

linear algebra provide knowledge that is basic to further work, and students are advised to complete them or their equivalent as early as possible.

It is strongly recommended that mathematics majors consider a minor or second major in an area that uses mathematics, such as physics or computer science. All programs should be planned with the guidance of a departmental advisor. A short brochure containing further suggestions is available from the Department of Mathematical Sciences.

Students planning to do graduate work in mathematics should take French or German to meet the requirement of a second language and should take as many as possible of the courses MATH 481, 482, 491, 492.

SUPPLEMENTARY MAJOR: Applied Mathematics

The program consists of 24 credits in the designated list of courses. To earn a supplementary major in applied mathematics a student must earn 15 credits from Categories I.A and I.B of which at least 9 credits must be from Category I.B. A student must also earn 9 credits from the Category II list of related disciplines. The courses in Category II may be taken from any combination of areas.

Category I.A.— choose at most 6 credits6

MATH 377, Introduction to Numerical Methods; MATH 391, Vector Analysis; MATH 392, Ordinary Differential Equations; STAT 371, Statistics for Engineers and Scientists I

Category I.B. — choose at least 9 credits9

MATH 331, Introduction to Modern Algebra; MATH 332, Introduction to Analysis; MATH 430, Combinatorial Mathematics; MATH 431, Algebraic Coding Theory; MATH 451, Introduction to Differential Geometry; MATH 453, Introduction to Topology; MATH 454, Mathematical Logic; MATH 471, Complex Variables; MATH 472, Fourier Series and Boundary Value Problems; MATH 473, Calculus of Variations and Optimal Control; MATH 480, Vector Spaces and Matrix Algebra; STAT 470, Probability-Theory and Application; STAT 480, Statistics-Theory and Applications

Category II — related disciplines— choose any 9 credits.....9

C E 315, Structural Analysis I; C E 331, Hydraulic Engineering; C E 356, Fundamentals of Environmental Engineering; C E 382, Hydraulic Systems Design

CH E 305, Transport Operations I: Fluid Flow; CH E 412, Process Dynamics and Control; CH E 441, Chemical Kinetics and Reactor Engineering

C S 372, Data Structures and Algorithms; C S 476, Computer Graphics I; C S 490, Parallel Computing; For the next two courses, the student must be eligible to take 500-level courses: C S 510, Automata, Languages, Computability, and CS 570, Analysis of Algorithms

ECON 405, Economic Statistics; ECON 457, Mathematical Economics; ECON 498, Independent Study (with approval)

E E 395, Introduction to Digital Signal Processing; E E 470, Optics II; E E 475, Control Systems II; E E 496, Introduction to Communication Systems I; E E 497, Introduction to Communications Systems II

I E 365, Quality Control; I E 413, Engineering Operations Research I; I E 423, Engineering Operations Research II; I E 460, Evaluation of Engineering Data

M E 332, Vibrations; M E 338, Fluid Mechanics; M E 341, Heat Transfer; M E 333, Intermediate Dynamics; M E 463, Low Speed Aerodynamics; M E 473, Compressible Flow

PHYS 451, Intermediate Mechanics I; PHYS 454, Intermediate Modern Physics I; PHYS 455, Intermediate Modern Physics II; PHYS 461, Intermediate Electricity and Magnetism I; PHYS 462, Intermediate Electricity and Magnetism II; PHYS 470, Optics II; PHYS 476, Computational Physics

SUR 351, Introductory Survey, Measurements, Analysis and Adjustments; SUR 451, Advanced Survey Measurements, Analysis and Adjustments; SUR 462, Advanced Geodesy

MINOR: Mathematics

A student must pass 18 or more credit hours in MATH and STAT courses, with at least 9 of the credits in upper division courses and 3 or those 9 credits in courses numbered above 400. The following courses are excluded from the minor: courses numbered below 125, MATH 200, MATH 300, MATH 312, MATH 314, MATH 400, MATH 459, and STAT 400. At most, one of STAT 251, STAT 271, or STAT 371 may be included in a minor. Any special topics courses, MATH or STAT 301 and MATH or STAT 401, must be approved by the department for credit toward the minor. Any courses taught outside the Department of Mathematical Sciences but cross-listed with a MATH or STAT course, must also be approved by the department for credit toward the minor. A student may not

earn a bachelor's degree in mathematics or a supplementary major in applied mathematics and also earn a minor in Mathematics.

MILITARY SCIENCE

Lieutenant Colonel David L. Abbott, department head

Assistant Professors Major Bravo, Captain Hugo, Master Sergeant Romero, Sergeant First Class Perry

(505) 646-4030

The military science program leads to a commission as an officer in the Army Reserve, National Guard, or Active Duty Army. The program consists of four parts: the student's academic major, nondepartmental courses of value to the military service, courses in military science, and a six-week leader development and assessment course. The department offers a four-year program divided into two parts: the basic course (two years) and the advanced course (two years). Selected students may qualify for the two-year program with prior military service or successful completion of a six-week summer leaders' training course. Financial assistance and scholarships are available for qualified individuals. Students should contact the Department of Military Science to obtain additional information.

Requirements for Minor in Military Science

The minor in Military Science is administered by the Department of Military Science (Army ROTC) in the College of Arts and Sciences. To obtain a minor in Military Science a student must complete a total of 25 credits, all of which must be upper division. A grade of C or better must be obtained for each course. The only credits in which a grade of S will be accepted is MSC 350. Students should contact the Department of Military Science to obtain additional information. Students should contact the Department of Military Science to obtain additional information.

MILITARY SCIENCE PROGRAM

Basic Course—Freshman

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|---|---|
| M SC 110, Introduction to Military Science..... | 2 |
| M SC 111, Introduction to Leadership..... | 2 |

Basic Course—Sophomore

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|---|-----|
| M SC 210, Self/Team Development..... | 3 |
| M SC 211, Leadership in Action and Team Building..... | 3 |
| M SC 225, Directed Studies..... | 1-3 |
| M SC 250, Leadership Internship I (summer only)..... | 4 |
| Courses should be taken in sequence, normally one per semester. | |

Advanced Course—Junior

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|---|-----|
| M SC 310, 310L, Leading Small Organizations I/Lab..... | 4 |
| M SC 320, 320L, Leading Small Organizations II/Lab..... | 4 |
| M SC 325, Advanced Directed Studies..... | 1-3 |
| M SC 350, Leadership Internship (summer only)..... | 6 |

Advanced Course—Senior

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|---|-----|
| M SC 401, 401L, Leadership Challenges and Goal Setting/Lab..... | 4 |
| M SC 402, 402L, Transition to Lieutenant/Lab..... | 4 |
| M SC 425, Practicum..... | 1-4 |

The student's military science advisor will recommend course sequence. Military science students must sign up for and attend courses plus laboratories. Departmental requirements may not be taken S/U.

NONDEPARTMENTAL REQUIREMENTS

One course in Military History must be successfully completed to meet Professional Military Education requirements. See your military science advisor for specific courses.