

347 Number Theory (3)

Divisibility, congruences, primitive roots, quadratic residues, Diophantine equations, continued fractions. *Prerequisite: Mathematics 236 and 250. Offered alternate spring terms.*

351 Geometries (3)

Survey of Euclidean geometry, study of selected topics in non-Euclidean and other geometries. *Prerequisite: Sophomore standing. Mathematics 236 (may be taken concurrently) and 250. Offered alternate spring terms.*

355 Probability (3)

Random variables, conditional probability and independence, expectation, moment generating functions, special distributions. *Prerequisite: Mathematics 236 and 250. Offered fall term.*

356 Statistics (3)

A continuation of Mathematics 355. Sampling distributions, hypothesis testing, nonparametric methods, linear statistical models. *Prerequisite: Mathematics 355. Offered spring term.*

358 Actuarial Mathematics (2)

A review of topics included on the Course 1 Examination of the Society of Actuaries and the Casualty Actuarial Society. Topics include calculus, probability, and basic concepts of risk management and insurance. Course open only to students planning to take S.O.A. Course 1 Exam in May. *Prerequisite: Mathematics 238 and 355. Offered spring term.*

403 Abstract Algebra (3)

Introduction to properties of groups, rings, integral domains, and fields. *Prerequisite: Mathematics 250 and 303. Offered alternate spring terms.*

433 Introductory Analysis (3)

A study of the theoretical basis of elementary calculus. Topics include sequences, limits, differentiability, the Riemann integral, pointwise and uniform convergence. *Prerequisite: Mathematics 238 and 250. Offered alternate fall terms.*

Military Science (MSI)

Regularly enrolled, physically qualified male and female students are offered a four-year course of instruction in military science. Students unable to complete the four-year program may apply for the two-year Advance Course by volunteering to attend the Basic Camp for ROTC between their sophomore and junior years. Upon successful completion of the Advanced Course of ROTC and upon recommendation by the military science faculty and the Vice President for Academic Affairs, students are awarded commissions. Army ROTC students are commissioned in the grade of Second Lieutenant, United States Army Reserve or Regular Army. Air Force ROTC students are commissioned in the grade of Second Lieutenant, United States Air Force.

All of the credits offered in military science courses are credited toward graduation.

ARMY

111 Introduction to Army ROTC (1)

A course which acquaints students with the Army ROTC program and arms them with useful college skills which help them attain success as a student. Students will learn about military tradition, ranks, cadet corps structure, and leadership principles and will work to improve their ability to manage time, study, and prepare for examinations. The knowledge gained from this class will assist the student in completing not only additional Army ROTC training but the student's chosen course of study as well.

111L Leadership Laboratory (0)

121 Introduction to the United States Army (1)

This course continues to emphasize the information provided in the previous course and introduces cadets to the roles of junior officers and non-commissioned officers, branches of the army, organization of the army and leadership doctrine. In addition, cadets are introduced to basic soldier skills of marksmanship and land navigation.

121L Leadership Laboratory (0)

212 Communication Skills for Leaders (1)

In order to lead, you must be able to communicate. Cadets practice written and oral skills that are designed to enable them to effectively communicate with soldiers, non-commissioned officers, and officers at all levels of the chain of command.

212L Leadership Laboratory (0)

222 Introduction to Small Unit Leadership and Tactics (2)

The purpose of this course is to provide cadets the required skills for the transition from the Basic Course to the Advanced Course. Cadets learn about the building blocks of Army organizations and operations: the infantry squad. This course explores the composition and capabilities of infantry squad in order for cadets to have a practical foundation for planning, executing, and assessing operations. Students will learn about the basics of tactical maneuver, defensive operations, and patrolling. In addition, critical enabling skills such as land navigation, drill, and communications are stressed.

222L Leadership Laboratory (0)

290, 390, 490 Directed Study (1-3) (1-3) (1-3)

An opportunity for supervised, independent study of a particular topic based on the interest of the student and the availability and approval of the faculty.

313 Small Unit Leadership and Tactics I (3)

The purpose of this course is to teach cadets to deal with stressful and complex situations by allowing them to plan, execute, and evaluate tactical and training operations. Cadets in this course receive training on squad and platoon level tactics and become proficient in offensive, defensive, and pa-

trolling operations. Cadets are given a number of opportunities to lead small groups, receive personal assessments and encouragement and lead again in situations of increasing complexity. In addition, cadets plan, lead, and participate in intensive physical training. Oral and written communication continues to be stressed. *Prerequisite: Permission of the Professor of Military Science.*

313L Leadership Laboratory (0)

323 Small Unit Leadership and Tactics II (3)

This course is a continuation of Small Unit Leadership and Tactics I. Cadets use the planning execution and assessment skills already learned at the ROTC Leadership Training Camp conducted at Fort Lewis, Washington during the summer between the junior and senior year.

