

THE ACADEMIC PROGRAM

ACCREDITATION

Virginia Military Institute is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097; Telephone number 404-679-4501) to award Bachelor of Arts and Bachelor of Science degrees. Any inquiries to the Commission should relate only to the accreditation status of VMI and not to general admission information. It is a member of the American Council on Education, the Association of American Colleges, the College Entrance Examination Board, and the Association of Virginia Colleges. The chemistry curriculum is approved by the American Chemical Society. The civil, electrical and computer, and mechanical engineering curricula are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). The computer science curriculum is accredited by the Computing Accreditation Commission of ABET. The Economics and Business curriculum is accredited by AACSB International.

ACADEMIC PROGRAM MISSION AND VISION

MISSION

The VMI Academic Program educates cadets in a rigorous academic environment that encourages life-long learning and develops citizens of character who anticipate, respond, and lead in a complex and changing world.

VISION

The VMI Academic Program includes:

1. Curriculum

VMI offers cadets a challenging four-year core curriculum and fourteen nationally recognized majors in engineering, sciences, and the humanities with an array of enrichment opportunities provided through the Institute Honors Program, undergraduate research, foreign study, internships, and the Institute Writing Program.

2. Cadets

VMI recruits, develops, and graduates cadets of exceptional talent, intellectual curiosity, and character, who possess a commitment to service and respect for others.

3. Faculty

Ninety-eight percent of the VMI faculty hold Ph.D.'s. Our faculty is renowned for teaching excellence, mentorship of students, scholarly engagement, commitment to service, and encouragement of undergraduate research. Small class sizes enable faculty to interact closely with cadets both inside and outside of the classroom.

4. Environment

The VMI environment includes state-of-the-art facilities, equipment, technologies, and instructional materials, first-class programs of academic support, and an organizational climate characterized by collegiality, cooperation, and respect.

CORE CURRICULUM

The Core Curriculum develops foundational knowledge and skills that are essential to VMI's academic and military missions. Designed thematically as "The Nucleus of Effective Citizenship and Leadership," VMI's Core requirements are organized into four components.

I. Key Competencies	
A. Written Communication (WR 101-102) ¹	6 hours
B. Oral Communication (SE 300)	1 hour
C. Scientific Analysis (approved BI, CH, or PY sequence)	8 hours
D. Mathematical Reasoning (approved MA sequence)	6 hours
E. Physical Education (seven semesters)	4 hours
II. Foundations of Citizenship and Leadership	
A. Reserve Officers Training Corps (ROTC)	8 hours
B. Leadership in Organizations (PS 344)	3 hours
III. Perspectives on Civilization and Human Achievement	
A. World History (HI 103-104)	6 hours
B. Civilizations and Cultures (two approved electives) ²	6 hours
IV. Integrative Experiences	
A. Writing-Intensive Courses ³	variable
B. Capstone Experience	variable

¹ All activity must be passed with a grade of "C" or better.

² One of these courses may be replaced by a credit-bearing, Institute-approved Study Abroad experience.

³ At least one of these courses must be in the major.

THE ACADEMIC MAJOR

VMI believes that academic excellence is best maintained at a small college when the number of disciplines offering degrees is restricted. The choice between a course of study leading to a bachelor of arts or a bachelor of science degree is made before the cadet enters VMI. Transfer from one major field of study to another after matriculation is permitted based on the availability of the major and approval of the area department head.

A cadet may be awarded the degree of Bachelor of Science with a major in applied mathematics, chemistry, civil engineering, computer science, electrical and computer engineering, mechanical engineering, physics, physics (nuclear) or psychology; the degree of Bachelor of Arts may be awarded with a major in economics and business, English, history, international studies and political science, modern languages and cultures, or psychology. Either a Bachelor of Science degree or a Bachelor of Arts degree may be awarded in biology, chemistry, physics or psychology. Detailed description of majors begins on page 32.

