

INDEPENDENT DIVISIONS
AND DEPARTMENTS

1957-1958

CORNELL UNIVERSITY ANNOUNCEMENTS

Published by Cornell University at Ithaca, New York, every two weeks throughout the calendar year. Volume 48. Number 24. May 20, 1957. Second-class mail privileges authorized at the post office at Ithaca, New York, December 14, 1916, under the act of August 24, 1912.

CONTENTS

Academic Calendar	<i>Inside front cover</i>
The Independent Divisions	3
Division of Extramural Courses	3
Division of Unclassified Students	3
The Independent Departments	5
University Faculty Requirements	5
Physical Education	6
Military Training	6
Military Science and Tactics	9
Air Science	11
Naval Science	13
Physical Education	16
Courses for Men	16
Courses for Women	17
Clinical and Preventive Medicine	20
Faculty	21-23
List of Announcements	<i>Inside back cover</i>

THE INDEPENDENT DIVISIONS

THE DIVISION OF EXTRAMURAL COURSES

CORNELL University offers credit courses through its Division of Extramural Courses for persons who are unable to devote full time as students in any one of the schools or colleges of the University. Persons served in this manner are nonresident in the usual sense applied to the full-time student, are employed in the professions, in industry, in business, in public service, or otherwise, and for such reasons are unable to undertake full-time resident registration.

Courses are made available to students in off-campus centers and in regularly scheduled on-campus classes. In the first instance, the course is taught in an off-campus center located to accommodate students in sufficient number to warrant the offering. Registration for on-campus courses is available to students who commute to the campus.

Extramural students may register for any course in the University for which they have adequate preparation and for which they have the instructor's permission to enroll. The maximum registration permitted for a student in any term is two courses totaling not more than seven credit hours.

THE DIVISION OF UNCLASSIFIED STUDENTS

The Division of Unclassified Students is designed to assist the potentially able student whose basic interests and aptitudes lie outside the course in which he originally enrolled. Any student who has been in residence as a candidate for a degree in any of the colleges or schools of the University may apply for admission.

The Division accepts applications for either semester. The student who feels that he is misplaced or is uncertain of his objective should consult the Director as early as possible in his college career. After the sophomore year it is generally very difficult to effect a transfer.

Application should be made at the Office of the Director in Day Hall. In addition, the student must notify the Registrar of his desire to transfer. The Administrative Committee prefers that applications be filed at least three or four weeks before the opening of either semester. At mid-year, the student who makes application after he has been dropped is not in a position to make a strong case for himself.

Each student admitted to the Division is assigned a faculty adviser who will normally but not necessarily be a member of the Administrative Committee of the Division. As far as possible, the adviser will be a member of the faculty of the school or college in which the student hopes to register. An unclassified student may, with the approval of his adviser, elect courses for which he is qualified in any division of the University, subject, however, to the usual limitations on enrollment.

A student registered in the Division may apply for admission to any college or school of the University. In considering his application, the admissions committee of the school or college to which he applies will consult with the Director of the Division and the student's adviser and will take into consideration their recommendations and the quality of the work which the student has done during his registration in the Division. If at the end of two terms, he has not been accepted as a candidate for a degree in a school or college of the University, he may not be permitted to reregister in the Division except by special action of the Administrative Committee.

The Administrative Committee has the same authority to admit students, drop them, place them on probation, or remove them from probation that is exercised by a special faculty with respect to the students of its college. Students in the Division are regular students in the University; if in good standing they may participate, like any other students, in extracurricular activities.

THE INDEPENDENT DEPARTMENTS

THE FOLLOWING information concerns the courses of instruction offered by the Departments of Military Science and Tactics, Air Science, Naval Science, Physical Education, and Clinical and Preventive Medicine. These departments are similar in that they serve the entire University and are not divisions of any school or college.

CREDITS. . . In the course descriptions that follow, the academic credit indicated will be recorded by the University Registrar for the successful completion of each course. Whether or not credit thus recorded will be counted by a college or school in satisfaction of its requirements for a particular degree is determined, however, by the faculty of the school or college concerned. For this information, the student should consult the Announcement of the academic division in which he is enrolled.*

UNIVERSITY FACULTY REQUIREMENTS

The University faculty has established certain requirements for a baccalaureate degree in addition to those prescribed by the faculty of the school or college which administers the degree. These requirements are administered by the Committee on Requirements for Graduation. Any student who wishes to consult the Committee concerning his status should first consult the member of the Committee who represents the school or college in which he is enrolled. The Committee consists of the following:

- Dean C. A. Hanson (University Faculty), Chairman
- Professor J. O. Mahoney (College of Architecture)
- Director A. W. Gibson (College of Agriculture)
- Professor James Campbell (School of Industrial and Labor Relations)
- Director H. J. Loberg (College of Engineering)
- Dean H. B. Meek (School of Hotel Administration)
- Professor Peter Olafson (Veterinary College)
- Assistant Dean R. L. Perry (College of Arts and Sciences)
- Director B. L. Rideout (Division of Unclassified Students)
- Professor Esther Stocks (College of Home Economics)

*An enrolled student may obtain the Announcement of any academic division by inquiring at the administrative office of his own division. A prospective student should write to the Announcements Office, Edmund Ezra Day Hall.

