sage Chapel and Anabel Taylor Chapel organs, covering a wide range of organ literature. His most recent Ithaca recital was at St. Paul's Methodist Church in December, and he will appear at the Unitarian Church in May. Other spring recitals are planned for Atlanta and Philadelphia.

Since his graduation, May has been devoting much of his time to composing and writing. In December the Ithaca A Cappella Chorus premiered his Five Madrigals. He has just completed a chamber orchestra piece and is now composing an organ sonata. His article on a 16th-century Southern French organ registration will soon appear in Diapason magazine, and he is currently collaborating with Donald Paterson on a book about organ registration.

Friday

Jan 28, 8:15 p.m. Sage Chapel. Stephen May, organ. Works of Hummel, Maw, Widor.

Tuesday

Feb. 1, 4:30 p.m. Barnes Hall. Lecture by Charles Hamm; "Home Cooking and Soul in the Popular Music of Africa."

Friday

Feb. 4, 8:15 p.m. Barnes Hall. "Nothing But Treble." Music for treble voices.

Sunday

Feb. 6, 4 p.m. Barnes Hall. Robert Ergenbright, baritone, and Donna K. Anderson, piano. Songs of Charles T. Griffes.

Religious Services

Baptist

Every Sunday, Ithaca Baptist Church, 1825 Slaterville Road, 9:45 a,m, Bible Study; 11 a.m. Worship Service; 6 p.m. Discipleship Training 7 p.m. Worship Service.

Catholic

Every Mon.-Fri., 12:15 p.m. Catholic Mass. Anabel Taylor G-19. Every Sat., 5.p.m. Mass, Anabel Taylor Chapel. Every Sun., 9:30, 11 a.m. & 5 p.m. Masses, Anabel Taylor Auditorium. Sacrament of Reconciliation by appointment,

Christian Science

Every Thurs., 7 p.m, Anabel Taylor Founders Room. Every Sun. 10:30 a.m. First Church of Christ, Scientist, Univ. Ave. at Cascadilla Park.

Episcopal

Every Sun., 9:30 a.m. Anabel Taylor Chapel.

Friends (Quakers)

Every Sun. 9:45 a.m. Anabel Taylor Edwards Room. 9:45 a.m. adult discussion; 11 a.m. meeting for worship.

Jewish

Call Hillel Office, 256-4227 for exact times and locations.

Lutheran

Every Sun. 10:45 a.m, Lutheran Church, Oak Ave. at College Ave.

Muslim

Every Mon.-Thurs., 1 p.m. Anabel Taylor 218; Every Fri., 1 p.m. Anabel Taylor Edwards Room.

Protestant

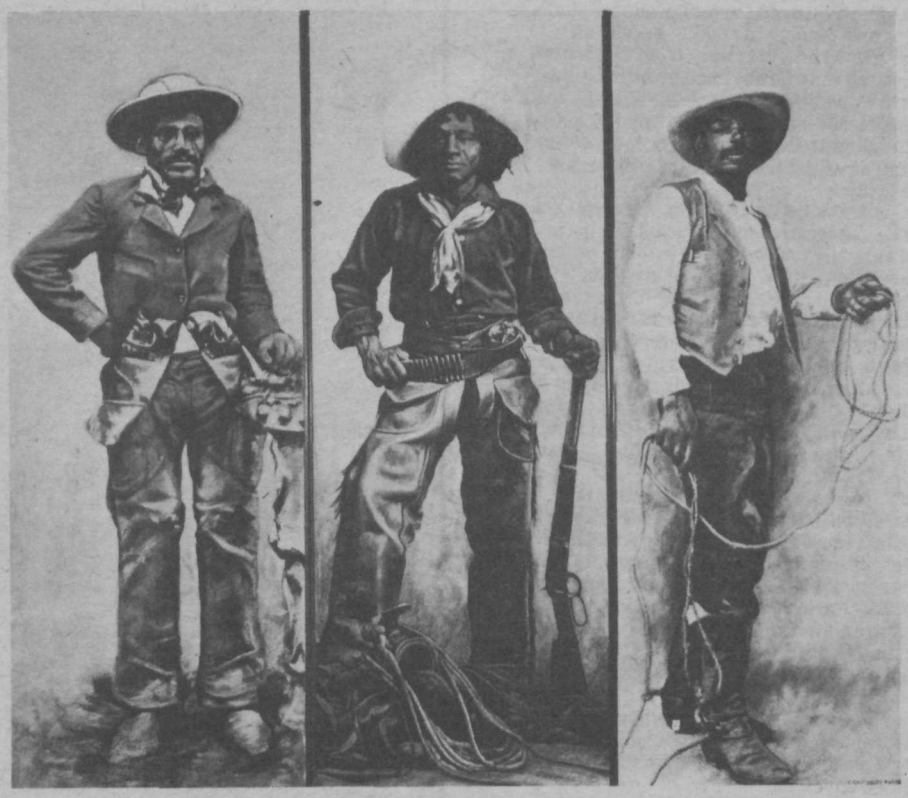
Every Sun., 11:15 a.m. Anabel Taylor Chapel.

Sunday

Jan. 30. 11 a.m. Sage Chapel. Sage Chapel Services: Zalman Schacter-Shalomi, Rabbi. Leader, B'nai Or Fellowship. Professor, Jewish Mysticism and the Psychology of Religion, Temple University, Philadelphia.

Sunday

Feb. 6, 11 a.m. Sage Chapel. Sage Chapel Services: Warner R. Traynham, Dean. William Jewett Tucker Foundation, Dartmouth College, Hanover, NH.