Cadets may declare a double major if they meet specified academic standards and have the approval of both department heads. Only one bachelor's degree is awarded, but the cadet's academic transcript notes the double major.

ACADEMIC MINORS AND CONCENTRATIONS

Cadets may also declare a minor and/or concentration in certain academic areas. The cadet should declare the minor or

concentration as soon as possible and no later than the beginning of the first class year. A permit must be submitted to the Registrar, bearing the approval of the cadet's academic department head and the head of the department that offers the minor or concentration.

A 2.0 GPA must be maintained in the required course work and the cadet must meet any other criteria set by the department offering the minor or concentration. Official notice of the completed minor or concentration appears on the academic transcript and the graduation program. A cadet may drop a minor or concentration by submitting a permit with the signatures of the department heads to the Registrar.

Minors/concentrations are available in the following areas. Details are available under "Curricula" in this catalog.

Minors

Sponsoring Department	Area
Physics and Astronomy.....	Astronomy
Economics and Business.....	Business
Chemistry.....	Chemistry
Math and Computer Science.....	Computer Science
Economics and Business.....	Economics
English and Fine Arts.....	English
English and Fine Arts.....	Fine Arts
History.....	History
Math and Computer Science.....	Information Technology & Design
International Studies.....	International Studies
Psychology & Philosophy.....	Leadership Studies
Math and Computer Science.....	Mathematics
History.....	Military History
Modern Languages & Cultures.....	Modern Languages & Cultures
Modern Languages & Cultures.....	Modern Languages - Arabic
Modern Languages & Cultures.....	Modern Languages - French
Modern Languages & Cultures.....	Modern Languages - German
Modern Languages & Cultures.....	Modern Languages - Japanese
Modern Languages & Cultures.....	Modern Languages - Spanish
Mechanical Engineering.....	Nuclear Engineering
International Studies.....	National Security
Psychology & Philosophy.....	Philosophy
Physics and Astronomy.....	Physics
Psychology & Philosophy.....	Psychology
English and Fine Arts.....	Writing

Concentrations

Curriculum	Area
Mechanical Engineering.....	Aerospace Engineering
Biology & Chemistry.....	Biochemistry and Molecular Biology
Biology.....	Ecology, Conservation and Organismal Sciences
Economics and Business.....	Financial Management
English and Fine Arts.....	Fine Arts
International Studies.....	Interdisciplinary Studies in Latin America
History.....	Military History
Mechanical Engineering.....	Nuclear Engineering
Physics.....	Nuclear Energy
English and Fine Arts.....	Writing

SPECIAL PROGRAMS

VMI offers a number of exciting special programs that enhance the primary academic experiences provided in our majors and minors, demonstrating the Institute's full commitment to educating the whole man and woman. For more information about these and other special programs, please visit our website: <http://www.vmi.edu/specacadprog>.

Institute Honors Program. The Institute Honors Program was developed to enrich the academic experience of VMI's outstanding cadets through activities that encourage an affinity for intellectual inquiry and develop the capacity for sophisticated engagement of issues and problems, whether ethical, civic, or professional. In all of its elements, the program stresses peer leadership, strong oral and written communication skills, and the highest standards of academic integrity and excellence. The Institute Honors Program recognizes a broader range of achievement than honors earned in a particular major. Attainment of Institute Honors is viewed as the highest academic achievement at VMI. The program is open by application to any cadet with a 3.5 or higher GPA. For further information about the program, see the Associate Dean for Academic Affairs, 210 Smith Hall.