THE REQUIREMENT IN PHYSICAL EDUCATION... The University faculty has established the following requirements in physical education for all students:

1. All undergraduate students must complete four terms of work, three hours a week, in physical education.
2. The requirement in physical education is a requirement of the first four terms, and postponements are to be allowed only by consent of the University Faculty Committee on Requirements for Graduation.
3. Exemptions from the requirement may be made by the Committee on Requirements for Graduation when recommended by the Medical Office or by the Department of Physical Education, or because of unusual conditions of age, residence, or outside responsibilities. An exemption recommended by the Department of Physical Education shall be given only to students who meet standards of physical condition established by the Department of Physical Education and approved by the Committee on Requirements for Graduation. Students who have been discharged from the armed forces may be exempted.
4. For students entering with advanced standing, the number of terms of physical education required is to be reduced by the number of terms which the student has satisfactorily completed (not necessarily including physical education) in a college of recognized standing.
5. Responsibility for the interpretation of the requirement and for its application in individual cases is placed upon the Committee on Requirements for Graduation.

The University requirement in physical education may be satisfied by four terms of work in the Department of Physical Education. For this purpose Physical Education 1, 2, 3, and 4 are available to men and Physical Education 51, 52, 53, and 54 to women.

THE REQUIREMENT IN MILITARY TRAINING... The University Faculty has established the following requirement in military training for male students.

1. All undergraduate men students must complete four terms of work, three hours a week, in military training.
2. The requirement in military training is a requirement of the first four terms, and postponements are to be allowed only with the consent of the University Faculty Committee on Requirements for Graduation.
3. Students who are unable to meet the minimum physical standards established by the armed forces for admission to the basic courses in military training or who are ineligible for such courses under other regulations of the armed forces shall be exempt. In the discretion of the Committee on Requirements for Graduation, exemptions from the requirements may be granted to aliens and conscientious objectors. It

is recognized, moreover, that some other conditions, such as those of age, residence, or unusual outside responsibilities, may be accepted by the Committee as bases for exemption.

4. The requirement may be offset by work taken in military science in institutions of recognized collegiate standing and in military schools approved in this regard by the Department of the Army or the Department of the Air Force.

5. For students entering with advanced standing, the number of terms of military training required is to be reduced by the number of terms which the student has satisfactorily completed (not necessarily including military service) in a college of recognized standing.

6. Responsibility for the interpretation of the requirement and for its application in individual cases is placed upon the Committee on Requirements for Graduation.

7. Students who have been enrolled in the armed services may be exempted from the requirement in military training by virtue of such service.

8. A special student admitted for a period of less than two years is exempted from the requirement in military training during that period.

9. Any student who is enrolled in a regularly constituted reserve component of the armed forces and who is pursuing a training program approved by the Committee on Requirements for Graduation may be allowed to postpone the satisfaction of the military training requirement while he is so enrolled, and any student who satisfactorily completes twelve months in such a program shall have thereby satisfied two terms of the University military training requirement.

10. Any student who has satisfactorily completed four terms of the NROTC Program will have satisfied the University requirement in military training, and any student registered in the NROTC Program may postpone the military training requirement for the term in which he is so registered.

11. Any student registered in the Big Red Band may postpone the military training requirement for the term in which he is so registered, and any student who satisfactorily completes a term of work in the Big Red Band shall be deemed to have satisfied one term of the University military training requirement.

The University Faculty requirement in military training may be satisfied by successful completion of work taken in any one of three departments: the Department of Military Science and Tactics, the Department of Air Science, or the Department of Naval Science. Each department offers a four-year course, the first two years of which satisfy the University requirement. An entering student will be assigned to one of these divisions prior to his registration in the University. This

assignment will be made on the basis of his personal choice subject to quota limitations.

Specifically, the requirement may be satisfied:

(a) by four terms of work in the Department of Military Science and Tactics (Military Science 11, 12, 21, and 22); or

(b) by four terms of work in the Department of Air Science (Air Science 1, 2, 3, 4); or

(c) by four terms of academic work (Naval Science 101, 102, 201, and 202) in the Department of Naval Science. (According to their respective contractual agreements with the Navy, Regular and Contract NROTC students are committed to continue in the NROTC program for four years.)

MILITARY SCIENCE AND TACTICS

THE four-year course presented by the Department of Military Science and Tactics has two objectives. The first is to promote national defense by laying the foundation of a citizenship which is cognizant and capable of fulfilling its military responsibilities to the country. The second is to produce junior officers who by their education, training, and inherent qualities are suitable for continued development as officers in the United States Army. Training in military leadership will be emphasized. Instruction will be given in subjects common to all branches of the Army.

The first two years of this course, Basic ROTC, are part of the University requirements for a baccalaureate degree unless the student satisfies this requirement by other means. Pre-Veterinary students will comply with University requirements for Basic ROTC. The third and fourth years, Advanced ROTC, are elective and qualify a student for appointment as Second Lieutenant in the U.S. Army Reserve or the Regular Army. Entering students who have had ROTC training in secondary or military schools are requested to bring DD Form 131 (Student's Record—ROTC) for presentation to the Military Department at the time of registration.

All students will take the general military science curriculum. Basic Course students take one hour of school of the soldier and exercise of command and two hours of classroom or laboratory work per week. Those students who elect the Advanced Course take not less than one hour of school of the soldier and exercise of command and four hours of classroom or laboratory work per week.