'Black Cowboys' is an acrylic on canvas by Kwasi Seitu Asantey that is part of the collection of the Herbert F. Johnson Museum of Art.

Seminars

Applied Mathematics: "A Systolic Array for the Linear-Time Solution of Toeplitz Systems of Equations," Franklin T. Luk, 4 p.m. Friday, Jan. 28, 275 Olin Hall.

Atomic and Solid State Physics: Solid State Seminar: "Color Center Lasers: Their Operation and Applications," C. Pollock, 4:30 p.m. Tuesday, Feb. 1, 700 Clark Hall.

Atomic and Solid State Physics; Theory Seminar: "Hunting Defects in Vector Spin Glasses," C. Henley, Harvard University, 1:15 p.m. Thursday, Feb. 3, Clark Hall.

Biochemistry: "Theoretical and Experimental Aspects of Protein Folding," Harold Scheraga, 4:30 p.m. Friday, Jon. 28, 204 Stocking Hall.

Boyce Thompson Institute: "Stem Nodulation in Aeschynomene: A Model System for Rhizobium-legume Interactions," Roman Legocki, 3:15 p.m. Wednesday, Feb. 2, BTI Auditorium.

Ecology and Systematics: "Evolution of Host-Plant Preferences in Small Ermine Moths," Wim M. Merrebout, University of Leiden, The Netherlands, 4:30 p.m. Wednesday, Feb. 2, Morison Seminar Room, Corson Hall.

General Chemistry: "Photochemical Routes to Reactive Organometallics," William C. Trogler, Northwestern University, 4:40 p.m. Thursday, Jan. 27, 119 Baker Lab.

Insect Physiology: First meeting is scheduled for noon Thursday, Jan. 27, 110 Comstock Hall Lounge.

JUGATAE: "Evolutionary Biology of Moths of the Genus Yponomeuta," Wim Herebout, University of Leiden, The Netherlands, 4 p.m. Monday, Jan. 31, 100 Caldwell Hall.

Materials Science and Engineering: "Control of Defect Reactions in Silicon," L.C. Kimerling, Bell Laboratories, 4:30 p.m. Thursday, Jan. 27, 140 Bard Hall.

Materials Science and Engineering: "High Pressure Luminescence Probes of Chalcogenide Glasses at Low Temperatures," B. Weinstein, Xerox Research Lab., 4:30 p.m. Thursday, Feb. 3, 140 Bard Hall.

Mechanical and Aerospace Engineering: "Numerical Method for Heat and Mass Transfer in Porous Materials," David K. Gartling, Sendia Corporation, 4,30 p.m. Tuesday, Feb. 1, 282 Grumman.

Neurobiology and Behavior: "Of Birds, Bees and Dendritic Trees," Timothy DeVoogd, 12:30 p.m. Thursday, Jon. 27, Morison Seminar Room, first floor atrium, Seeley G. Mudd Hall.

Organic/Organometallic Chsmistry: "An Unusual Fluorine Rearrangement in the Photocyclization of 1-Fluoro-5-Helicenes," Frank Mallory, Bryn Mawr College, 8,15 p.m. Monday, Jan. 31, 119 Baker Lab.

Ornithology: "De Witt Clinton—A Naturalist In The New Republic," Dwight Webster, 7:45 p.m. Monday, Jan. 31, Stuart Observatory, Sapsucker Woods.

Plant Breeding: "A Study of Prolific and Non-prolific Corn Selections in Intercropping with Spring Wheat and with Dry Beans," Woerjono Mangoendidjojo, 12:20 p.m. Tuesday, Feb. 1, 135 Emerson Hall.

Plant Pathology: "Does Cyclic AMP Have a R-le in Formation of Infection Structures by Rust Fungi?" R.C. Staples, 4:30 p.m. Tuesday, Feb. 1, 404 Plant Science Building.

School of Civil and Environmental Engineering Remote Sensing Seminar: "Aerial Films Used in Remote Sensing." J. J.Graham, Eastman Kodak, 4:30 p.m. Wednesday, Feb. 2, B14 Hollister.

Toxicology: "Lab Safety Awareness (or...Why is the Lab. Bench Eating Your Sandwich)," 12:20 p.m. Friday, Jan. 28, 100 Savage Hall.

Vegetable Crops: Intercropping Studies at the International Crop Research Institute for the Semi-Arid Tropics," R. Willey, visiting scientist ICRISAT, 4:30 p.m. Thursday, Jan. 27, 404 Plant Science.

Western Societies Program: "English Politics in the French Press, 1773-1783: An Inquiry into Intellectual Origins of the French Revolution," Jack Censer, George Mason University, 12:15 p.m. Thursday, Feb. 4, 153 Uris Hall.

Sports

Friday

Jan. 28, 5 p.m. Teagle. Men's Wrestling-Princeton.

Jan. 28, 7:30 p.m. Oxley Polo Arena. Women's PoloSkidmore.

Saturday

Jan. 29, 11 a.m. Grumman Squash Courts. Men's SquashArmy.

Jan. 29, 12 noon Helen Newman. Women's GymnasticsEast Stroudsburg & Temple.

Jan. 29, 2 p.m. Lynah. Women's Hockey-Yale.

Jan. 29, 3 p.m. Grumman Squash Courts. Men's SquashFranklin & Marshall.

Jan. 29, 3:30 p.m. Teagle. Men's Wrestling-Pennsylvamia.

Jan. 29, 4 p.m. Helen Newman. Women's Swimming-Yale.

Jan. 29, 5:30 p.m. Lynah. Men's JV Hockey-St. Lawrence.

Jan. 29, 6 p.m. Barton. Women's Basketball-Vermont.