VMI Center for Undergraduate Research. The VMI Center for Undergraduate Research (V-CUR) is both a program and a centralized office with the mission of promoting and facilitating faculty-mentored undergraduate research and fostering the development of a culture of undergraduate research at VMI. V-CUR operates on the premise that some of the most enduringly meaningful academic experiences of college students come through opportunities to be mentored one-on-one by faculty outside the classroom, while also believing in the merit of research and other inquiry-based experiences within a more traditional classroom setting. V-CUR simultaneously nurtures existing mentoring efforts and coordinates new institutional support for joint investigative projects by faculty members and cadets. Programs include an annual undergraduate Research Symposium held on Post; a Summer Undergraduate Research Institute; cadet travel grants to present at professional meetings or conduct research in the field; Wetmore Fund for supplies for cadet academic year research; and awards to encourage and acknowledge faculty who engage cadets in undergraduate research experiences. For more information, contact the Director Undergraduate Research, 300 Preston Library.

Institute Writing Program. The Institute Writing Program seeks to equip cadets for both academic success and participation in the full range of rhetorical occasions they will encounter in their lives as citizens and professionals. The program links three important components of the VMI curriculum: our rigorous core curriculum sequence in first-year composition (WR 101 and WR 102); a thriving Writing Across the Curriculum initiative, which requires cadets to complete two additional "writing-intensive" courses prior to graduation; and an interdisciplinary minor in writing for those who wish to pursue advanced training in rhetoric, technical, professional, or creative writing. Cadets' study in the writing curriculum is enhanced by consultants in the VMI Writing Center, who consult individually with cadets at any stage of a writing project. The program sponsors annual writing contests for cadets, local workshops, a nationally regarded symposium for professors of rhetoric and composition, and several presentations on Post each year featuring writers in all genres. For more information, see the Institute Director of Writing, 232 Scott Shipp Hall.

International Programs. Preparing young men and women for successful service in a world of rapidly integrating cultures and interdependent economies is an inherent component of Virginia Military Institute's mission of educating citizen-soldiers. The VMI Office of International Programs is tasked with the establishment, promotion, and administration of international programs for cadets. Programs offered to cadets fall into a number of categories: international military academy exchange programs, semester abroad programs, summer abroad programs, international internships, and cultural exchanges and study tours. For more information, please contact the Office of International Programs in Old Hospital, Room 101.

Internship Program. VMI works actively to assist cadets in any major who seek internship experiences that will allow them to apply/test career interests and demonstrate their abilities to prospective employers. Internships are available in all geographic areas of the United States and internationally as well. Some are eligible for academic credit, and many of them include stipends for work completed. For more information, contact the Office of Career Services, 311 Carroll Hall.

Summer Session. The VMI Summer Session facilitates cadet progression toward degree completion by offering courses for academic credit during the summer, consistent with the Academic Program Mission. The program is designed to enhance cadet retention, to optimize graduation rates, to provide opportunities for cadets to enrich their education, and to enable cadets to attend the Summer Session and also attend ROTC summer camps, engage in internships, and earn income. It provides the opportunity for cadets to meet curricular, scholarship, athletic, or readmission standards, by enabling them to earn credit for subjects in which they stand deficient or by receiving credit for courses in advance of their class. Summer study allows cadets to broaden their education by earning a double major or minor and facilitates transfer from one curriculum to another. In addition to traditional course offerings the Summer Session also administers the Summer Undergraduate Research Institute, the Summer Study Abroad Program, and the Summer Transition Program. VMI cadets, graduates of accredited secondary schools, and students in good standing at other colleges may attend. High school students who have been promoted to the twelfth grade and have the written approval of their principal are also eligible to attend. For details about scheduling and other admission requirements, please contact the Director of the Summer Session, 210 Science Building.

ACADEMIC SUPPORT

VMI offers proactive and innovative programs of academic support for cadets at all levels.

Advising. According to the Council for the Advancement of Standards in Higher Education, "Academic advising is an essential element of a student's collegiate experience."