323L Leadership Laboratory (0)

413 Seminar in Military Leadership (3)

This course is the first of two upper-level classes designed to assist cadets in the last year of their academic and military training transition to the responsibilities and challenges of service as Second Lieutenants. This will be a seminar format in which each student is expected to actively participate in class through discussion and class presentations. The Army Field Manual 22-100, Leadership is the foundation text for the course and is the basis for discussions about challenges of military leadership. The course devotes special attention in the second half of the course to ethical decision making, the fundamentals of military law and the Law of War. In addition, each cadet is provided an opportunity to plan, execute, and assess a Leadership Laboratory or similar training event.

413L Leadership Laboratory (0)

423 Transition to Lieutenant (3)

The purpose of this course is to provide practical information to cadets in order to assist in their transition from ROTC to service as a Lieutenant in the Army. Subjects in this course will include but not be limited to officer and non-commissioned officer evaluations, promotions, supply, property accountability, counseling, professional development, Army Family Team Building, pay and allowances, additional duties, and reporting to the first assignment. Each cadet is again provided an opportunity to plan, execute, and assess a Leadership Laboratory or similar training event.

423L Leadership Laboratory (0)

AIR FORCE

102 United States Air Force Today I (1)

A study of the history, doctrine, mission, and functions of the United States Air Force, U.S. strategic offensive and defensive forces: their development, mission, and employment of nuclear weapons.

105 United States Air Force Today II (1)

Aerospace defense, missile defense; U.S. general purpose and aerospace support forces; the mission, resources, and operation of tactical air forces, with special attention to limited war; review of Army, Navy, and Marine general purpose forces. *Prerequisite: Military Science 102 or permission.*

102L, 105L Leadership Laboratory (0)

Leadership training is required each semester for the Air Force ROTC student.

210 The Development of Airpower I (1)

History of aircraft and airpower through World War II and how the development was affected by technology, politics, doctrine, and geography. Emphasis is on United States airpower. *Prerequisite: Military Science 105 or permission.*

211 The Development of Airpower II (1)

History of aircraft and airpower from World War II through the present. Airpower as an instrument of national policy. Humanitarian and scientific uses of airpower. Emphasis is on United States airpower. *Prerequisite: Military Science 210 or permission.*

210L, 211L Leadership Laboratory (0)

Leadership training is required each semester for the Air Force ROTC student.

290, 390, 490 Directed Study (1-3) (1-3) (1-3)

An opportunity for supervised, independent study of a particular topic based on the interest of the student and the availability and approval of the faculty.

325 The Professional Officer I (3)

A study of professionalism, leadership, and human relations. Requires cadet research and participation in the instructional process. *Prerequisite: Permission.*

339 The Professional Officer II (3)

A study of the principles of leadership, communications skills, and problem solving, including management standards, practices, and controls. *Prerequisite: Military Science 325 or permission.*

325L, 339L Leadership Laboratory (0)

Leadership training is required each semester for the Air Force ROTC student.

435 National Security Forces in Contemporary American Society I (3)

A focus on the armed forces as an integral element of society; examines the broad range of civil-military relations. Special themes include the role of the professional officer in a democratic society, the socialization process within the armed services, and the military justice system. *Prerequisite: Military Science 339 or permission.*

436 National Security Forces in Contemporary American Society II (3)

A study of the environment in which defense policy is formulated. Special themes include the requisites for maintaining adequate national security forces; political, economic, and social constraints of the national defense structure; and the overall defense policy-making process. *Prerequisite: Military Science 435 or permission.*

435L, 436L Leadership Laboratory (0)

Leadership training is required each semester for the Air Force ROTC student.

Modern Languages

Languages are an important communication skill in global business, academia, and science. Doane has majors in French, German and Spanish and offers other languages, although not as majors and minors. Language majors may be combined with other courses of study for careers in teaching, business, and science. Language proficiency is required for further studies in graduate school or studies abroad (Fulbright and other programs).

FRENCH

(See page 152.)

GERMAN

(See page 156.)

RUSSIAN (RUS)

Adjunct Instructor M. Peters

121-122 Beginning Russian (3-4) (3-4)

Intensive self-instructional study of first-year Russian. Language lab work with tapes and text is supplemented by drill instruction and examination by professional instructors. *Prerequisite: Permission.*

302-402 Russian Language Enrichment (1) (1)

A course designed to encourage interdisciplinary study in Russian. It is taken in conjunction with a second course in a discipline other than Russian. The student reads materials relating to the second course, which is selected by the faculty teaching it. The student does, however, read the materials in Russian, under the guidance of a faculty member qualified to teach that language. *Prerequisite: Permission of both faculty involved.*

SPANISH

(See page 217.)