

## Officer Education

### Aerospace Studies Courses

#### 161 United States Military Forces Fall. 1 credit.

1 class each week. J. Pallay.  
A study of current United States military forces with emphasis on the analysis of the doctrine, mission, and organization of the United States Air Force. Current factors affecting today's professional military officers will be considered. Special emphasis will be placed on the role of human rights in the Department of Defense. The elements of strategic offensive and defensive forces will be explored.

#### 162 Aerospace Operations Spring. 1 credit.

1 class each week. G. R. Fisher.  
The aerospace forces of the United States will be studied, with emphasis on the mission, resources, and operations of tactical air forces throughout the world. Army and Navy operations and functions as contributions to the total national defense will be reviewed. Through the case-study method, aerospace budgetary decision making will be introduced.

#### 211 Development of Military Aviation Fall. 1 credit.

1 class each week. C. A. Houston.  
Factors leading to the development of aviation and the concepts and doctrine for the employment of air power will be studied. Topics that will be reviewed and analyzed include the history of manned flight, the effects of World War I on the uses of aviation, and the development of pre-World War II aircraft and the political struggles for an independent United States air arm. The role of air power in World War II, including strategic bombing, tactical air power, and the role of air superiority in warfare will be examined.

#### 212 American Air Power Since 1947 Spring. 1 credit.

1 class each week. C. A. Houston.  
The employment of the Air Force since World War II in military and nonmilitary operations to support national objectives. Effects of technology on defense policy and strategy will be reviewed. The part played by the air arm in activities such as the Berlin Airlift and national and international relief missions will be discussed. The role of air power in the Korean conflict, the Cuban crisis, and the Vietnam War will be examined from the viewpoint of technology and tactical doctrine.

#### 331 Leadership and Communicative Skills Fall. 3 credits.

2 or 3 classes each week. R. F. Kozma.  
Leadership responsibilities at the junior officer level including the responsibility, authority, and functions of a military commander and his staff will emphasize management research and theory. Recent approaches to leadership models and the importance of communicative skills in any leadership role are considered. Case study exercises and oral and written assignments will be required.

#### 332 Management in the Armed Forces Spring. 3 credits.

2 or 3 classes each week. R. F. Kozma.  
Management at the junior officer level. Basic concepts of management and decision-making process, including planning, organizing, coordinating, directing, and controlling. Evaluation process and techniques used by management will be studied. Position of management in world of power and politics, including managerial strategy and tactics will be considered. Case studies and oral and written assignments will be required.

#### 405 Principles of Air Navigation and Aircraft Systems Fall. 3 credits.

2 classes each week. R. F. Kozma.  
Basic principles of weather elements, aerodynamics, aircraft systems, engine systems, and navigation systems. The study of these systems is integrated with chart projections, navigational aids, flight instruments, and avionics. Use of flight computer will be covered. This will prepare student for F.A.A. Private Pilot Ground School Test.

#### 461 Military and American Society Fall. 3 credits.

2 or 3 classes each week. G. R. Fisher.  
The functions and roles of the professional officer in a democratic society and how they relate to the socialization processes, prevailing public attitudes, and value orientations associated with professional military service will be examined. Changes within the military will be analyzed, including such topics as the all-volunteer service, race relations, and the impact of women in the armed forces. Will review the essential feature of the military justice system as it functions to protect basic human rights and organizational order. The formation and implementation of defense policy including political, economic, and social constraints will be studied.

#### 462 American Defense Policy Spring. 3 credits.

2 or 3 classes each week. J. Pallay.  
The prerequisites for maintaining adequate national security forces will be explored and the impact of technological and international development upon strategic preparedness and the overall defense policymaking process will be assessed. An investigation of basic contemporary nuclear strategy, its evolution, control, and future. Alternatives to nuclear war including arms control, limited wars, wars of revolution, and insurgency will be examined. Governmental processes and relationships that determine the contemporary military environment and provide a perspective for the future of defense policymaking in the United States.

### Leadership Laboratory Courses

#### 141-142 Initial Military Experiences

Introduction to the responsibilities, life, and work of an Air Force officer. Basic knowledge of drill and ceremonies, military courtesies, and the wearing of the uniform. Field trip to local military installation.

#### 241-242 Intermediate Military Experiences

Will develop skills in giving commands for drill and ceremonies. Introduction to Air Force base environment in which the USAF officer functions. Will include a look at career areas available based on academic majors. Students will experience and participate in leadership situations through military drills and ceremonies.