11. *BASIC ROTC*. Fall term. Credit two hours. Hours: classroom or laboratories M W 8, 9, 10, 11, or 12; or T Th 8, 9, 10, 11 or 12; and school of the soldier and exercise of command M T W or Th 2. Examinations M 5 p.m. when appropriate.

Two hours a week of classroom and practical application in organization of the Army, and individual weapons and marksmanship.

12. *BASIC ROTC*. Spring term. Credit two hours. Prerequisite, MS 11. Hours: classroom or laboratories M W 8, 9, 10, 11, or 12; or T Th 8, 9, 10, 11, or 12; and school of the soldier and exercise of command M T W or Th 2. Examinations M 5 p.m. when appropriate.

Two hours a week of classroom and practical application in American military history.

21. *BASIC ROTC*. Fall term. Credit two hours. Prerequisite, MS 12. Hours: classroom or laboratories M W 8, 10, 11, or 12; or T Th 8, 9, 11, or 12; and school

of the soldier and exercise of command M T W or Th 2. Examinations T 5 p.m. when appropriate.

Two hours a week of classroom and practical application in map reading, and crew-served weapons and gunnery.

22. *BASIC ROTC*. Spring term. Credit two hours. Prerequisite, MS 21. Hours: classroom or laboratories M W 8, 10, 11, or 12; or T Th 8, 9, 11, or 12; and school of the soldier and exercise of command M T W or Th 2. Examinations T 5 p.m. when appropriate.

Two hours a week of classroom and practical application in crew-served weapons and gunnery.

31. *ADVANCED ROTC*. Fall term. Credit three hours. Prerequisite, MS 22. Hours: classroom or laboratories M W F 8, 10, or 11; or T Th S 9; and school of the soldier and exercise of command M T W or Th 2 and 3. Examinations Th 5 p.m. when appropriate.

Four hours a week of classroom and practical application in leadership, military teaching methods, and organization, functions, and missions of the arms and services.

32. *ADVANCED ROTC*. Spring term. Credit three hours. Prerequisite, MS 31. Hours: classroom or laboratories M W F 8, 10, or 11; or T Th S 9; and school of the soldier and exercise of command M T W or Th 2 and 3. Examinations Th 5 p.m. when appropriate.

Four hours a week of classroom and practical application in small unit tactics and communications.

41. *ADVANCED ROTC*. Fall term. Credit three hours. Prerequisite, MS 32. Hours: classroom or laboratories M W F 8, 9, 12; or T Th S 10; and school of the soldier and exercise of command M T W or Th 2 and 3. Examinations W 5 p.m. when appropriate.

Four hours a week of classroom and practical application in operations and logistics.

42. *ADVANCED ROTC*. Spring term. Credit three hours. Prerequisite, MS 41. Hours: classroom or laboratories M W F 8, 9, 12; or T Th S 10; and school of the soldier and exercise of command M T W or Th 2 and 3. Examinations W 5 p.m. when appropriate.

Four hours a week of classroom and practical application in military administration and personnel management and service orientation.

AIR SCIENCE

THE students enrolled in courses in the Department of Air Science constitute the Cornell Unit of the Air Force Reserve Officers' Training Corps.

The course of study is divided into the Basic Course covering the first two years and the Advanced Course covering the junior year, Summer Camp, and senior year in that order. Blocks of instruction total 480 hours, allocated as follows: freshman and sophomore years—90 hours each; junior and senior years—150 hours each. In addition, the Summer Camp provides 232 hours.

This course is designed to fulfill required academic standards in order that cadets may receive credit in proportion to their academic load; to provide that fundamental training, both personal and professional, which will best fit the cadet to become a well-rounded junior Air Force officer possessing a high growth potential.

The Basic Course was designed with two additional objectives in mind: first, to interest the cadet in continuing in Air Force ROTC, and second, to prepare him along lines that will prove of long-range value to the Air Force whether he returns to civil life or becomes a member of the U.S. Air Force.

1. *BASIC AIR FORCE ROTC*. Fall term. Credit two hours. Hours: M W 8, 9, 10, 11, 12, or 2; T Th 8, 9, 10, 11, 12, or 2; and, in addition, M T W or Th 3.

Two hours a week of instruction in introduction to aviation, fundamentals of global geography, and one hour a week of basic military training.

2. *BASIC AIR FORCE ROTC*. Spring term. Credit two hours. Prerequisite, Basic Air Force ROTC 1. Hours: M W 8, 9, 10, 11, 12, or 2; T Th 8, 9, 10, 11, 12, or 2; and, in addition, M T W or Th 3.

Two hours a week of instruction in international tensions and security organizations and instruments of national military security, and one hour a week of basic military training.

3. *BASIC AIR FORCE ROTC*. Fall term. Credit two hours. Prerequisite, Basic Air Force ROTC 2. Hours: M W 8, 9, 10, 11, 12, or 2; T Th 8, 9, 10, 11, 12, or 2; and, in addition, M T W or Th 3.

Two hours a week of instruction in elements of aerial warfare to include targets, weapons, and aircraft. One hour a week of leadership laboratory.