Jan. 29, 6 p.m. Helen Newman. Men's JV BasketballIthaca College.

Jan. 29, 8 p.m. *Barton. Men's Basketball-Columbia.

Jan. 29, 8:15 p.m. Oxley Polo Arena. Men's PoloSkidmore.

Sunday

Jan. 30, 1 p.m. Barton. Men's & Women's Indoor TrackArmy.

Tuesday

Feb. 1, 7 p.m. Helen Newman. Men's JV Basketball

Feb. 1, 4 p.m. Grumman Squash Courts. Men's SquashHobart.

Feb. 1, 7:30 p.m. Lynah. Women's Hockey-Potsdam.

Wednesday

Feb. 2, 6 p.m. Helen Newman. Women's Swimming-Syracuse.

.**Feb. 2, 6 p.m.** Teagle. Men's Swimming-Syracuse.

Feb. 2, 7:30 p.m. Helen Newman. Women's GymnasticsCortland.

Feb. 2, 7:30 p.m. Teagle. Men's Gynastics-Cortland.

Friday

Feb. 4, 4 p.m. Helen Newman. Women's Bowling-Wells College.

Feb. 4, 6 p.m. Barton. Men's JV Basketball-Oneonta.

Feb. 4, 5:30 p.m. *Lynah. Men's Hockey-RPI.

Feb. 4, 7:30 p.m. Oxley Polo Arena. Women's PoloVirginia.

Feb. 4, 8 p.m. *Barton Hall. Men's BasketballPennsylvania.

Saturday

Feb. 5, 1 p.m. Teagle. Men's Gymnastics-Syracuse & Farmingdale.

Feb. 5, 1:30 p.m. Grumman Squash Courts. Men's SquashPennsylvania.

Feb. 5, 4 p.m. Teagle. Men's Wrestling-South Connecticut.

Feb. 5, 5:30 p.m. *Lynah. Men's Hockey-Vermont.

Feb. 5, 7 p.m. Teagle. Men's Wrestling-R.I.T.

Feb. 5, 8 p.m. *Barton. Men's Basketball-Princeton.

Feb. 5, 8:15 p.m. Oxley Polo Arena. Men's PoloVirginia.

Feb. 5, 8:30 p.m. Lynah. Men's JV Hockey-Nassau Arrows.

Sunday

Feb 6, 1 p.m. Barton. Women & Men Indoor TrackSyracuse.

Barton Blotter

During the first week of the return of students to campus, Jan. 17 through Jan. 23, some $2,751 in cash and valuables were reported stolen, many items taken from rooms over the holidays, according to the morning reports of the Department of Public Safety.

Safety also reported an annual increase in thefts from employees of wallets, purses and cash left in offices in academic buildings over the holidays. Safety attributed 14 thefts of $1,560.96 in cash to the fact that with students gone and fewer people in the academic buildings thieves have more opportunity to be unobserved. One secretary lost $200 in cash.

On Tuesday, Jan. 18, a person was chased from the Pancake House, which he was apparently trying to break into. The person fell into Beebe Lake through the ice but was not injured and has been referred to the Judicial Administrator. Another person was referred to the J.A. for failure to comply at a Traffic Booth.

Safety officers charged an Ithaca man with driving while intoxicated. He was stopped on East Avenue near Thurston Avenue about 1:10 a.m. Wednesday, Jan. 19.

Among thefts reported during the week were a total of six fire extinguishers from various buildings on campus. They were valued at a total of $150.

Among the largest thefts in terms of value reported were stereo equipment valued at $502 from 109 McGraw Place, a shoulder bag with contents valued at $635 from a room in Goldwin Smith Hall and $690 in stereo equipment, also from 109 McGraw Place.

Graduate Bulletin

The next regular meeting of the Graduate Faculty will be held at 4:30 p.m. on Friday, February 11, in Kaufmann Auditorium of Goldwin Smith Hall to approve the provisional list from January.

Doctoral students registered for the fall term (or those who took a leave of absence dated 8-30-79 or later) who wish to avoid paying the active-file fee of $200 for the spring term must have met all degree requirements by February 11. This includes filing two acceptable copies of the thesis in the Graduate School Office.

All graduate students must turn in course registration forms at Sage Graduate Center by Friday, February 11.

Late registration will be held Monday to Wednesday, Jan 24 to 26 in Barton Hall. Starting Thursday, Jan 27, late registration will be held at the Registrar's Office, 222 Day Hall. A $30 processing fee will be charged as of Jan. 24.

Applications for **1983-84 Cornell Graduate Fellowships** for continuing graduate students are available at the Fellowship Office and at the office of your graduate faculty representative. All Cornell students matriculated in the Graduate School are eligible to apply. Recipients must be registered full-time with the Graduate School throughout their fellowship tenure. Graduate School Fellowships for continuing students are usually awarded for one academic year. This application should be used for consideration for all fellowships awarded by the Graduate School (Sage Graduate Fellowships, Cornell Graduate Fellowships, Three-year Teaching Fellowships, fellowships from restricted income accounts). To insure consideration by your field for one of these awards, completed applications and letters of reference should be submitted to your graduate faculty representative by **January 28, 1983.**

Applications for **1983-84 Higher Education Act-Title VI /National Resource Fellowships** are available at the Fellowship Office. The NRF program was established to train personnel in modern foreign languages and related area studies. Applicants must be citizens or permanent residents of the U.S. who have earned a baccalaureate or comparable degree prior to the start of the fellowship and who plan to pursue full-time graduate study during the entire award period. People may apply to Cornell for advanced language and related area studies training in the following world areas: East Asia, Eastern Europe and Russia, Latin America, South Asia, and Southeast Asia. The deadline to submit completed applications to the Fellowship Office is tomorrow, **Jan. 28, 1983.**

Graduate and Professional School Financial Aid Statements (GAPSFAS) for 1983-84 are now available and must be filed with the Office of Financial Aid by April 1. Graduate students who plan to apply for need-based financial aid (loans and/or work-study for summer 1983 and/or the 1983-84 academic year) should contact the Office of Financial Aid, 203 Day Hall, or the Fellowship Office, 116 Sage Graduate Center at the beginning of the spring term for further information.

