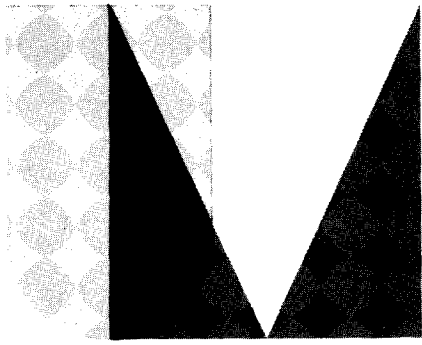
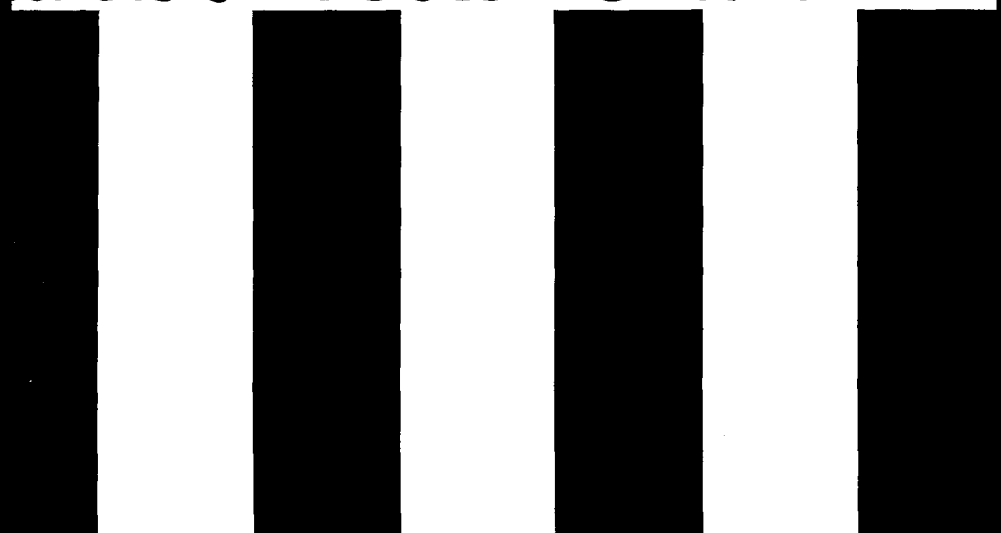


UNIVERSITY
MINNESOTA
BULLETIN

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UNIVERSITY OF MINNESOTA

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Army - Navy - Air Force ROTC

MILITARY SCIENCE

(Army ROTC)

GENERAL INFORMATION

Military science is the Army ROTC program offered at all the nation's land grant colleges, including the University of Minnesota. The purpose of this program is to provide officers for the United States Army.

The Reserve Officers' Training Corps is not a direct component of the Army. It does, however, play an important part in the national defense framework of our nation. In its primary role of producing Reserve officers, it is a vital element in fulfilling the traditional American concept of dependence on a well-trained Reserve rather than a large standing Army.

ROTC at the University

At the University of Minnesota, military science is an elective 2- and 4-year college course which the student may schedule in the same manner as any other elective course in his curriculum. The program, although laid out by the Army and taught by Army instructors, is administered by the University, and academic credits applicable to graduation are given in colleges of the University. Instruction encompasses military fundamentals common to all branches of the Army. The aim is to provide a basic military education and, in conjunction with other college curriculums, to develop individual characteristics and attributes of leadership essential to an officer.

Reserve Commission

Completion of the 2- or 4-year course qualifies the student for appointment as a second lieutenant, United States Army Reserve, concurrently with the granting of his academic degree. The appointment includes an obligation to serve on active duty for a period of 2 years. The student is draft-deferred while enrolled in Army ROTC.

