

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.*

435 Mathematical Methods for Physics (4)

A course designed to integrate mathematics into a coherent foundation for problem solving for upper-level physics and engineering courses. Topics include Laplace and Fourier transformations, Fourier series, vector operators, ordinary and partial differential equations, and orthogonal functions. Emphasis is given to the solution (analytical and numerical) of problems from both physics and engineering. Completion of the course allows the student to define important aspects of each mathematical topic, to describe the relevance of each topic to physics and engineering problems, and to work both formal and physics/engineering problems involving each topic. *Prerequisite: Physics 107, 108; Mathematics 235, 236, 237, 238. (Cross-referenced with Physics 435.)*

496 Seminar in Mathematics (1)

An introduction to research in a selected area of mathematics, mathematics education, or an application in mathematics. The course increases the students' abilities to communicate their explorations in mathematics. Both an oral presentation and a written paper are required. *Prerequisite: Junior or senior mathematics major and 12 credits at the 300 level or above; or permission. Offered spring term.*

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 Advanced 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 Foundations of Officership (1)

Students are introduced to issues and competencies that are central to a commissioned officer's responsibilities. The course contents include understanding officership, leadership, Army values, and life skills, such as physical fitness and time management.

111L Leadership laboratory (0)

121 Basic Leadership (1)

Students learn the foundations of leadership, such as problem solving, communication, military briefings, effective writing, goal setting, physical well-being, techniques for improving listening and speaking skills, and counseling.

121L Leadership Laboratory (0)

212 Individual Leadership Studies (2)

Introduction to identifying and replicating successful leadership characteristics, through observations during experiential learning exercises. Students record these characteristics, discuss them in small group settings, and use them in subsequent activities. Students also practice communication skills necessary for leadership roles, especially in military environments.

212L Leadership Laboratory (0)

222 Leadership and Teamwork (2)

Students learn how to build successful teams, methods to influence group actions, effective communication within groups, creativity in problem solving, and how to motivate subordinates and peers. Students will also learn how to use these skills in the context of military environments, such as while performing land navigation and infantry tactics.

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.

310 United States Military History, 1607-1917 (3)

Significance of military affairs in the context of American political, economic, and social history from the formation of the earliest colonial militias to

the pre-WWI preparedness movement. Discusses all of the major wars of this period but also emphasizes such themes as the professionalization of the officer corps, the relationship between war and technology, and civil-military relations.

311 United States Military History Since 1917 (3)

Significance of military affairs in the context of American political, economic, and social history from American's entry into WWI to the present. Discusses all of the major wars of this period but also emphasizes such themes as the professionalization of the officer corps, the relationship between war and technology (especially nuclear weapons), and civil-military relations.

313 Leadership and Problem Solving (3)

Students conduct self-assessments of their leadership style, develop a personal fitness regimen, and learn to plan and conduct individual/small unit tactical training, while testing reasoning and problem solving techniques. Students receive direct feedback on their leadership abilities.

313L Leadership Laboratory (0)

323 Leadership and Ethics (3)

This course examines the role communication, values and ethics play in effective leadership. Topics include ethical decision making, consideration of others, spirituality in the military, and Army leadership doctrine. There is also an emphasis on improving students' oral and written communication abilities.

323L Leadership Laboratory (0)

413 Leadership and Management (3)

This course develops students' proficiencies in planning and executing complex operations, functioning as a member of a staff, and mentoring subordinates. Students explore training management, methods of effective staff collaboration, and developmental counseling techniques.

413L Leadership Laboratory (0)

423 Officership (3)

This course includes case study analysis of military law and practical exercises in establishing an ethical command climate. Students complete a semester-long Senior Leadership Project that requires them to plan, organize, collaborate, analyze, and demonstrate leadership skills.

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, communication 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 154.)

GERMAN

(See page 158.)

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 220.)