

## Microbiology and Molecular Genetics—MMG

**463 Medical Microbiology**  
Fall. 3(3-0) P:M: (MMG 205 or MMG 301)  
RB: (MT 432 or MMG 451) R: Open only to juniors or seniors in the Department of Microbiology and Molecular Genetics or Clinical Laboratory Sciences or Medical Technology major or LBS Environmental Biology/Microbiology or Medical Technology or Microbiology coordinate major. SA: MPH 463

Properties of pathogenic bacteria and viruses and their mechanisms of pathogenicity.

**464 Diagnostic Microbiology Laboratory**  
Fall. 2(0-4) P:M: (MMG 463 or concurrently) R: Open only to juniors or seniors in the Department of Microbiology and Molecular Genetics or Clinical Laboratory Sciences or Medical Technology major or LBS Environmental Biology/Microbiology or Medical Technology or Clinical Laboratory Science or Microbiology coordinate major. SA: MPH 464, MIC 464

Diagnostic procedures for the identification of pathogenic microbes.

**490 Special Problems in Microbiology**  
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department. SA: MPH 490

Library research or tutorial instruction in advanced laboratory techniques.

**491 Current Topics in Microbiology**  
Spring. 3(4-0) R: Open only to seniors in the Department of Microbiology and Molecular Genetics or LBS Environmental Biology/Microbiology or Microbiology coordinate major. SA: MPH 491

Capstone experience for microbiology majors. Presentation and discussion of journal articles. Writing of position papers. Topics such as microbial physiology, ecology, genetics, molecular biology, virology, immunology, or pathogenesis.

**492 Undergraduate Research Seminar**  
Spring. 1(1-0) P:M: (MMG 499 or MMG 499H) R: Open only to seniors in the Department of Microbiology and Molecular Genetics or LBS Environmental Biology/Microbiology or Microbiology coordinate major. SA: MPH 492

Presentation and group discussion of undergraduate research results.

**499 Undergraduate Research**  
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to students in the Department of Microbiology and Molecular Genetics or LBS Environmental Biology/Microbiology or Microbiology coordinate major. SA: MPH 499

Participation in a laboratory research project.

**499H Honors Research**  
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to Honors College students in the Microbiology or Environmental Biology/Microbiology major or LBS Microbiology coordinate major or LBS Environmental Biology/Microbiology coordinate major. SA: MPH 499H

Research project with thesis and oral report. A portion of Microbiology capstone experience.

## MILITARY SCIENCE MS

### Department of Military Science Office of the Provost

**101A Leadership: The Military Profession**  
Fall. 1(1-1) SA: MS 101 Not open to students with credit in MS 101B.

Introduction to military leadership and fundamental concepts of leadership. Application of leadership doctrine. The role of the U.S. Army, Army Reserves, and National Guard. Leadership laboratory introduces basic military skills.

**101B Leadership: The Military Profession**  
Spring. 1(1-2) SA: MS 101 Not open to students with credit in MS 101A.

Introduction to military leadership and fundamental concepts of leadership. Application of leadership doctrine. The role of the U.S. Army, Army Reserves, and National Guard. Leadership laboratory introduces basic military skills.

**102A Leadership: Wilderness Survival**  
Fall. 1(1-1) SA: MS 102 Not open to students with credit in MS 102B.

Introduction to wilderness survival including the psychology of survival, survival planning, and survival kits; shelters; water procurement; fire craft; field expedient weapons, tools, and equipment; desert, tropical, and cold weather survival; basic survival medicine; and food procurement.

**102B Leadership: Wilderness Survival**  
Spring. 1(1-2) SA: MS 102 Not open to students with credit in MS 102A.

Introduction to wilderness survival including the psychology of survival, survival planning, and survival kits; shelters; water procurement; fire craft; field expedient weapons, tools, and equipment; desert, tropical, and cold weather survival; basic survival medicine; and food procurement.

**201A Leadership: The Military Leader**  
Fall. 1(1-1) SA: MS 201 Not open to students with credit in MS 201B.

Introduction to effective leadership. Communications. Value of the United States Army. Responsibilities of military officers and professionalism. Laboratory includes tactics, marksmanship training, and military skills.

**201B Leadership: The Military Leader**  
Spring. 1(1-2) SA: MS 201 Not open to students with credit in MS 201A.

Introduction to effective leadership. Communications. Value of the United States Army. Responsibilities of military officers and professionalism. Laboratory includes tactics, marksmanship training, and military skills.

**202A Introduction to Land Navigation and Tactics**  
Fall. 1(1-1) SA: MS 202 Not open to students with credit in MS 202B.

Introduction to land navigation using military maps and lensatic compass. Planning routes using azimuth and distance. Determining location by terrain association and other methods. Introduction to infantry defensive and reconnaissance operations.

**202B Introduction to Land Navigation and Tactics**  
Spring. 1(1-2) Not open to students with credit in MS 202A.

Introduction to land navigation using military maps and lensatic compass. Planning routes using azimuth and distance. Determining location by terrain association and other methods. Introduction to infantry defensive and reconnaissance operations.

**301 Leading Small Organizations**  
Fall. 3(3-2) RB: (MS 101A or MS 101B) and (MS 102A or concurrently or MS 102B or concurrently) and (MS 201A or concurrently or MS 201B or concurrently) and (MS 202A or concurrently or MS 202B or concurrently) Completion of basic camp or boot camp. Must meet U.S. Army contracting requirements.

Skills required for military officers: communication, team building, delegating tasks, supervision, ethics, and physical fitness. Leading small units. Participation in physical fitness is required.

**302 Leadership: Small Unit Tactics**  
Spring. 3(3-2) RB: (MS 301)

Basic military tactics and the military communication/orders process focusing on small units. Application of lessons learned from leadership case studies to practical exercises of leadership. Delegation of tasks and supervision of subordinates in a stressful environment.

**401 Leadership: Training Management, Counseling, and Unit Management**  
Fall. 3(3-2) RB: (MS 302)

Army training philosophy. The lieutenant's role in training management, personnel administration, and logistics. Practical exercises in counseling and training presentations. Practical application of leadership development doctrine. Laboratory includes practical experience in unit administration and training management.

**402 Military Law, Ethics and Professionalism**  
Spring. 3(3-2) RB: (MS 401)

Introduction of the military legal system and the Law of War. The basis of the military profession and the importance of ethical development to the profession of arms. Development of subordinates. Laboratory includes practical exercises in professional development and leadership opportunities.

**490 Independent Study in Military Science**  
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Open only to juniors or seniors. Approval of department.

Individual research in areas related to military science.

## MUSIC MUS

### School of Music College of Arts and Letters

**112 Chamber Music**  
Fall, Spring. 1(0-2) A student may earn a maximum of 10 credits in all enrollments for this course. R: Open only to students in the School of Music. Audition required.

Rehearsal and performance of a broad range of chamber music literature.