4. *BASIC AIR FORCE ROTC*. Spring term. Credit two hours. Prerequisite, Basic Air Force ROTC 3. Hours: M W 8, 9, 10, 11, 12, or 2; T Th 8, 9, 10, 11, 12, or 2; and, in addition, M T W or Th 3.

Two hours a week of instruction in elements of aerial warfare to include bases, operations, and careers. One hour a week of leadership laboratory.

5. *ADVANCED AIR FORCE ROTC*. Fall term. Credit three hours. Prerequisite, Basic Air Force ROTC 4. Hours: M W F 9, 10, or 11, and M T W or Th 2; and in addition M T W or Th 3.

Four hours a week of instruction of AF command and staff, problem-solving techniques, communications process and Air Force correspondence, and military law, courts, and boards. One hour a week of instruction in the leadership laboratory.

6. *ADVANCED AIR FORCE ROTC*. Spring term. Credit three hours. Prerequisite, Advanced Air Force ROTC 5. Hours: M W F 9, 10, or 11; and M T W or Th 2; and in addition M T W or Th 3.

Four hours a week of instruction in elements of aerial warfare and careers in the USAF. One hour a week of instruction in the leadership laboratory.

7. *ADVANCED AIR FORCE ROTC*. Fall term. Credit three hours. Prerequisite, Advanced Air Force ROTC 6. Hours: M W F 9, 11, or 12; and M T W or Th 2; and in addition M T W or Th 3.

Four hours a week in leadership seminar, career guidance, military aviation, and the evaluation of warfare. One hour of instruction a week in the leadership laboratory.

8. *ADVANCED AIR FORCE ROTC*. Spring term. Credit three hours. Prerequisite, Advanced Air Force ROTC 7. Hours: M W F 9, 11, or 12; and M T W or Th 2-4.

Four hours of instruction a week in military aspects of world political geography, and briefing for commissioned service. One hour a week of instruction in the leadership laboratory.

NAVAL SCIENCE

THE Department of Naval Science offers a four-year course in Naval and Marine Corps subjects which can be integrated into almost any major field of academic study to qualify the student upon graduation for a commission as Ensign, U.S. Navy; Ensign, U.S. Naval Reserve; Second Lieutenant, U.S. Marine Corps; or Second Lieutenant, U.S. Marine Corps Reserve. The course requires attendance at three one-hour classes and one two-hour laboratory session each week and participation in at least one summer cruise of about six weeks' duration. The student is required to accept a commission and report for a period of obligated active service immediately on attainment of his first baccalaureate degree. Upon acceptance in the course, he is placed in a draft-deferred status until graduation.

In order to register for Naval Science, the student must enroll in the Naval ROTC Unit (Department of Naval Science) either as a Regular NROTC student or as a Contract NROTC student. In either case, he must be a male citizen of the United States; he must have reached his seventeenth and not have passed his twenty-first birthday on July 1 of the entering year; he must be unmarried, never have been married, and agree to remain unmarried until commissioned. He must pass the same physical examination given for entrance into the U.S. Naval Academy. Contract NROTC students may have 20/40 eyesight if corrected with glasses to 20/20. If he matriculates in a major field of study requiring five years for a first baccalaureate degree, he must not have passed his twentieth birthday on July 1 of the entering year, and he will be placed in a leave status with respect to the Department of Naval Science (deferment continues) during one of the five years.

REGULAR NROTC STUDENTS are selected annually by State Selection Committees on the basis of a nationwide competitive examination. They are ordered to Cornell University by the Department of the Navy. They are enrolled as Midshipmen, U.S. Naval Reserve, upon matriculating, and they receive free tuition, books, fees, and uniforms, and retainer pay at the rate of \$50 a month while pursuing the four-year course. They are required to participate in three summer cruises of six to eight weeks' duration. On graduation, they are commissioned Ensign, U.S. Navy, or Second Lieutenant, U.S. Marine Corps, and are required to serve on active duty up to four years. During their third year of active duty, they may apply for retention in the Regular Navy or Marine

Corps. If selected, they will continue in the service as career officers. If they elect to terminate their Regular status, they will be placed on inactive duty in the Reserve Component until their commissioned service (active and inactive) totals six years.

CONTRACT NROTC STUDENTS are selected annually during freshman Orientation by the Department of Naval Science at Cornell from among the entering freshmen who apply. They are enrolled as civilians by executing a contract with the Navy upon matriculating, and they receive free Naval Science textbooks and uniforms for four years, and a subsistence allowance of about \$27 per month during their last two years. They are required to participate in one summer cruise of about six weeks' duration immediately following their third year of Naval Science. Upon graduation, they are commissioned Ensigns, U.S. Naval Reserve, or Second Lieutenants, U.S. Marine Corps Reserve, and may be required to serve on active duty up to two years. If not assigned to active duty, they will be placed in an inactive status but are obligated to serve a total of six years (active and inactive) as commissioned officers. Entering freshmen who desire to enroll as Contract NROTC students should apply at the Naval ROTC unit (Department of Naval Science) in Barton Hall September 18-21, 1957. The number of students who can be accepted is limited by quota set by the Department of the Navy.

For further information write to the Professor of Naval Science, Naval ROTC Unit, Cornell University, Ithaca.