Academic advising is a four-year developmental process in which the advisor both supports and challenges the cadet in an effort to increase the cadet's confidence and self-sufficiency. The cadet seeks assistance from the faculty advisor and other VMI personnel to explore and clarify academic, career and life goals. Upon entry into VMI, each cadet is assigned an academic advisor who, unless the cadet subsequently changes academic major, will work with the cadet until graduation. During the first year there is extensive contact between the advisor and cadet in order to facilitate the transition into VMI culture, assist in

mastering the academic policies and regulations, and assist the cadet in coordinating the demands of a multi-faceted academic and co-curricular experience. Upper class cadets have one mandatory contact with advisors each semester but are strongly encouraged to meet with advisors more often in order to benefit from their field-specific expertise, life experience and curriculum knowledge. VMI also sponsors an Athletic Advising Program to help scholar-athletes keep their focus on academics. For information about the VMI Academic Advising Program, contact the Associate Registrar for Advising Support, Maj. Simone McKelvey, mckelveys@vmi.edu, 301 Shell Hall.

Career Services. The Office of Career Services provides a wide array of career planning, employment, internship and graduate/professional school services. Centralized career planning services include career exploration and decision making, career information, vocational interest assessment and career related programs. Employment services include job search guidance, resume assistance, interview skills training, employer information and recruitment programs. Graduate education support includes information on graduate/professional school admissions testing.

Choice of Career. VMI has been privileged by a solid record as a learning model that prepares leaders of business, education and government. The unique combination of activities in the classroom, co-curricular and barracks life distinguish graduates with the ability to function in a variety of settings and achieve noteworthy results. The concept of citizen-soldier encompasses the ideal that the VMI experience prepares graduates to become useful members of society. In general, VMI's technical curricula teach more immediately employment related skills, whereas the non-technical curricula provide a more broadly-based body of knowledge in the arts and sciences, with emphasis in a particular academic discipline. However, the choosing of a particular major in which to specialize need not exclude a cadet from a particular career, because all curricula provide the basic educational foundation essential for a variety of occupations.

Employers, as well as graduate and professional schools, value the individual who uses words with clarity and force, who possesses the capacity to handle abstract and quantitative ideas, who effectively works harmoniously and productively with others, who understands human institutions and the social and economic environment, and who thinks independently. Personal attributes of integrity and dependability are of great worth. Development of such basic abilities is not the monopoly of any course or curriculum, or even of the academic program itself, for at VMI it is the total program of academic, military, and extracurricular activity that fosters such development.

If leadership may be defined as the ability to organize and effectively direct one's own time and energies and to aid others to do the same, then the life of a cadet is a real as opposed to an imaginary experience in applied leadership. Accordingly, success within the challenging VMI system requires the development of leadership abilities, qualities that have been most favorably noted by employers of our graduates. Career opportunities are especially open to those who have demonstrated the capacity to work hard to achieve worthy goals. In short, the Virginia Military Institute strives to provide a climate in which a student may become an educated, healthy, whole person.

Center for Cadet Counseling. In the Col. Mike E. "Doc" Monsour Center for Cadet Development and Counseling, professional counselors work to facilitate the personal development of cadets to meet their full academic and personal potential and to promote the health and wellness of cadets. The center provides

short-term counseling to address personal concerns that may impede current and future learning and personal development. Counselors may also provide crisis intervention services to prevent, resolve, and/or minimize the effects of crises on cadets and the Institute community. The center provides speakers and facilitators for psycho-educational, wellness-focused programs, including training for cadet groups, guest lecturers in classes, special interest speakers at events, and facilitators for group discussions. Counselors may consult with VMI employees, cadets, and family members who are concerned about cadets. Although all counseling information is confidential, counselors can offer general recommendations on assisting cadets that are having difficulties.

Disabilities Services works to provide all cadets with an equal opportunity to achieve academic success. Cadets with learning disabilities meet with the Director of Disabilities Services to develop individual support programs, including classroom accommodations. Cadets who have never been tested for a learning disability may be screened on Post at no cost and, if warranted, may choose to be tested by a specialist off Post at their own expense.

Information Technology. The mission of VMI Information Technology is to serve and support the technology needs of the Institute and facilitate creativity in teaching, learning, and communication for cadets, administration, faculty and staff. VMI IT provides many services for cadets, including computer labs, hardware and software recommendations and installations, and help desk support. VMI IT is responsible for the VMI network, and can provide access upon request. For more information, please contact the VMI IT Help Desk, help@vmi.edu, 315 Nichols Engineering Building.