Scholarships and Regular Army Commissions

Military Science students may receive either a 2-year or a 4-year scholarship if he meets the requirements. Four-year competitive scholarships are offered annually for outstanding high school students. Applications for the

4-year scholarships are accepted and processed by Fifth Army Headquarters during the applicant's senior year in high school.

Army ROTC students who enroll in the 4-year course become eligible for the 2-year scholarship after completion of the basic course. Selection for the 2-year scholarship is determined by the student's standing in both his military and academic subjects. Applications for the 2-year scholarships are accepted and processed by the Department of Military Science.

Those awarded either scholarship are paid tuition, books and fees and receive \$50 per month retainer pay. Upon graduation and commissioning the scholarship student is obligated to serve 4 years on active duty.

Regular Army commissions are also offered to outstanding students in the 2- or 4-year programs. Further information concerning these opportunities may be obtained from the Department of Military Science.

Obligations

Enrollment in Military Science I and II, other than the scholarship program, entails no personal military obligation nor special University obligation for the student. Upon selection and enrollment in Military Science III and IV, the student must enlist in a Reserve Component and agree to complete the remaining 2 years of ROTC if he continues to be enrolled in the University, and to accept a commission as second lieutenant, if offered, upon completion of the course.

Allowances

All texts and uniforms are furnished by the department. There is no expense attached to the course. In addition, students who have been accepted for Military Science III and IV receive retainer pay of approximately \$40 per month during the 2 academic years, and \$151.95 per month during the 6-week summer camp.

Qualifications for Enrollment

The following qualifications for enrollment for commission are required. Students who do not meet these qualifications may enroll in the course and receive University credit but will not receive financial benefits or a Reserve commission. Students enrolled at another institution that does not offer ROTC are eligible, if otherwise qualified, to be members of the Army unit at the University of Minnesota. The student must:

1. Be enrolled as a regular student.
2. Be a male citizen of the United States.
3. Successfully complete the requirements for commissioning prior to his 28th birthday.
4. Have sufficient time remaining in college curriculum to complete the ROTC course.
5. Be physically qualified as determined by Department of Army standards.
6. Not be previously commissioned in one of the armed services.

Transfer of ROTC Credit

Students who have had ROTC at other institutions on the college level will be given quarter-for-quarter credit for such prior ROTC instruction successfully completed. Students who have completed ROTC at military schools and high schools will be granted such credit for ROTC successfully completed, as may be determined by each individual case.

Placement of Veterans

Students who have completed 4 or more months of Active Duty for Training or honorable active service in one of the armed services and who are otherwise qualified may be accepted for initial enrollment in Military Science III. Students may apply through the University for special examinations for academic credit for prior military science.

Registration

Formal registration for military science is effected in the same manner as registration for other academic courses of the University. Students registering for these courses secure prior acceptance by personal application at the Department of Military Science, 108 Armory Building, Minneapolis Campus.

Branch Assignment

The curriculum provides the student with a broad general military background without emphasis on a particular branch. The branch in which the student will be commissioned is selected during the Military Science IV year. Factors considered are the relationship of the course of academic study pursued by the student to a particular branch, his personal desires, and the needs of the service.

Summer Camp

The "laboratory" for military science is a summer camp conducted during the summer at either Fort Riley, Kansas, or Fort Benning, Georgia. Two 6-week summer camps are conducted for students enrolled in the 2-year program. Prior to being accepted into the 2-year program the student must complete a 6-week summer camp held at Fort Benning which in effect substitutes for the 2 years' basic course taken by the students in the 4-year program. Students attending this summer camp will be paid \$89.44 per month in addition to traveling expenses to and from Fort Benning. Those accepted into the 2-year program will then attend the required advance course summer camp.

Advance course students will attend a 6-week summer camp held at Fort Riley during the summer between Military Science III and IV. The summer camp is part of the school program and attendance is required for full-course credit and commission. Postponements for 1 year may be authorized. Students are paid traveling expenses to and from Fort Riley as well as \$151.95 per month while at summer camp. All accommodations, clothing and food are furnished at both summer camps.