101. *SEAPOWERS AND ORIENTATION*. Fall term. Credit 3 hours. Lecture/recitation M W F 9 or 11; T Th S 9; laboratory W or Th 2-4.

A study of the organization of the Department of Defense, the customs and the traditions of the Navy, and naval leadership; basic seamanship and the various types of naval forces; introduction to factors contained in the analysis of seapower. Required of all first-term Naval ROTC students.

102. *SEAPOWERS AND ORIENTATION*. Spring term. Credit 3 hours. Lecture/recitation M W F 9 or 11; T Th S 9; laboratory W or Th 2-4.

Continuation of study in the analysis of seapower. A study of seapower's influence upon global history. The future employment of seapower. Basic shiphandling. Required of all second-term Naval ROTC students.

201. *NAVAL WEAPONS*. Fall term. Credit 3 hours. Lecture/recitation M W F 9, 10, or 11; T Th S 9; laboratory W or Th 2-4.

A study of naval weapons and explosives. Required of all third-term Naval ROTC students.

202. *NAVAL WEAPONS*. Spring term. Credit 3 hours. Lecture/recitation M W F 9, 10, or 11; T Th S 9; laboratory W or Th 2-4.

A study of fire control systems, radar, sonar, and guided missiles. Required of all fourth-term Naval ROTC students.

301. *NAVAL MACHINERY*. Fall term. Credit 3 hours. Lecture/recitation M W F 9 or 10; T Th S 9; laboratory W or Th 2-4.

A study of the different types of naval engineering propulsion plants and of the principles of ship stability and buoyancy in the practice of damage control. Required of all fifth-term Naval ROTC students except Marine Corps candidates.

301M. *EVOLUTION OF THE ART OF WAR*. Fall term. Credit 3 hours. Lecture/recitation 3 hours a week as arranged; laboratory W or Th 2-4.

A survey of the historical development of weapons, tactics, and material; the classic principles of war illustrated by a study of selected battles and campaigns. Required of all fifth-term Naval ROTC students who are candidates for Marine Corps commissions.

302. *NAVIGATION*. Spring term. Credit 3 hours. Lecture/recitation M W F 9, or 10; T Th S 9; laboratory W or Th 2-4.

A study of the theory and technique of celestial and terrestrial navigation; dead reckoning, piloting, and use of navigational instruments. Required of all sixth-term Naval ROTC students except Marine Corps candidates.

302M. *MODERN BASIC STRATEGY AND TACTICS*. Spring term. Credit 3 hours. Lecture/recitation 3 hours a week as arranged; laboratory W or Th 2-4.

A survey of modern strategical and tactical principles, using contemporary historical events as illustrative material. Required of all sixth-term Naval ROTC students who are candidates for Marine Corps commissions.

401. *NAVAL OPERATIONS*. Fall term. Credit 3 hours. Lecture/recitation M W F 9 or 11; T Th S 9; laboratory W or Th 2-4.

A study of shipboard operations, including maneuvering board, tactical communications and instructions, rules of the nautical road, and the operational importance of weather and of fleet communications. Required of all seventh-term Naval ROTC students except Marine Corps candidates.

401M. *AMPHIBIOUS WARFARE, PART I*. Fall term. Credit 3 hours. Lecture/recitation 3 hours a week as arranged; laboratory W or Th 2-4.

A detailed study of the technique and history of amphibious warfare. Required of all seventh-term Naval ROTC students who are candidates for Marine Corps commissions.

402. *NAVAL ADMINISTRATION*. Spring term. Credit 3 hours. Lecture/recitation M W F 9, or 11; T Th S 9; laboratory W or Th 2-4.

A study of naval administration and procedures; the procedures for and the responsibility of an officer in the administration of naval justice; and the psychology of leadership. Required of all eighth-term Naval ROTC students except Marine Corps candidates.

402M. *AMPHIBIOUS WARFARE, PART II; LEADERSHIP AND NAVAL JUSTICE*. Spring term. Credit 3 hours. Lecture/recitation 3 hours a week as arranged; laboratory W or Th 2-4.

A continued study of the techniques of amphibious warfare; the procedures for and the responsibility of an officer in the administration of naval justice; the psychology of leadership. Required of all eighth-term Naval ROTC students who are candidates for Marine Corps commissions.

PHYSICAL EDUCATION

COURSES FOR MEN

ALL entering students are given a preregistration physical examination by their family physician. The Department of Clinical and Preventive Medicine prescribes individual work in corrective physical education when the need is evident.

All entering students are required to take a swimming test—to jump into deep water and swim 50 yards. Those who do not successfully complete the test will be assigned to Swimming Instruction. Those who pass the test will be assigned to regular physical education classes.

The program for the first year includes physical conditioning and an emphasis upon introducing students to a broad field of activities, particularly carry-over sports. In the second year the student will have an opportunity to participate in an activity program, selected from individual or team sports, or physical education classes.

SPECIFIC COURSES

1. *BASIC PHYSICAL EDUCATION*. Open to freshmen only. Three hours a week. M T W Th F, 9, 10, 11, 12, 2, 3; S 9, 10, 11. TEAGLE HALL.

2. *BEGINNERS' SWIMMING*. Open only to those who have not passed the swimming test. Three hours a week, M T W Th F 9, 10, 12, 2. TEAGLE HALL.