Grants for Improving Doctoral Dissertation Research are available from the National Science Foundation. Applicants must be enrolled at a U.S. institution and must be conducting doctoral dissertation research in the environmental, behavioral, neural or social sciences. The grants are intended to provide funds for items not normally available from the student's university or from other sources. Examples of allowable expenses are: research -related travel, specialized research equipment, supplies, sample survey costs, and payments to subjects or informants. Up to six months should be allowed for the processing of the application by the NSF. May 15 and October 15 are the deadlines for proposals in the Division of Environmental Biology only. Proposals must be submitted through the Office of Sponsored Programs, 123 Day Hall.

Check the Fellowship Notebook at your graduate faculty representative's office for information on the awards whose deadlines are listed below. Unless otherwise stated, applications must be obtained directly from the sponsoring organization.

Jan 31: **Ford Foundation Fellowship Program in Combined Soviet/East European and International Security Studies** — Write to Mr. Charles W. Thomas, Administrative Director, Soviet /East European and International Security Program, Box 53, International Affairs Building, 420 W. 118th St., New York, NY 10027.

Feb. 1: **Eisenhower Memorial Graduate Scholarship** — Fellowships of $1000-$3000 will be awarded to applicants who are U.S. citizens and who will be enrolled in graduate study in any Field on a full-time basis during the 1983-84 academic year. A sample application is available at the Fellowship Office.

Feb. 1: **Institute of Food Technologists** — This award is open to senior undergraduates who will be enrolled in graduate studies in food science and technology at the time the fellowship becomes effective, or to current graduate students in a program leading to an M.S. and/or a Ph.D. degree. Award amounts vary from $5000-$6000. Applications may be obtained by writing: Institute of Food Technologists, 221 N. LaSalle St., Chicago, IL 60601; 312-782-8424. Applications must be submitted by Feb 1 to the head of the department where the applicant will pursue graduate study.

Feb. 1: **Izaak Walton Killiam Memorial Scholarships** — These predoctoral scholarships are valued annually for two years with the possibility of renewal for a third year, and are open to applicants with at least one year of graduate work before the start of tenure. They are offered to ourstanding students registered in, or admissible to, doctoral programs in all fields at the Univ. of Alberta. These awards are subject to Canadian income tax. Applications may be obtained by writing: Administrator of Student Awards, Univ. of Alberta, Edmonton, Alberta, Canada, T6G 2J9.

Feb 1: **New Jersey State Federation of Women's Clubs Margaret Yardley Fellowship** — Applicants must be post-graduate American females, preferably from New Jersey, for this scholarship of $1000 per annum which is to be used solely toward payment of tuition in further studies in an American colleqe. The deadline for requesting applications is Feb. 1; the deadline for applying is Mar. 1. Each request for an application should be addressed to: Margaret Yardley Fellowship Fund Chairman, Mrs. H. Arthur Tonnesen, 268 Friar Lane, Mountainside, NJ 07092, and be accompanied by a stamped, self-addressed envelope.

Feb 1: **Sigma Delta Epsilon Fellowships** — Awards are available to women who hold a degree from a recognized institution of higher education. Applicants must be currently involved in research or have an approved research proposal in one of the mathematical, physical or biological sciences. The deadline for $750 grants-in-aid is Feb. 1, with applications and further information available from Sigma Delta Epsilon, Graduate Women in Science, Inc., 9650 Rockville Pike, Bethesda, MD 20814.

Feb. 1: **Sigma Xi Scientific Research Society Grants -in-Aid of Research** — Awards are made in support of scientific research in any field to a maximum of $1000. No part of a grant may be used for payment of any indirect costs to the recipient's institution; all of the funds must be expended directly in support of the proposed investigation. Grants normally are not made for expenses of publication, salary or tuition, travel to meetings, or usual and routine institutional obligations. Applications may be obtained from the Awards Committee, Committee on Grants-in-Aid of Research, Sigma Xi Headquarters, 345 Whitney Ave, New Haven, CT 06511. Applicants are notified of the decisions within eight weeks after the closing date. The Fellowship Office also has applications.

Feb. 1: **U.S. Department of Energy Student Research Participation Argonne National Laboratory** — Appointees must be full-time students at accredited colleges or universities and have status as a junior, senior, or graduate student in physical and life sciences, mathematics, computer science, engineering, or a variety of applied research programs relating to coal, conservation, environmental impact and technology, fission, fusion or solar energy, at the time of his/her participation at Argonne. Preference among graduate students will be given to students who have completed no more than their first year of graduate study. Participants with a bachelor's degree receive a stipend of $190 per week in the summer program. Participants in the academic year sessions receive a stipend of $100 as well as free lodging in the student apartments at the Argonne guest facilities. All participants are reimbursed for round-trip travel. Feb. 1 is the deadline for the Summer 1983 term. Additional information and application forms are available from: Argonne Division of Educational Programs, Student Research Participation, 9700 S. Cass Ave., Argonne, IL 60439; 312-972 -3366.