#### 341-342 Junior Officer Leadership

Cadets will assume leadership responsibilities similar to those of a junior officer. Emphasis will be on comprehending the importance of applying effective human relations in dealing with superiors, peers, and subordinates. Relationship between Air Force Specialty Codes and academic majors. The importance of basic health habits to leadership.

#### 441 Advanced Leadership Experiences

Command leadership in operating a military organization. Cadets will apply effective leadership and managerial techniques with individuals and groups and will participate in self-analysis of leadership and managerial abilities.

#### 442 Precommissioning Laboratory

Factors that will facilitate transition from civilian to military life are reviewed. The need for military security, base services and activities, personal finances, travel regulations, and social obligations will be introduced.

### Military Science Courses

#### 101 United States Organization for Defense Fall. 1 credit. Required.

Staff.  
Students will examine the United States defense apparatus in terms of organization, mission, personnel, and relationships among military forces and between the military forces and various branches and departments of the government. The United States Army force structure will be examined at all levels. The complexities and magnitude of operating the defense organization will be studied to provide a framework for subsequent instruction.

#### 201 American Military History Fall. 1 credit. Required.

Staff.  
The student will be introduced to the origin and growth of the United States Army as an institution maintained by the nation to protect its interests and secure its way of life. The principles and theories of war will be examined and their application illustrated by examples drawn from American military history. The foreign and military policies of the United States and the basic causes that have led to the various conflicts in which the United States has participated will be explored.

#### 221 Mapping: Land Navigation Fall. 1 credit. Required.

Staff.  
The course will provide a practical knowledge of the various forms of topographic representation. The student will develop, interpret, and utilize maps in terrain association and land navigation. Knowledge of topography will be complemented by an orientation on significant environmental influences from political, social, and climatic factors. Portions of the course will offer practical experience in land navigation and orienteering.

#### 231 Social and Organizational Psychology in the Military Environment Spring. 1 credit. Required.

Staff.  
This course will allow the student to develop a basic understanding and appreciation of the theories of social and organizational psychology and behavior as they apply to the military setting. Attention will be given to leader types, the source and exercise of authority, and the impact of varying styles of leadership on motivation and organization effectiveness. The student will be introduced to the concepts of integrity, ethics, and professionalism.

#### 322 Leadership in Small Unit Operations Spring. 2 credits. Required.

Staff.  
This course will provide an understanding of the nature of decision making and the tactical application of the military team. Through the use of conferences and extensive practical exercises, the student will develop familiarity with the factors influencing the leader's decisions; the processes of planning, coordinating, and directing the operations of military units to include troop-leading procedures; and development of operation plans and orders.

#### 332 Theory and Dynamics of the Military Team Fall. 2 credits. Required.

Staff.  
After an initial introduction to techniques of presenting briefings, the student will be provided with a broad understanding of the principles and application of teamwork in military organizations. Particular emphasis will be given to leadership responsibilities of the commander as the team coordinator. Additionally, the student will have an opportunity to develop an understanding of the roles and contributions of the various branches of the Army in support of the military team.

**424 Contemporary Military Environment I** Fall.  
2 credits. Required.  
Staff.

A detailed examination of the functions and activities of military organizations, their commanders, and their staff. Discussion will focus on students' past experiences and future expectations in examining such aspects of the military environment as the chain of command, decision making, command and staff relations actions, and the various elements of small unit administration.

**461 Contemporary Military Environment II**  
Spring. 2 credits. Required.  
Staff.

As a continuation of the material presented in Mil S 424, students will examine carefully the leadership environment of an Army officer. Conferences and seminars are used to examine the techniques of effective military leadership, the sociological and psychological environment, the nature of military law, and above all, the professional ethics, responsibilities, and obligations of an Army officer.

## Practical Leadership Training

**141-142 Leadership Laboratory I**

Fall Spring  
Mil S 141 Mil S 142

Mil S 1 cadets will select either rifle marksmanship, orienteering, or rappelling. These interesting and challenging activities will not receive academic credit but may be used for physical education credit if adequate hours have been accrued.

**242 Leadership Laboratory II**

Fall Spring  
Not offered Mil S 242

Cadets will meet for two hours each week as members of the cadet organization to participate in practical leadership exercises. Types of practical activities will include familiarization in rifle marksmanship, orienteering, drill and ceremonies, signal communications, physical fitness training, tactics and field exercises.

**341-342 Leadership Laboratory III**

Fall Spring  
Mil S 341 Mil S 342

Cadets will meet for 1½ hours a week to prepare for a six-week summer camp that follows the junior year. Emphasis will be on the development of individual skills in leadership techniques and practical skills. Cadets rotate among leadership positions to develop an ability to apply decision-making processes to a myriad of situations. Cadets also will acquire technical expertise and proficiency in signal communications, physical fitness, drill and ceremonies, rappelling, orienteering, tactics, water survival, and other military skills.