DESCRIPTION OF COURSES

LOWER DIVISION COURSES

MILITARY SCIENCE I

- 41f.w. Employment of Firepower.** To provide the student with an understanding of organization of the Army for modern tactical and strategic environments. Modern units and techniques of the individual soldier. (1 cr; Leadership Laboratory **)
- 42w. School of the Soldier.** United States Army customs and courtesies. Practical exercises in leadership, command, and individual and unit drill formation. Includes requirement of satisfactory completion of a concurrent course in communications, psychology, science, or political science as approved by PMS. Institute of Technology students must also have the approval of their departmental adviser for the concurrent courses. (0 cr; prereq 41 and Δ)
- 43s. United States Army and National Security.** Survey of the problems of national defense as pertains to the United States Army in general war, limited and cold war, joint operations, and the impact of modern technology on warfare techniques with emphasis on the individual's personal responsibilities as a citizen and a leader. (1 cr; Leadership Laboratory **)

MILITARY SCIENCE II

- 44f. Military Maps and Aerial Photography.** Tactical and strategic use of United States and foreign military maps, elementary cartography, and land navigation. Use of aerial photographs and modern surveillance systems in military mapping and tactical operations. (1 cr; Leadership Laboratory **)
- 45w. American Military History.** United States Army operations from the American Revolution to the Korean War. A comprehensive survey of the history of land warfare as applied to the significant political, economic, social, and technical growth of the United States. (3 cr; coop Hist 45)
- 46s. Introduction to Basic Tactics.** Small unit operations in conventional and unconventional battle field environments. The training of the combat soldier to include physical and psychological conditioning, technical proficiency, and motivation through leadership. (1 cr; Leadership Laboratory **)

TWO-YEAR SUMMER CAMP

The 2-year summer camp, designed to provide instruction received in the 4-year course during the basic course, is composed primarily of preprofessional educational subjects. Students receive training and instruction by qualified military instructors in such subjects as Organization of the Army and ROTC, Military Customs, Courtesies and Traditions, Military History and Map Reading. In addition, students are given field training in Basic Tactics, Rifle Marksmanship, Physical Training and Hand-to-Hand combat during the 6-week period at Fort Benning.

** Leadership laboratory is taught concurrently to all cadets during the fall and spring quarters. This laboratory is designed so that individual students can demonstrate their progressive ability in individual and group drill. Progressive and extensive practice in voice and command, unit formations, exercise of command, bearing, and posture. Assists in identification and development of individual leadership traits, and qualities of character.

UPPER DIVISION COURSES

MILITARY SCIENCE III

- 151f. Problems of Special Warfare.** Problems of the law of war, guerrilla warfare, psychological warfare, and counterinsurgency/counterguerrilla operations as applied in modern military operations. (3 cr; Leadership Laboratory ** and concurrent academic course ††)
- 152w. Advanced Tactics and Training.** Small unit leadership and psychology of small groups in identification of personality characteristics, study of individual needs, values, and capabilities. Emphasis is placed on the solving of leadership problems. Conduct of military training and development of Army instructor. Includes practice teaching by the student. Advanced small unit operations in conventional and unconventional battle field environments. (3 cr; prereq 151 and Δ)
- 153s. Functional Organization of the United States Army.** A survey of the history, training, equipment, and developmental trends of all combat arms and services of the Army. Tactical operations in all phases of land warfare. A field exercise encompassing all material studied in Mil 152 and 153 stressing the practical application of techniques and principles under simulated tactical conditions. (3 cr; Leadership Laboratory **)

ADVANCED COURSE SUMMER CAMP

The purpose of this 6-week summer camp is to provide the ROTC student with practical experience and instruction in the skills and duties required of a second lieutenant in the United States Army. The student will receive practical training designed to supplement institutional instruction. Finally this "laboratory" is designed to develop the physical and mental characteristics desired in an officer and to further develop traits of military leadership so vital to an officer on active duty. The subjects given primary emphasis include training in individual and crew served weapons, signal communications, advanced tactical training, map reading and arms and services orientations.