Feb. 4; **U.S. Department of Education 1983 Bilingual Fellowship** — For further information and application packages for this linguistics award, contact Fellowship Program Manager, The Office of Bilingual Education and Minority Language Affairs, U.S. Department of Education, Room 420, Reporter's Building, 400 Maryland Ave., S.W., Washington, D.C., 20202; 202-245-2595.

Judicial Administrator

Case Reports for November 1982

No. of Persons	Violation	Summary Decision
1	Participated in the theft of a University owned truck	WRITTEN REPRIMAND (WR), 30 hours of community service (hrs c/s)
2	Took a box of plastic drinking cups	WR, 17 hrs c/s each
2	Took a University owned barricade	WR, 30 hrs c/s each
1	Theft of food from Cornell Dining	WR, $20.00 fine
1	Possessed and used bottle rockets	WR, 37 hrs c/s
1	Threw firecrackers	WR, 34 hrs c/s
1	Discharged a fire extinguisher	WR, 18 hrs c/s, restitution
1	Forged a dorm parking permit	WR, 15 hrs c/s, ordered to register car and pay current tickets
2	Broke the rear windshield of a private vehicle	WR, 20 hrs c/s, restitution each
1	Made unauthorized telephone calls and failed to pay for them	WR, 30 hrs c/s, restitution
1	Allegedly grabbed a student by the collar	Oral Warning

Case Reports for October 1982

No. of Persons	Violation	Summary Decision
1	Wrote a check with insufficient funds to cover the check	WRITTEN REPRIMAND (WR), $25.00 suspended fine, and $25.25 restitution
1	Failed to redeem a bad check on several occasions	WR, seven (7) hours of community service (hrs c/s) and $12.00 fine
1	Sprayed the contents of a fire extinguisher into a room and on an individual	WR, either 30 hrs c/s or $50.00 fine and 15 hrs c/s
1	Pulled a paper towel dispenser off a wall and knocked over a fire extinguisher causing it to discharge	WR, 25 hrs c/s, 10 hrs of which are suspended and $7.55 restitution
1	Took a fire extinguisher from University Hall # 4 and refused to comply with a Safety officer	WR, 37 hrs c/s, plus previous suspended fine
1	Endangered persons and property by the use of bottle rockets	WR, 37 hrs c/s
1	Allowed bottle rockets to be thrown from a window in his room	WR, $125.00 suspended fine
1	Possessed a package of fire crackers	WR, 37 hrs c/s suspended
1	Stole a steel pipe and threw it into the gorge and tipped over a port-a-john	WR, 20 hrs c/s
1	Stole a piece of slate	WR, either 30 hrs c/s or $50.00 fine and 15 hrs c/s
2	Stole a folding chair and damaged same by throwing it off Dwyer Dam Bridge	WR, $57.00 fine or 17 hrs c/s and $9.00 restitution
3	Stole three (3) empty beer kegs	WR, 22 hrs c/s, nine (9) hrs of which are suspended (each)
1	Stole a University owned truck	WR, 47 hrs c/s
3	Took a plant from a fraternity	WR, 22 hrs c/s (each)
1	Allegedly took food from COOP	Oral warning
3	Failed to comply with a Safety officer at a traffic booth	WR, $25.00 fine or 7½ hrs c/s (each)
1	Possessed and misused a stolen "U" parking permit	WR, 30 hrs c/s, 15 hrs of which are suspended
1	Drove his vehicle across a grassed area	WR, 15 hrs c/s
2	Threw water balloons	WR, 12 hrs c/s (each)
1	Failed to return reserve books	WR, 15 hrs c/s and an order not to misuse any additional books, and to return them at the appointed time
1	Allegedly harassed and failed to comply with the order of a manager of the Thirsty Bear Tavern	Oral warning
2	Damaged property	WR, $112.50 restitution (each)
2	Entered and remained unlawfully upon property which was fenced-in to exclude intruders	Oral warning

The skilled hands of Dr. Richard P. Hackett Jr. repair a horse's leg in the Large Animal Clinic of the College of Veterinary Medicine.

People

Dieter G. Ast, a specialist in the structure of electronic materials, has been elected a professor in the Department of Materials Science and Engineering. He has published more than 30 technical papers in such fields as field-ion and electron microscopy, radiation damage, mechanical properties of metallic glasses, biophysics and amorphous silicon transistors.

Mary H. Tabacchi, a specialist in food chemistry and nutrition and an associate professor in the School of Hotel Administration, has been awarded tenure. After joining the Hotel School faculty in 1979 as an assistant professor, she was promoted to associate professor in 1981 and awarded tenure as of July of this year (1982). From 1975 to 1978 she was research associate in Cornell's Department of Vegetable Crops. She was a high school biology teacher before coming to Cornell in 1972 as a visiting assistant professor in the Division of Nutritional Sciences.

William J. Kennedy, professor in the Department of Comparative Literature, has been elected acting chairman of the department from Jan. 1, 1983, through June 1983, while chairman Wolfgang Holdheim is on sabbatic leave. Kennedy was first elected chairman of the department in 1976 when he served a three-year term, and again in 1979 when he was re-elected to serve a two-year term. He is a leading American specialist in comparative Renaissance literature.

Russell Averna, who is working toward an MBA degree in hospital and health services administration here, is one of 14 students nationwide to receive a Federation of American Hospital Foundations 1982 scholarship. The scholarships, which are awarded based on scholastic ability and financial need, are worth $1,000 each.

Theodore Eisenberg, a specialist in debtor-creditor law and tax and civil rights law, has been appointed a professor with tenure in the Cornell Law School. Eisenberg was a visiting professor at Cornell during the 1981-82 academic year while on leave from the University of California at Los Angeles, where he had been a faculty member since 1977.