3. *CORRECTIVES*. Open to students recommended by Department of Clinical and Preventive Medicine. Three hours a week as assigned at Barton Hall on registration day.

4. *TEAM SPORTS (INTERCOLLEGIATE)*. Open only to those freshmen and sophomores already registered with the coach. New candidates will have to make the squad before credit can be obtained for physical education.

ELECTIVE PROGRAM

5. *ADVANCED SWIMMING*. Open only to those who have passed two terms of P.E. Two hours a week. Fall term at 2 and 3. Spring term at 11, 2, 3. M T W Th F. TEAGLE HALL.

6. *BADMINTON*. Open only to those who have passed two terms of P.E. Two hours a week. M T W Th F 9, 10, 11, 12. BARTON HALL.

7. *BASKETBALL*. Open only to those who have passed two terms of P.E. Two hours a week. M T W Th F 9, 10, 11, 12, 4, 5. BARTON HALL.

8. *BOWLING*. Open only to those who have passed two terms of P.E. Two periods a week; 2 lines a period. M 2, 3; T W Th F 2, 3, 4. Fee, 35 cents a line. BOWL-ODROME, West State St.

9. *BOXING*. Open only to those who have passed two terms of P.E. M W F 4:30 only. TEAGLE HALL.

10. *GOLF (INDOOR)*. Open only to those who have passed two terms of P.E. Professional instruction; equipment furnished. Two hours a week. M T W Th F S 9, 10, 11, 12. Nov. 5 to Jan. 18, Feb. 10 through March 29 only. Fee \$5. BACON CAGE.

11. *GOLF (OUTDOOR)*. Open only to those who have passed two terms of P.E. and have played golf. Two days (9 holes per day). Sept. 25 to Nov. 2. April 7 through May 24. Fee, \$10 a term or \$1 daily greens fee. UNIVERSITY GOLF SCHOOL.

12. *SQUASH*. Open only to those who have passed two terms of P.E. Two hours a week as assigned. M T W Th F S 9 a.m. through 9:30 p.m. SQUASH COURTS.

13. *PERSHING RIFLES*. Open only to those who have passed two terms of P.E. and are already members of Pershing Rifles.

14. *VOLLEYBALL*. Open only to those who have passed two terms of P.E. Two hours a week. M T W Th F 9, 10, 11, 12. BARTON HALL.

15. *WATER SAFETY—ARC SENIOR LIFESAVING*. Open only to those who have passed two terms of P.E. Limited to forty men. Begins April 1, 1957. Preregister for lifesaving at Barton Hall.

16. *TENNIS*. Open only to those who have passed two terms of P.E. 3 hours a week. Sept. 25 to Nov. 2; Apr. 7 to May 24. M T W Th F 2, 3, 4. UPPER ALUMNI COURTS.

17. *WEIGHT LIFTING*. Open only to those who have passed two terms of P.E. Two hours a week. M T W Th F 4, 5. TEAGLE HALL.

18. *EQUITATION*. Open only to those who have passed two terms of P.E. Two hours a week by appointment made at Barton Hall on registration day.

19. *MARCHING BAND*. Fall term only. As assigned by Band Director.

COURSES FOR WOMEN

An orthopedic examination and motor ability tests are required of all freshman and sophomore transfers during the first week of the fall term.

All students, with the exception of those classified under (a) below, are required to take Physical Education 51 during the fall or spring term of the freshman year.

(a) Those whose physical, orthopedic, or motor ability examinations indicate a need for individual instruction or restricted activity are assigned to Physical Education 53 or to specially designated activities in Physical Education 54.

Physical Education 52 is required of all physically qualified students immediately following the completion of Physical Education 51. During the remainder of the two-year requirement any of the activities offered may be selected. Juniors and seniors may register without credit for activities of their choice.

51. *FUNDAMENTALS*. Either term. Three periods a week as arranged. Eight weeks of indoor work and seven weeks of an outdoor sport selected from Physical Education 54. The indoor work is devoted to exercises for improving body control and discussion of the role of exercise, correct use of the body, and health habits in maintaining physical fitness.

52. *ELEMENTARY DANCE*. Either term. Prerequisite, Physical Education 51. Three hours a week as arranged.

Seven weeks during the outdoor season and eight weeks of an indoor activity selected from Physical Education 54, or eight weeks during the indoor season and seven weeks of an outdoor sport selected from Physical Education 54.

A study of a rhythmic basis for elementary movement with emphasis on body control. The aims are to extend the student's natural movement facility and to stimulate a better understanding of dance as an art form through discussion and the presentation of dance in concert, lecture, and films.

53. *INDIVIDUAL GYMNASTICS (CORRECTIVES)*. Either term. Open only to students recommended by the Medical or Physical Education staff. Three periods a week as arranged.

Eight weeks of indoor work consisting of prescribed exercises adapted to the individual student's needs and seven weeks of an outdoor sport.

54. *ACTIVITIES*. Either term. Three hours a week as arranged. Eight weeks devoted to an indoor activity and seven weeks to an outdoor activity.

Outdoor: Fall term: archery, golf, hockey, lacrosse, tennis. Spring term: achery, canoeing, golf, lacrosse, tennis.

Indoor: Badminton, basketball, bowling, golf, square and folk dancing, instructors' lifesaving, senior lifesaving, volleyball, and swimming.