MILITARY SCIENCE IV

- 154f. Command and Staff Operations.** Comprehensive study of combat operations and logistics as related fields. Principles of command management, staff organization and staff procedures, supervision, and co-ordination by the commander. (3 cr; leadership Laboratory **)
- 155w. Army Administration.** Study of military personnel management procedures to include records, classification and assignment, unit fund accounting, and legal and military justice matters. Conduct of a field exercise stressing practical application of material studied in Mil 152-156. Service orientation for the newly commissioned officer. (3 cr; Leadership Laboratory **)
- 156s. Military Law.** A study of the history and basic concepts of military justice with emphasis placed on the origin, nature and purpose of the Uniform Code of Military Justice and the Manual for Courts-Martial. The relationship between military discipline and military justice is discussed and the scope and nature of appellate review examined. (3 cr; Leadership Laboratory **)

** Leadership laboratory is taught concurrently to all cadets during the fall and spring quarters. This laboratory is designed so that individual students can demonstrate their progressive ability in individual and group drill. Progressive and extensive practice in voice and command, unit formations, exercise of command, bearing, and posture. Assists in identification and development of individual leadership traits, and qualities of character.

†† Includes requirement of satisfactory completion of a concurrent Upper Division course, 3 or more credits, in communications, psychology, science, or political science as approved by PMS. Institute of Technology students must also have the approval of their departmental adviser for the concurrent course.

NAVAL SCIENCE

(Naval ROTC)

GENERAL INFORMATION

The Naval Reserve Officers' Training Corps (NROTC) offers the opportunity for qualified young men to earn a commission as a Navy or Marine Corps officer.

Regular NROTC Program—Regular Commission

For those applicants who seek a career in the Regular Navy or Marine Corps, the Navy offers the Regular NROTC program. The Regular NROTC is under the immediate supervision of the chief of naval personnel of the Navy Department. It is a college program for the training and education of Regular naval officer candidates. Successful applicants are appointed midshipmen, United States Naval Reserve, by the Secretary of the Navy and are granted the compensations and benefits authorized by law for a period not exceeding 4 years. The program provides tuition, textbooks, other fees of an instructional nature, plus subsistence pay of \$50 per month. During drill periods and summer at sea training, the midshipmen wear government-furnished uniforms. Applications for this program must be submitted prior to mid-November of the year preceding entry into the Regular NROTC program. Instructions for submitting applications are available at the NROTC offices in the Army.

Four-Year Contract NROTC Program—Reserve Commission

Contract students are selected for enrollment in the Naval ROTC by the professor of naval science from among those students already in attendance at, or selected for admission by, the University and who plan to complete at least 4 years of academic work. Students in this program enter into a mutual contract with the Department of the Navy, in which they obligate themselves to take certain naval science courses and drills and one summer training cruise. In return, the Navy provides the required uniforms, gives them a subsistence allowance of \$40 per month during their junior and senior years, and offers a Reserve commission upon graduation. Officers trained in the Contract program may also become career officers if they apply and are selected for a Regular commission.

Two-Year Contract NROTC Program—Reserve Commission

The 2-year Contract Program is similar to the 4-year program except that an additional summer training period is substituted for the first 2

years of academic courses offered at the University. This session, held at one of the NROTC institutions throughout the country, is completely voluntary and is normally taken at the end of a student's sophomore year. After completion of this session, the student enrolls in one of the Upper Division sequences for Naval Science like other junior and senior year NROTC students. Information on application for this program may be obtained from the professor of naval science and should be sought early in the sophomore year.

Active Duty Requirements

NROTC graduates receive commissions either in the Navy Line, or the Navy Supply Corps, or the Marine Corps. A few are commissioned in the Navy Civil Engineer Corps.