**441-442 Leadership Laboratory IV**

Fall Spring  
Mil S 441 Mil S 442

Senior cadets will plan and operate the Leadership Laboratory programs for Mil S I-III cadets. Emphasis is placed on the development of planning and supervisory skills. Cadets will have an opportunity to practice leadership skills developed during previous ROTC training and summer camp experiences.

## Naval Science Courses

**101 Fundamentals of Naval Science** Fall.  
Noncredit.

One hour class each week (lecture-recitation).  
Navy staff.

A study of fundamental aspects of naval science, including its conceptual contributions to sea power, factors involved in the physical development of naval forces, resources which must be managed, and prospects for the future.

**102 Naval Ship Systems (also Engineering M&AE 101)** Spring. 3 credits.

3 classes each week (lecture-recitation).  
R. L. Wehe.

The course will introduce primary ship systems and their inter-relationship. Basic principles of propulsion, control, internal communications, structure, and other marine systems are considered.

**201 Seapower—Maritime Affairs** Spring. 1 credit.

One seminar weekly. Navy staff.

Discussions will explore the meaning and modern applicability of seapower concepts, including such components as naval power, ocean science, ocean industry, ocean commerce, and international law.

**211 Armed Conflict and Society** Fall. 3 credits.

3 classes each week. Presentation by Marine Corps and Navy instructors with guest lecturers, primarily from government and history departments.

A study of modern warfare that will examine the relationship of military strategy to geography, economics, sociology, technology, and national political realities and values; the evolution of warfare, including principles of war, weapons, and associated equipment, and the effects of nuclear weapons and guerrilla warfare on traditional concepts of national strategy.

**305 Principles of Navigation (also Agricultural Engineering 305)** Fall. 4 credits.

4 classes each week (lecture-recitation-project work).

The course will cover coordinate systems, chart projections, navigational aids, instruments, compass observations, tides and currents, and soundings. It will also include celestial navigation, time, spherical trigonometry, motion of the stars and sun, star identification, position fixing, use of the nautical almanac, electronic navigation systems, and air navigation.

**311 Amphibious Warfare** Spring. 3 credits.

3 lecture-recitations each week.

Marine Corps staff.

The history of the development, theory, techniques, and conduct of amphibious operations during the twentieth century. Special emphasis will be on amphibious operations conducted in the Central Pacific during World War II.

**321 Naval Operations** Spring. Noncredit.

One one-hour class each week. Navy staff.

The course will cover the application of command and control principles and the integration of sensors and weapons systems in the conduct of naval operations. Visual and electronic communications methods, data systems employment, tactical disposition of forces, and fleet logistics support will be studied. Topics in shiphandling will also be discussed.

**431 Naval Leadership, Organization, and Management** Spring. Noncredit.

W or R 1:25-4:00 (seminar given simultaneously with Nav S 441). Navy staff.

Principles and functions of management relevant to the naval environment and the structure of the naval organization. Theories and research of the behavioral sciences pertinent to the leadership role of the junior officer in the Navy or Marine Corps will be explored, with particular emphasis on self-development and individual responsibility. Through the use of assigned readings, experiential exercises, situation problems, and case studies, students will interact with peers to develop their individual leadership style. Members of the class will take part in a team project based upon an actual leadership situation.

**451 Naval Weapons Systems** Fall. 3 credits.

Prerequisites: Mathematics 192 or 112 and Physics 208 or 214.

Lecture-recitations: M W F 8. Navy staff.

The course will examine the principles and theories used in the development of naval weapons systems. Initially, extensive study will be made of sensing and detection systems, especially radar and sonar, followed by discussions of ancillary systems for computing, tracking, stability, and weapons control and delivery. The latter part of the course will cover the formal derivation of the fire control problem and development of an algorithmic solution method applicable to the digital computer.

## Naval Professional Laboratories

**Nav S 141-142, 241-242, 341-342, or 441-442**

All students in the Naval program participate in one ninety-minute laboratory session each week. The sessions are held from 2:30 until 4:00 on either Wednesday or Thursday afternoon. These periods will be planned and implemented for the most part by the midshipmen officers in the battalion organization and will consist of both drill and professional information briefings and underway training aboard the unit's fifty-foot seagoing sail training ketch. Students will gain experience in actual leadership situations and at the same time will learn the fundamentals of seamanship, military formations, movements, commands, discipline, courtesies, and honors. During information briefings, special emphasis is given to applied leadership as it relates to the administrative and managerial aspects of a Navy or Marine Corps officer's duties.