Throughout the term (15 weeks): riding, intermediate dance (prerequisite, Physical Education 52).

100. *CAMP COUNSELOR TRAINING*. Spring term. Credit two hours. Lectures and laboratory F 2-4:30.

A study of the aims and values of camping; types, organization, and administration of camps; qualifications and responsibilities of the counselor. Consideration given to camp activities, including music, games, and arts and crafts. Practical experience in learning and using campcraft skills. Consent of the instructor required.

THE DANCE

The following courses are designed to offer background in the history of the dance and experience in composition of dance forms and in technique of dance movement. In addition to the assigned meetings, there is a rehearsal schedule to meet production demands throughout the term.

200. *PRECLASSIC DANCE FORMS*. Either term. Credit three hours. Consent of the instructor. M 4:30, T 4:30, Th 7:30. Miss ATHERTON and Staff.

201. *MODERN DANCE FORMS*. Either term. Credit three hours. Prerequisite, Dance 200. M 4:30, T 4:30, Th 7:30. Miss ATHERTON and Staff.

202. *CHOREOGRAPHY FOR SOLO AND GROUP*. Either term. Credit three hours. Prerequisite, Dance 201. M 4:30, T 4:30, Th 7:30. Miss ATHERTON and Staff.

203-204. *INFORMAL STUDY*. Either term or throughout the year. Credit three hours. Open only to exceptionally qualified students. Prerequisite, Dance 202 and consent of the instructor. Hours to be arranged. Miss ATHERTON.

CORNELL SCHOOL OF HORSEMANSHIP

Class instruction in forward seat once weekly by an accredited instructor: basic, intermediate, advanced.

Material covered: hands and seat, walk, trot, canter, elementary dressage, jumping, and cross country riding. For men, physical education credit is given for this course as an elective in the sophomore year. Classes are held in an indoor heated riding hall, outdoor rings, and cross country.

Consult the Director of Equitation for specific information.

CLINICAL AND PREVENTIVE MEDICINE

THE Department of Clinical and Preventive Medicine, besides offering clinical services for students who are ill, contributes to their total educational experience by offering academic courses.

376. *PUBLIC HEALTH NUTRITION TECHNIQUES*. Spring term. Credit one hour. Registration by consent of instructor. Hours to be arranged. SAVAGE HALL.

A discussion of the function of the public health nutritionist in official and voluntary agencies at the national, state, and local levels and a study of various techniques employed in executing a nutrition program, such as low-cost budgeting, racial diet patterns, interviewing, evaluation and preparation of educational materials and visual aids, clinic procedures, consultation to institutions, and nutrition education in schools.

381-382. *FIELD OBSERVATION AND EXPERIENCE IN COMMUNITY NUTRITION*. Given throughout the year, either or both terms. Credit two hours a term. Prerequisite or parallel, C.P.M. 376. Registration by consent of the instructor. For School of Nutrition and Graduate School students. Two half-days a week as arranged.

Supervised observation and experience in the community nutrition program of a county health unit. Supervision is provided by a qualified nutritionist.

392. *CLINICAL AND PUBLIC HEALTH NUTRITION*. Spring term. Credit two hours. Prerequisites, a course in nutrition, in physiology, and in biochemistry. Registration by permission of instructor. For Graduate School of Nutrition and Graduate School students. T Th 12. SAVAGE HALL 145. Miss YOUNG and members of the medical staff.

Designed to familiarize the student with some of the applications of nutrition to clinical and public health problems.

401. *RESEARCH METHODS SEMINAR*. Fall. Credit two hours. Mr. SUMMERSKILL and faculty in various fields of research. Th 3-5. CORNELL INFIRMARY LIBRARY.

This seminar is open to medical residents, graduate students, and staff members. It is intended for clinicians and other professional workers whose training is not primarily in research methods. Seminar leaders are experienced in such fields as philosophy of science, administration of research, experimental design, research methods, statistics, scientific report writing. Research projects in medical and related sciences will be described and demonstrated, and publications will be analyzed for methodology.

FACULTY

Deane W. Malott, A.B., M.B.A., LL.D., *President of the University.*
Carl Arnold Hanson, B.A., Ph.D., *Dean of the Faculty and Chairman
of the Committee on Requirements for Graduation.*

DIVISION OF EXTRAMURAL COURSES

William Arthur Smith, Ph.D., *Director of the Division.*

DIVISION OF UNCLASSIFIED STUDENTS

Blanchard Livingstone Rideout, Ph.D., *Director of the Division.*

ADMINISTRATIVE COMMITTEE

Thomas W. Silk, M.S., *Professor of Hotel Administration.* Term expires
June 30, 1957.

Alfred E. Kahn, Ph.D., *Associate Professor of Economics.* Term expires
June 30, 1958.

Thomas C. Watkins, Ph.D., *Professor of Economic Entomology.* Term
expires June 30, 1958.

Martin W. Sampson, M.S., *Associate Professor of Mechanical Engi-
neering.* Term expires June 30, 1959.