Preston Library. The mission of Preston Library is to provide library materials and services of the highest quality; to teach skills needed for academic inquiry and lifelong learning; to support faculty and undergraduate research; to provide access to and promote the use of Institute historical materials; to support the creation and use of multimedia by cadets and faculty; and to offer library services to the community at large.

Named for Colonel J. T. L. Preston, the library was dedicated in 1939, enlarged in 1972, and renovated in 1996. The building is equipped with 32 public-access, networked computers for research use, and a computer instruction lab which enables librarians to offer hands-on training for online resources. Preston Library has 110 individual study carrels that are available on a first come, first serve basis. Carrels are equipped with study lamps, power outlets, and network connections. Ten group study rooms are available in addition to many large tables for study and research. Each floor has a gallery area furnished with armchairs and sofas. All areas of the library have wireless access. The library maintains a music collection in the Timmins Music Room.

Preston Library's collections include over 300,000 volumes of print materials, over 5,000 non-print items, and more than 200 scientific, literary, and general interest print periodicals. The Library installed an integrated library system in 1991 and upgraded its system in 2004. The online catalog is available at library.vmi.edu. In addition, the library provides access to more than 100 full-text and citation databases and over 100,000 full-text electronic journals, many available through VIVA (the Virtual Library of Virginia). Preston Library is a selective depository of U.S. government publications, with current holdings of about 200,000 federal and state documents. Interlibrary loan service is available to cadets and faculty free of charge. Preston Library maintains a web presence at www.vmi.edu/library and a blog at Prestonlibrary.net/blog.

Media Services and the VMI Archives are located within the library. Media Services has 18 media carrels, two media creation rooms, and a media projection room for classes to view videos. The Archives contains VMI's historic official records, photographs, manuscripts, and rare materials. It maintains a web presence at www.vmi.edu/archives.

Mathematics Education Resource Center (MERC). The primary goals of the MERC are to formulate a comprehensive picture of the mathematical lives of cadets, and then provide the support necessary to reinforce that picture. In this, MERC staff assesses what mathematical skills and experiences a VMI cadet has prior to admission. The MERC staff then strives to understand what expectations military, community, and private businesses have with regards to the mathematical skills and mathematical reasoning of a graduating cadet. Finally, in this knowledge of where a cadet starts and where they will go next, the MERC staff provides every possible means to support that cadet's exciting journey through VMI.

The primary resource for service of the cadet corps' mathematical needs is the Open Mathematics Lab (OML). Its initial design allows cadets to freely seek and find as much help as needed for any of VMI's mathematics core curriculum courses and pre-calculus, differential equations, matrix algebra, and multi-variable calculus courses. The model for the lab is one wherein tutors are prepared to help cadets in an open and shared setting, where no appointments are necessary. OML tutors are trained, knowledgeable, and current on the specific techniques and problems taught by VMI mathematics teaching faculty. The OML is meant to complement and support, but not replace, course activities within the VMI mathematics curriculum.

Miller Academic Center. The Miller Academic Center's motto is "Empowering Cadets to be Extraordinary!" Whether a cadet is transitioning from high school to college, finding coursework difficult, or wanting to enhance skills to achieve academic stars, the Miller Academic Center has programs and services to facilitate cadet's achievement of optimal academic success. Time management skills, effective study skills, and strategies to balance the academic, military, athletic, and personal responsibilities are offered by the MAC. Programs include Group Study Sessions, Project Success, and FOCUS (Facilitating Opportunities and Choices to Unlock Success). Cadets can also meet individually with staff to discuss questions or concerns about academic success at VMI.