Regular NROTC students are currently required to serve 4 years on active duty after commissioning. Contract students are required to serve 3 years on active duty after commissioning.

Naval Science Courses

The NROTC program constitutes a 4-year naval science course which a student schedules in the same manner as any other course in his academic program. Naval science courses are under the supervision of the Department of the Navy and the University, and are taught by Navy and Marine Corps officer instructors. These courses carry full University academic credit as electives and are applicable toward the requirements for a University degree and graduation.

CURRICULUM

The 4-year naval science curriculum leads to one of three commissions in the naval service:

1. Ensign (Line), USN or USNR
2. Ensign (Supply Corps), USN or USNR
3. Ensign (Civil Engineer Corps), USN or USNR
4. Second Lieutenant, USMC or USMCR

All midshipmen study the first- and second-year courses shown below. During the third and fourth years, a midshipman studies the courses of the Line Sequence, the Supply Corps Sequence, or the Marine Corps Sequence, according to the type of commission he desires. Consideration is being given to discontinuing the Supply Corps Sequence. In the event this change is made, it will continue to be possible to request a Supply Corps commission after completing the Line Sequence.

Male students who are not midshipmen of the NROTC unit but who wish to enroll in a naval science course as an elective may have the prerequisites waived upon application to the professor of naval science, 203 Armory Building.

All courses consist of 3 classroom hours and 2 hours of drill/laboratory per week.

DESCRIPTION OF COURSES**LOWER DIVISION COURSES**

(All NROTC Students)

1ST YEAR

- 11f. Naval Orientation.** Naval customs. The organization for national security. Naval leadership. Forms of modern naval warfare. (3 cr)
- 12w-13s. Sea Power.** Survey of sea power's influence on history from ancient times to present. (3 cr per qtr)

2ND YEAR

- 21f.** Second year NROTC students enroll in either Psychology I or Social Science I. Additionally, a 1-hour weekly laboratory period is required.
- 22w. Naval Weapons.** Principles of naval weapons systems, particularly in applications to conventional gunnery, nuclear weapons, and specific naval missions. (3 cr)
- 23s. Naval Weapons.** Applications of developmental principles to anti-submarine warfare, guided missiles, and space technology. (3 cr; prereq 22 or consent of instructor)

UPPER DIVISION COURSES**I. Line Sequence****3RD YEAR**

- 51f. Naval Operations.** Elements of shipboard operations: relative motion, tactical communications, rules of the nautical road, and naval maneuvering. (3 cr)
- 52w. Naval Operations: Introduction to Navigation.** Fleet communications and meteorology. Dead reckoning, piloting, and electronic navigation. (3 cr)
- 53s. Celestial Navigation.** Theory and practical application of navigating using the stars, sun, moon, and planets. (3 cr; prereq trigonometry or consent of instructor)

4TH YEAR

- 61f. Naval Engineering.** Basic thermodynamics and limitations: energy, entropy, temperature. Mass transfer, equilibrium, irreversibility of ideal gas state vs. steam cycle. Beginning principles of marine engineering. (3 cr; prereq trigonometry or consent of instructor)
- 62w. Naval Engineering.** Leadership. Ship stability and shipboard nuclear propulsion. Principles of naval leadership and functions of the Uniform Code of Military Justice. (3 cr; prereq trigonometry or consent of instructor)
- 63s. Leadership.** Principles and problems of naval leadership. Management, individual differences, and group dynamics. (3 cr; prereq 62, 68 or consent of instructor)

II. Supply Corps Sequence**

3RD YEAR

- 57f. **Supply Management I.** Introduction to Navy supply management. Case studies and problems in organization, budgets, and inventory management. (3 cr)
- 58w. **Supply Management II.** Series of problems in financial management and accounting, allowance lists, and the procurement of naval material. (3 cr; prereq 57 or consent of instructor)
- 59s. **Supply Management III.** Series of problems in management of material in a shipboard supply department, security, inventories, and supply support. (3 cr; prereq 58 or consent of instructor)