Archie T. Dotson, Ph.D., *Associate Professor of Government.* Term
expires June 30, 1959.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

Colonel William H. Allen, Jr., *Artillery, U.S. Army, Professor of
Military Science and Tactics.*

ASSOCIATE PROFESSORS

Lieutenant Colonel Clarence N. Kennedy, *Artillery, U. S. Army.*

Lieutenant Colonel Jasper S. Moore, *Quartermaster Corps, U.S. Army.*

Lieutenant Colonel Arthur L. Purcell, *Infantry, U.S. Army.*

ASSISTANT PROFESSORS

Major Herbert W. Coburn, *Signal Corps, U.S. Army.*

Major Rex S. Morgan, *Quartermaster Corps, U.S. Army.*

Captain Fremont R. Burdick, *Infantry, U.S. Army.*

Captain Waldo L. Carbonell, *Ordnance Corps, U.S. Army.*
 Captain Robert A. Meese, *Ordnance Corps, U.S. Army.*
 Captain Harvey D. Williams, *Artillery, U.S. Army.*

INSTRUCTORS

First Lieutenant Anton F. Mayer, *Artillery, U.S. Army.*
 First Lieutenant Shirley R. Heinze, *WAC, U.S. Army.*

DEPARTMENT OF AIR SCIENCE

PROFESSOR

Colonel Gibson E. Sisco, Jr., *U.S. Air Force.*

ASSOCIATE PROFESSOR

Lieutenant Colonel George R. Hahn, *U.S. Air Force.*

ASSISTANT PROFESSORS

Major Kenneth R. Stow, *U.S. Air Force.*
 Captain Andrew P. Iosue, *U.S. Air Force.*
 Captain George T. Lehrman, *U.S. Air Force.*
 Captain John A. Norby, *U.S. Air Force.*
 Captain Leo A. Polinsky, *U.S. Air Force.*
 Captain Donald J. Sheldon, *U.S. Air Force.*

INSTRUCTORS

Captain Edward S. Wright, *U.S. Air Force.*
 First Lieutenant Duane R. Cummings, *U.S. Air Force.*

DEPARTMENT OF NAVAL SCIENCE

Captain Reuben E. Stanley, *U.S. Navy, Professor of Naval Science, and
 Commanding Officer of the Naval ROTC.*

ASSOCIATE PROFESSOR

Commander Robert G. Smith, *U.S. Navy.*

ASSISTANT PROFESSORS

Lieutenant Commander Ralph R. Riley, *U.S. Navy.*
 Major Robert E. Barde, *U.S. Marine Corps.*
 Lieutenant Commander Ralph L. Riley, *U.S. Navy.*
 Lieutenant John F. Tarpey, *U.S. Navy.*
 Lieutenant Jimmie "B" Allred, *U.S. Navy.*
 Lieutenant (j.g.) Neil A. Case, *U.S. Navy.*

INSTRUCTOR

Lieutenant Dale L. Kratzer, *U.S. Navy.*

DEPARTMENT OF PHYSICAL EDUCATION AND ATHLETICS

Robert J. Kane, B.S., *Director of Athletics.*
 Ross H. Smith, B.S., M.Ed., *Director of Physical Education for Men.*
 Miss Dorothy H. Bateman, *Director of Physical Education for Women.*
 C. V. P. Young, A.B., *Professor of Physical Education, Emeritus.*

INSTRUCTORS FOR MEN

L. J. Adesso	Hugh S. MacNeil, B.S.
George L. Cointe, A.B.	T. J. McGory, Jr.
R. L. Cullen, B.S.	E. J. Miller, Jr., B.S.
J. DeLibero	L. C. Montgomery, B.P.E.
P. J. Filley, B.S.	John J. O'Neill, B.S.
J. A. Freeman, M.S.	George D. Patte, B.S.
R. C. Greene, B.S.	Edward G. Ratkoski, B.S.
G. L. Hall	R. H. Sanford, A.B.
John J. Jaffurs, B.S.	Hanley Staley, M.S.
F. J. Kavanagh	T. H. Thoren, B.S.
C. B. Lent, M.S.	Carl Ullrich, B.S.
Richard Lewis, A.B.	John West, M.Ed.
	G. S. Little

INSTRUCTORS FOR WOMEN

Mr. William Ames, M.A.	Mrs. Kerstin Baird, M.A.
Miss May Atherton	Miss Barbara Underhill, M.S.
	Mr. Joseph Zeilic

DEPARTMENT OF CLINICAL AND PREVENTIVE MEDICINE

Norman S. Moore, M.D., <i>Head of the Department of Clinical and Preventive Medicine.</i>	J. W. Hirshfeld, M.D., <i>Research Associate.</i>
Ralph Alexander, M.D.	Jeffrey H. Fryer, M.D.
Temple Burling, M.D.	A. H. Leighton, M.D.
C. Douglas Darling, M.D.	Ethel E. Little, M.D.
Paul Darsie, M.D.	Frances McCormick, A.B., B.N.
Jennette Evans, M.D.	Alexius Rachun, M.D.
Audrey Fallon, M.S.S.W.	Edward C. Showacre, M.D.
Grace Fiala, A.B., <i>Research Associate.</i>	John Summerskill, Ph.D.
Dolores Michaud, <i>Instructor.</i>	Henry B. Wightman, M.D.
Raymond Haring, M.D.	Harold H. Williams, Ph.D., <i>Research Associate.</i>
	Jocelyn Woodman, M.D., <i>Research Associate.</i>
	Charlotte Young, Ph.D.