Ethel W. Samson has been awarded the title of professor of cooperative extension administration, emeritus. Samson joined the faculty in the State College of Human Ecology in 1956 as program coordinator and assistant professor. During her tenure, she provided program leadership and supervision to Cooperative Extension home economists primarily in Northern New York.

Hazel E. Reed has been awarded the title of professor of cooperative extension administration, emeritus. Since joining the faculty in the State College of Human Ecology in 1949, Reed has worked with key leaders in nearly every county of the state. Foremost among her program was a supervised work experience for home econimics agents in leadership roles.

Teacher Teaches Teachers With Help of Video Tapes

Four students and a professor recently gathered in a tiny room in Stone Hall to watch television. The students weren't there for entertainment; they were there, as volunteers, to help the professor learn what he could do to improve his lectures. David Taylor-Way, a visiting assistant professor in education, was the "facilitator."

The group was participating in Taylor-Way's teacher education program, which has been in existence at Cornell for the past two and one-half years and which is funded through an Exxon Education Foundation grant for the improvement of undergraduate education.

"I've been working primarily with those departments which offer large undergraduate courses and which employ anywhere from eight to 20 TAs," Taylor-Way said. "Now I'm finding that there are a number of new faculty members who are coming in with little or no training or experience in teaching and who are interested in the program.

"I'm particularly interested in helping these people. It's hard for many new, and even experienced faculty members to devote the necessary attention to all the intricacies of teaching, while at the same time remaining sufficiently detached from the process to determine accurately how well they are coming across to their students. I see my job as helping them learn how to do that," Taylor-Way said.

After determining what academic departments are interested in trying out his program, Taylor-Way makes the arrangements to go into a class room to videotape the TA or faculty member teaching. He then gets student volunteers from that particular class and they all meet to view the videotape and to discuss the instruction techniques of the teacher.

Taylor-Way works with participating departments for at least one semester and, if the department decides to continue with the program, he can train someone to carry on the work. The Physics, Economics and Biology Departments have done their own training, after initial help from Taylor-Way.

Taylor-Way is a graduate of Syracuse University and holds a master's in communication arts from Syracuse and a Ph.D. in education from Cornell. Anyone who is interested in more information about his program can contact him by calling 256-7755 or 256-8141. His office is located in 307A Stone Hall.

An Air Fare Bargain Available To NYC, At Least for Now

As a result of the competition for passengers at Syracuse between USAir (AL) and Peoples' Express (PE), the one-way fare to Newark is currently only $19, Susan Wellcome, manager of the Cornell Travel Office, reported this week.

The flights on which this fare applies are:

To Newark			From Newark		
LV SYR	FLT.	ARR.	LV EWR	FLT	ARR.
7:30A	PE81	8:20A	8:30A	AL132	9:17A
8:45A	AL6	9:30A	9:40A	PE191	10:30A
10:40A	AL309	11:25A	11:30A	AL322	12:17P
12:55P	PE83	1,50P	4:15P	AL88	5:02P
6:35P	AL325	7:20P	5:30P	PE145	6:20P
6:45P	PE85	7:35P	7:35P	AL261	8:22P
7:45P	AL220	8:30P	8:00P	PE215	8:50P

The Travel Office can make reservations and issue tickets for both USAir and Peoples' Express flights.

The flight operations records of both Peoples' Express and USAir are excellent. However, USAir's service performance to passengers in placing and honoring reservations, baggage handling, and transfers, and providing alternate routing resulting from cancellations, makes its use more desirable for the business traveler.

For travelers who can provide their own surface transportation between Ithaca and Syracuse, these flights offer the opportunity to travel at substantially lower prices than are available on flights leaving from the Tompkins County Airport (about $97 to Kennedy).

Express bus service is available at Newark for $4 on a frequent schedule and the running time is generally about 30 minutes to the Port Authority Terminal in Manhattan. Newark Airport also offers a good number of economical flights to major cities in the South and West Coast. The Travel Office can assist travelers with routings if they wish to consider cost savings over the convenience of direct Ithaca service.

Counsel's Office Issues Statement Regarding Decision in Zahorik Case

The following is a statement from the Cornell University Counsel regarding a recent court ruling.

"On Jan. 10, 1983, Judge Howard Munson issued a decision concerning pre-trial discovery in **Zahorik v. Cornell University.**

(Discovery is a specific legal process by which parties in a case may ask each other for certain kinds of information relevant to that case before it goes to trial.)

"The issue arose over plaintiffs' first set of interrogatories, 57 written questions covering 84 pages.

"Cornell objected to many of those interrogatories on legal grounds. It asked the court to strike the entire set. The plaintiffs sought an order requiring Cornell to answer the interrogatories to which Cornell objected.

"In its Jan. 10 ruling, the court set forth guidelines for resolving Cornell's legal objections. The court then ordered that 'plaintiffs are directed to reformulate their discovery requests to comply with this decision.' Cornell is pleased with this result.

"The Jan. 10 order concerned discovery, and not the underlying merits of the case. However, the court did offer the following observation, which is consistent with Cornell's views:

" '...Congress did not intend that the courts sit as 'Super-Tenure' Review Committees' to make independent evaluations on qualification of applications for tenure. If plaintiffs are to succeed in this action, they must come forward with evidence of discrimination by defendant. They may not simply rely on this court to infer discrimination from 'the honest even though partically subjective evaluation of their qualifications' ...."

Brief Reports

Cross Country Skiing Workshops Are Offered

The Experimental College will offer two one-day cross country ski workshops for the beginner during the month of February. The program provides participants with lecture/demonstration and skills building during the morning and a ski tour, with coaching, in the afternoon.