4TH YEAR

- 67f. **Retail Sales.** Ship's store afloat introduction. Organization and operation of ship's stores afloat. Problems and case studies in ship's stores. (3 cr)
- 68w. **Retail Sales: Leadership.** Operation and management of service activities, balance sheets, and operating statements. Problems and case studies in ship's stores afloat. Principles of naval leadership and group management. (3 cr; prereq 67 or consent of instructor)
- 63s. **Leadership.** (See 4th year of Line Sequence)

III. Marine Corps Sequence

3RD YEAR

- 54f. **Evolution of the Art of War I.** Evolution of warfare from earliest recorded times up to and including the Mexican War. (3 cr)
- 55w. **Evolution of the Art of War II.** Continuation of the evolution of the art of war, to include Civil War campaigns, World Wars I and II, plus a consideration of U. S. military and foreign policy. (3 cr)
- 56s. **Modern Basic Strategy and Tactics.** The theoretical principles behind modern strategy and tactics. (3 cr)

4TH YEAR

- 64f. **Amphibious Warfare I.** Evolution of current amphibious warfare techniques and doctrine from Gallipoli to the Korean conflict. (3 cr)
- 65w. **Amphibious Warfare II.** Introduction to doctrinal techniques and present concepts to include planning, embarkation, rehearsal, support, and logistics. (3 cr)
- 66s. **Leadership.** Functioning of the Uniform Code of Military Justice. Service leadership as pertinent to the Marine Corps. (3 cr)

** Supply Corps Sequence may be discontinued in future; however, commissioning in the Supply Corps will continue to be possible by request after completing the Line Sequence.

AEROSPACE STUDIES

(Air Force ROTC)

GENERAL INFORMATION

The new Air Force ROTC program is designed to qualify for commissioning those college men who desire to serve in the United States Air Force. It permits students with 2 years of college remaining, who are now attending or who plan to attend the University of Minnesota, to participate in the Air Force's on-campus officer education program and, upon graduation, be commissioned in the United States Air Force.

The new program consists of a 2-year academic program on campus which is preceded by a 6-week field training course at an Air Force base.

Under the impetus of the ROTC Vitalization Act of 1964 (P.L. 88-647) the Air Force ROTC program presents a high quality educational experience designed to provide a professional background to future career Air Force officers. An entirely new curriculum has been devised and implemented.

The cadet will not specialize in any one military career field but will be provided an educational background which will develop skills and attitudes vital to the career professional Air Force officer. Upon graduation he will be given the Air Force specialty classification which corresponds to his academic major, and be assigned to duties commensurate with his college education.

Qualified senior cadets who desire to be pilot trainees upon commissioning will participate in a flight instruction program which affords them the opportunity to obtain a private pilot's license at no expense to the cadet. The program provides 36½ hours of flight training and a special ground school.

Selection Process

To be eligible for enrollment in AFROTC applicants must:

1. Pass the Air Force Officer Qualifying Test (AFOQT).
2. Pass an Air Force medical examination.
3. Be approved by an interview board composed of officers of the Air Force ROTC program and institutional officials when requested.
4. Successfully complete the 6-week field training course.

Admission Requirements

Since the Air Force ROTC is a department of the University of Minnesota, the student enrolls for Air Force ROTC courses as he does for any other University course. Registration is accomplished at the campus Armory. In

addition to successfully completing all stages of the selection process, students must:

1. Be a male citizen of the United States.
2. Be of sound physical condition.
3. Be of sound moral character.
4. Be at least 17 years of age and will not be more than 26 years and 6 months if programmed for flying training, or 28 years if not programmed for flying training upon graduation and commissioning.
5. Be enrolled as a student at the University.

Benefits

During the field training course, students receive their food, clothing, housing, medical care, a transportation allowance of 6¢ per mile, and approximately \$120 pay.