The MAC is also collaborating with Col. Dellinger (Modern Languages and Cultures) in the development of two new courses designed to put the focus on academics in the Ratline. AC 101/102 will be offered the first and last five weeks of the Fall semester as a pilot for fifty new cadets. Time management skills, study skills, and academic protocol will be addressed with the assistance of successful upperclass cadet facilitators.

The MAC is also the new home for the Teacher Education program at VMI. Cadets can explore and/or pursue a career in teaching at the K-12 and college levels.

The MAC is located at 202 Carroll Hall. For more information, please visit www.vmi.edu/mac or contact us at 540-464-7602 or milleracademiccenter@vmi.edu.

Learning Programs help cadets at all levels enhance their potential for success in college and in life. Programs are grounded in current research and designed to teach learning strategies (note-taking, textbook reading, test preparation and test-taking) and develop life skills, especially Executive Functions, which are higher level process that direct self-awareness and self-regulation of thoughts, emotions, and behavior. Included among Executive Functions are critical skills for success, such as goal-setting,

attention, memory, strategy shifting, problem solving, resource utilization, planning, prioritizing, impulse control, resilience, and perseverance. *Programs include individual and small group academic coaching, peer mentoring, PASS (tutoring), and workshops.*

Writing Center. The VMI Writing Center helps cadets with a full range of activities to improve their writing, at any level and in any discipline. Professional and trained peer tutors, work with cadets in one-on-one conferences on every aspect of the writing process, from planning a paper to finishing the final draft. Tutors are available by appointment or on a walk-in basis in Carroll Hall.

ACADEMIC POLICIES

Academic Regulations. The VMI Academic Regulations are maintained by the Office of the Deputy Superintendent and Dean of the Faculty online at <http://www.vmi.edu/AcadRegulations>. Among other information, the regulations include current VMI definitions and policies on:

- Academic Delinquency
- Academic Probation
- Academic Recognition
- Admissions Requirements
- Advanced Placement Credit
- Auditing of Courses
- Change of Grade
- Change of Major
- Class Attendance
- Classification (academic)
- Course Load
- Drop-Add Period
- Final Examinations
- Grade Reporting
- Grading System
- Graduation Requirements
- Readmission
- Repeating Courses
- ROTC
- Students with Disabilities
- Substitution of Curricular Requirements
- Transcripts
- Transfer Credit
- Withdrawals
- Work-for-Grade Policies

Please contact the Assistant Dean for Administration and Planning, 210 Smith Hall, if you have questions about the VMI Academic Regulations.

Current Academic Requirements. Annually each fall, the Registrar publishes the current academic requirements, including minimum academic standards. The standards are available online at <http://www.vmi.edu/AcadPolicy>.

Work for Grade. Principles of academic integrity in all work for grade are stressed in every course taught at VMI. Cadets and faculty alike are reminded of the institutional statements and definitions regarding work for grade as expressed in the Academic Regulations. Work for grade policies are printed in the syllabus of every course taught at VMI.

Written Work. Every cadet is expected to use the English language clearly, correctly, and thoughtfully. Any cadet who

through carelessness, indifference, or lack of preparation submits substandard written work in any course should expect to receive a reduced grade. Extremely poor writing may result in a failing grade. A cadet whose command of English is deemed inadequate may be required by his/her curriculum head to submit additional written work in order to earn a degree from the Virginia Military Institute.

ACADEMIC ADMINISTRATION

The Academic Program is directed by the Deputy Superintendent for Academics and Dean of the Faculty, whose principal subordinates are the Associate Dean for Academic Affairs; the Assistant Dean for Planning and Administration; the Registrar; the Head Librarian; the Directors of Career Services, Center for Undergraduate Research, Institute Writing Program, International Programs, Math Education and Resources Center, Miller Academic Center, Sponsored Programs and Teacher Education Program, in addition to the heads of the Institute's seventeen academic departments. The Deputy Superintendent for Academics and Dean of the Faculty's Office is located in 210 Smith Hall. For contact information, see <http://www.vmi.edu/Content.aspx?id=192>.