The workshops will be offered from 10 a.m. to 4 p.m. Saturday, Feb. 5, and Saturday, Feb. 12. Registration, which is on a first-come first-served basis will be from 10 a.m. to noon and 1 to 3 p.m. Thursday, Jan. 27, and 10 a.m.to noon on Friday, Jan. 28, in the Terrace Lounge Willard Straight Hall.

Cost for Cornell students will be $7, for non-students $9. Equipment rental information will be available at the time of registration.

The Experimental College is part of the Department of Unions and Activities and offers non-credit courses for Cornell faculty, staff and students.

For further information on the cross-country ski workshops call 256-7131.

Employees May Breakfast With Administrators

Employees who are interested in having breakfast with one of several Cornell administrators should call the Office of the Assemblies at 256-3715 to make a reservation. The breakfasts are held at 7:30 a.m. in the Elmhirst Room, Willard Straight Hall, and are sponsored by the Employee Assembly.

The schedule for the spring semester is: Thursday, Feb. 17, Kenneth Griesen, dean of the University Faculty; Wednesday, March 16, Gil Goetz, director of University Relations; Wednesday, April 20, Robert Matyas, vice president, Facilities and Business Operations; Thursday, May 12, Frank Rhodes, president.

Folk Guitar Classes Are Moved to Monday

Phil Shapiro's Group Folk Guitar Lessons, sponsored by the Willard Straight Hall Board, have been changed to Monday evenings during the spring semester to allow more people to take advantage of the class, according to Shapiro.

Classes will meet in the International Lounge of Willard Straight Hall beginning on Monday, Jan. 31. There are eight one-hour lessons. Registration will be at the first lesson and participants must supply their own guitar. Cost for the course is $20, payable at the first lesson.

The beginners' class will meet at 7 p.m. and is designed for those who have never played a guitar. It assumes no knowledge of guitar playing. The intermediates' class will meet at 8 p.m. and is designed for those players who have some experience and who want to learn fingerpicking and who want to break out of repetitious patterns.

For further information, contact Shapiro at 844-4535.

Women's Studies Seeks Nominations for Board

The Women's Studies Program is seeking nominations and self-nominations of Cornell faculty members through Feb. 17 to serve on its executive board.

Faculty who wish to nominate themselves or others should contact the Women's Studies Program, 332 Uris Hall, telephone 256-6480, for details.

Nominations for student, staff and community members of the executive board will be solicited in March.

Women's Studies, a permanent program in the College of Arts and Sciences, aims to encourage the development of teaching and scholarship about women and sex roles for both women and men at Cornell and also to cooperate in public service activities with the university's extension services. Policy is set by the executive board, composed of faculty and students at Cornell and members of the Cornell and Ithaca communities who have an intellectual interest in women's studies.

Senior Fellow to Talk At Humanities Society

Stephen Greenblatt, professor of English at the University of California at Berkeley, will be a Senior Fellow in residence at the Society for the Humanities from now to Feb. 5.

He will give a public lecture at 4:30 p.m. today in the Guerlac Room of the Andrew D. White House. His topic will be "Murdering Peasants: Status, Genre and the Representation of Rebellion."

Details on other aspects of Greenblatt's stay may be obtained from the society, 256-4725.

Greenblatt's publications include three books: "Three Modern Satirists: Waugh, Orwell, Huxley," "Sir Walter Raleigh: The Renaissance Man and his Roles" and "Renaissance Self-Fashioning: From More to Shakespeare."

Class Officers' Group Will Gather in NYC

Nearly half of Cornell's more than 700 class officers are expected to gather in New York City Saturday for the annual midwinter meeting of the Cornell Association of Class Officers.

A day filled with workshops and class meetings at the Grand Hyatt Hotel will be highlighted by talks by Austin H. Kiplinger '39, a trustee and editor in chief of the Kiplinger Letters and Changing Times, and by Gould P. Colman '51, university archivist.

Kiplinger, the featured speaker at the CACO luncheon, will discuss "What's Ahead for the U.S. and Cornell: A Business and Political Perspective." Colman's 11 a.m. talk is titled "This is Cornell."

Among the morning workshops for class officers will be ones for class correspondents, class fund representatives, presidents, treasurers and for persons chairing reunions in 1983 and 1984.

Cost-Reduction Forms Available

Twenty-two applications for entry into this year's annual university-wide Service-Improvement§Cost-Reduction Awards competition had been requested by the beginning of this week, according to C. Clinton Sidle, secretary of this year's awards committee, the competition was announced in the Jan. 13 Chronicle.

Deadline for submitting entries in the competition is Tuesday, Feb. 15, at Sidle's office, room 233 Day Hall, telephone 6-5392. Last year 10 winners shared $2,350 in prize money. Entry details may be obtained from Sidle.

More Than 70 Percent Respond To Survey

Of 4,500 surveys mailed to non-academic employees in mid-December, more than 70 percent have been returned, according to Peggy Ulrich-Nims, director of Institutional Planning and Analysis.

"Since a return of 30-40 percent is the usual level for mailed surveys, the 70 percent return is an extremely good response," Ulrich-Nims said.

The surveys will be keypunched and the responses tabulated and analyzed. Summaries of the results are expected to be ready in early April.

Chinese New Year To Be Celebrated

The Chinese Cultural Society will present its third annual Chinese New Year Celebration starting at 1 p.m. Saturday, Jan. 29, in the Memorial Room. Willard Straight Hall. The event is free and open to the public.