Cadets enrolled in Air Force ROTC receive a retainer fee of at least \$40 per month plus all AFROTC text books and uniforms free of charge. The uniform is an Air Force officer's blue uniform which becomes the cadet's property upon graduation and commissioning. A \$300 uniform allowance is paid to newly commissioned officers upon entering active duty to enable them to purchase necessary uniform items. Qualified cadets who elect to be pilot trainees upon commissioning will be provided flight training conducted by a civilian flying school near the campus. Cadets may participate in a base visitation program of flights to Air Force bases throughout the United States.

Credits

The Aerospace Studies course consists of 3 hours a week attendance at Upper Division classes for 6 quarters, normally during the junior and senior years. These classes are also open to graduate students.

Aerospace Studies credits may be substituted for IT credits. Students who complete AFROTC will be allowed 9 credits as electives (free or technical or both) toward graduation. AFROTC may also be substituted for elective credits in the School of Business Administration, the College of Education, the College of Liberal Arts, and the College of Agriculture, Forestry, and Home Economics. Aerospace Studies is accepted as a minor in the College of Liberal Arts.

Commission

Each cadet who successfully completes the AFROTC program and graduates from the University of Minnesota will be eligible for appointment as a second lieutenant in the United States Air Force Reserve. Commissioned graduates will serve on active duty with the Air Force for 48 months if a non-flying officer, and for 60 months if a flying officer, unless sooner released. Outstanding cadets may be nominated for a Regular Commission in the United States Air Force.

DESCRIPTION OF COURSES**UPPER DIVISION COURSES****GROWTH AND DEVELOPMENT OF AEROSPACE POWER****(Aerospace Studies 300)**

- 131f. History of Air Power (AS 301).** A study of the fundamentals of a nation's power, nature of war, and application of aerospace forces in support of national goals. History of air power. Seminars with oral and written reports. Emphasis on communication skill development. Field trips. (3 cr; prereq Δ)
- 132w. Aerospace Organization and Concepts (AS 302).** Analysis of the mission and organization of the Defense Establishment; aerospace concepts, doctrine, and use in relation to a nation's resources. Importance of the United States space program. Seminars developing individual skills in research and oral reporting. Field trips to selected Air Force bases. (3 cr; prereq Δ)
- 133s. Astronautics and Space Operations (AS 303).** Intensive examination of space vehicle systems and ground support equipments; space exploration; orbits and trajectories; spatial environment; and future development of astronautics and space operations. Seminars stressing research skills and communication techniques. Field trips to aerospace industries. (3 cr; prereq Δ)

THE PROFESSIONAL OFFICER**(Aerospace Studies 400)**

- 141f. Professionalism (AS 401).** A study of professionalism including the meaning of professionalism, the foundations of military professionalism and its ethical characteristics and responsibilities, the meaning and functions of military discipline. Field trips. (3 cr; prereq Δ)
- 142w. Leadership and Human Relations (AS 402).** A study of leadership including the philosophy and scope of leadership. The interaction of individuals and groups in large scale organizations. Case studies in human relations, role playing, conference and discussion methods, communication and problem solving cases in military law. Field trips. (3 cr; prereq Δ)
- 143s. Military Executive Management (AS 403).** A study of management including the functions of the military executive: planning, organizing, directing, coordinating, and controlling. Surveys the application of management functions to the organization. Explores determining the management tools, practices, controls, and techniques to assure successful mission achievement. Field trips. (3 cr; prereq Δ)
- 144. Flight Instruction Program (AS 404).** Ground school in conjunction with flight training of 36:30 hours leading to an FAA certification as a private pilot. The course includes instruction and practice on federal aviation regulations, aircraft instruments, meteorology, radio aids, air navigation, flight theory and other subjects pertaining to the safe and efficient operating of aircraft. Field trips. (3 cr; prereq Δ)