Included in the festivities will be a performance by a professional martial arts troupe from New York City. The troupe will perform the traditional, ferocious Lion Dance, which "heralds the beginning of a series of rites that frighten away old and evil spirits and welcome in good luck for the new year." The rest of the celebration will feature traditional Chinese folk dances, martial arts demonstrations, folksongs, music, swordplay, magic and mime.

The Chinese New Year is traditionally the greatest and longest holiday of the year for the Chinese people. Elaborate festivities mark the celebration of the Lunar New Year—lavish feasts, family unions, gift-giving, fireworks and lion dances.

Faculty/Staff Blood Drive Tops Quota

The Faculty/Staff Blood Drive, which was held Jan. 18 on campus, went over the top, as 211 people, including 27 first time donors, gave blood.

"The level of participation was outstanding and represents 141 percent of the goal for the drive," said Ron Loomis, director of Unions and Activities, coordinator of the blood drive.

"The Red Cross is particularly grateful to be able to replenish its supply during this period when students, who are usually good donor sources, are away. We are all grateful to Cornell's faculty and staff members who contributed to the success of the drive."

SAGE CHAPEL

Rabbi To Give Talk At Convocation

Rabbi Zalman Schachter-Shalomi will speak at the Sage Chapel Convocation at 11 a.m. Sunday, Jan. 30. His sermon topic will be "The Only Way To Get It Together Is Together."

Schachter is a professor in Jewish Mysticism and Psychology of Religion at Temple University and is founder of B'nai Or Fellowship in Philadelphia. Born in Poland in 1924, Schachter was raised in Vienna. After imprisonment in a camp by the Vichy-French government, he came to the United States (in 1941).

Schachter studied at the Lubavitch Yeshiva in Brooklyn and was ordained a rabbi in 1947 at the age of 23. He holds advanced degrees from Boston University and Hebrew Union College.

A leader of the Jewish renewal movement, Schachter has written many articles and books, including "Fragments of a Future Scroll: Hassidism for the Aquarian Age" and "The First Step: A Guide for the New Jewish Spirit."

Music for the service will be provided by the Sage Chapel choir under the direction of Donald R.M. Paterson, university organist and Sage Chapel chiormaster.

Poets to Give Readings Of Their Works Friday

Six area poets will give a public reading of their works at the Commons Coffeehouse in Anabel Taylor Hall on the Cornell University campus starting at 9 p.m. Friday.

The poets are Bethany Schroeder, Diane Freedman, Fred Woodland, Cory Brown, Judy Berger and David Burak (the last with Greg King on guitar).

The event is sponsored by the Creative Writing Committee at Cornell, Ithaca Community Poets and Poets Anomalous.

The Week in Sports

Heavy Slate for Men, Women

Double action involving the men's and women's teams in basketball, track and swimming, and the first two Ivy League matches of the season for the wrestling squad, highlight a busy home schedule for Cornell athletic teams this weekend. In all, there are 10 events slated on campus from Friday evening through Sunday afternoon.

The Big Red wrestlers kick things off on Friday with a dual meet against Princeton at 5:30 p.m. in Teagle Hall, and Cornell then plays host to Penn Saturday afternoon at 3:30. Cornell is currently 2-3 in dual meet action. It comes off a fourth place finish at the New York state championships last Saturday, when junior Mike Mankowich and sophomore Pat Welch captured state titles at 158 and 150 pounds, respectively.

The Cornell's men's and women's basketball teams have a doubleheader planned for Saturday evening at Barton Hall. The women entertain Vermont at 6 p.m., followed by the men's game with Columbia at 8. The women's team, which played Ithaca College on Monday and Utica College on Wednesday, upped its record to 6-7 overall with an 80-33 rout of Barnard on Saturday. Senior Rhonda Anderson had 24 points and eight rebounds, while Julie Crotty and Karin Dwyer added 12 and 11 points, respectively.

The men's team will be out to avenge a 52-42 loss to Columbia in New York last Saturday. It was the first Ivy loss of the year for the Big Red, which had a 6-8 overall mark going into Tuesday's contest with Utica College.

The men's and women's swimming teams will both take on Yale Saturday at the Teagle Hall pool. The men face the Elis at 1 p.m., while the women's meet is scheduled for 4 p.m. The men won their first Eastern League meet of the season last week with an 81-32 victory over Pennsylvania. The women come off a 75-25 defeat of Barnard on Saturday, which raised their overall record to 4-2.

On Sunday afternoon, the men's and women's track teams will both have their first dual meet of the season against Army starting at 1 p.m. in Barton Hall. Last year at West Point, the men's squad lost to the Cadets, 76-60, while the women won their meet, 33½-22½.

The women's gymnastics team returns home for a triangular meet on Saturday, taking on East Stroudsburg and Temple at 12 p.m. in Teagle Hall. The Big Red gymnasts raised their record to 3-1 last Saturday as they defeated both Rhode Island and Springfield at Rhode Island. Cornell scored a team total of 156.55 points and was led by junior Ellen Mayer, who won three events. Mayer placed first on vaulting (9.10), balance beam (8.2) and floor exercise (8.35), while finishing second in the all-around competition (31.95 points).

The men's and women's polo teams will both meet Skidmore this weekend at the Oxley Polo Arena. The women play at 7:30 p.m. on Friday, and the men square off at 8:15 Saturday evening. The women's hockey team will have two home games during the week. On Saturday, the Big Red entertains Yale at 2 p.m., while Potsdam comes into Lynah Rink at 7:30 p.m. Tuesday.

In addition, there will be double action for the men and women in both gymnastics and swimming in Teagle Hall on Wednesday. The swimmers have a meet scheduled with Syracuse, starting at six o'clock, while the men's and women's gymnasts compete against Cortland State at 7:30.