

# MICROBIOLOGY & MOLECULAR GENETICS (MMG)

## College of Biological Sciences

Undergraduate-level Microbiology (MIC) (<https://catalog.ucdavis.edu/courses-subject-code/mic/>) courses are being discontinued & replaced by Microbiology & Molecular Genetics (MMG) courses.  
For more information, contact your advisor.

### MMG 098 – Directed Group Study (1-5 units)

*Course Description:* Primarily for lower division students.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Variable.

*Grade Mode:* Pass/No Pass only.

### MMG 099 – Special Study for Undergraduates (1-5 units)

*Course Description:* Special study for undergraduates.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Variable.

*Repeat Credit:* May be repeated.

*Grade Mode:* Pass/No Pass only.

### MMG 111 – Human Microbiology (3 units)

*Course Description:* Biology of microorganisms that form commensal, mutualistic, and pathogenic relationships with human beings, emphasizing their phylogeny, physiology, genetics, and ecology. Effects on human nutrition, development and physiology. Mechanisms of pathogenesis, immune response evasion, antibiotic action, and antibiotic resistance.

*Prerequisite(s):* (MIC 102 C- or better or MMG 102 C- or better); (BIS 101 C- or better or BIS 101V C- or better.)

*Learning Activities:* Lecture 3 hour(s).

*Credit Limitation(s):* Not open for credit to students who have taken MIC 111.

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### MMG 115 – Recombinant DNA Cloning & Analysis (3 units)

*Course Description:* Cloning and analysis of recombinant DNA, with emphasis on Escherichia coli host-vector systems. DNA-modifying enzymes; vectors and their use; manipulation and expression of insert DNA; polymerase chain reaction; and sequence annotation. Graduate students see MIC 215.

*Prerequisite(s):* (BIS 101 C- or better or BIS 101V C- or better); or the equivalent.

*Learning Activities:* Lecture 3 hour(s).

*Credit Limitation(s):* No credit if student has taken MIC 115.

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### MMG 120 – Microbial Ecology (3 units)

*Course Description:* Interactions between non-pathogenic microorganisms and their environment, emphasizing physiological and metabolic characteristics of diverse groups and their adaptation to and modification of various habitats.

*Prerequisite(s):* (MIC 102 C- or better or MMG 102 C- or better); (BIS 101 C- or better or BIS 101V C- or better); or consent of instructor. BIS 102 or BIS 105 recommended.

*Learning Activities:* Lecture 3 hour(s).

*Credit Limitation(s):* Not open for credit to students who have taken MIC 120.

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### MMG 162 – General Virology (3 units)

*Course Description:* Integrated presentation of the nature of animal, bacterial, and plant viruses, including their structure, replication and genetics.

*Prerequisite(s):* (BIS 101 C- or better or BIS 101V C- or better); BIS 102 or BIS 105 recommended.

*Learning Activities:* Lecture 3 hour(s).

*Credit Limitation(s):* Only 2 units of credit for students who have taken PMI 128 or MMI 177 or MMI 177; no credit if student has taken MIC 162.

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### MMG 170 – Yeast Molecular Genetics (3 units)

*Course Description:* Survey of the genetics, cell biology, and technologies in yeasts and related lower eukaryotes. Topics include diversity of yeasts; cell structure; metabolism; cell cycle; genetic approaches and genomics; gene expression; yeasts as models to study higher eukaryotes; and contemporary techniques.

*Prerequisite(s):* (BIS 101 C- or better or BIS 101V C- or better); MIC 102 strongly recommended.

*Learning Activities:* Lecture 3 hour(s).

*Credit Limitation(s):* Not open for credit to students who have taken MIC 170.

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### MMG 172 – Host-Parasite Interactions (3 units)

*Course Description:* Exploration of host-parasite interactions at multiple levels, with an emphasis on global health and medically important human parasites.

*Prerequisite(s):* MIC 102; (BIS 101 or BIS 101V); BIS 102 or 105 strongly recommended.

*Learning Activities:* Lecture 3 hour(s).

*Credit Limitation(s):* Not open for credit to students who have taken course MIC 172.

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### **MMG 175 – Cancer Biology (3 units)**

*Course Description:* Exploration of the causes and treatments of cancer at multiple levels: molecular/cell biology, clinical manifestations, epidemiology and prevention.

*Prerequisite(s):* BIS 101 C- or better; (BIS 102 C- or better or BIS 105 C- or better).

*Learning Activities:* Lecture 3 hour(s).

*Credit Limitation(s):* Not open for credit for students who have taken MIC 175.

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### **MMG 190C – Undergraduates Research Conference (1 unit)**

*Course Description:* Presentation and critical discussion of staff research activities; designed for advanced undergraduate students.

*Prerequisite(s):* MIC 199 (required concurrently) or MMG 199 (required concurrently); and consent of instructor; upper division standing.

*Learning Activities:* Discussion 1 hour(s).

*Repeat Credit:* May be repeated for credit.

*Grade Mode:* Pass/No Pass only.

### **MMG 192 – Internship (1-12 units)**

*Course Description:* Technical and/or professional experience on or off campus. Supervised by a member of the Department of Microbiology & Molecular Genetics faculty.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Internship 3-36 hour(s).

*Grade Mode:* Pass/No Pass only.

### **MMG 197T – Tutoring in Microbiology (1-5 units)**

*Course Description:* Assist instructor in one of the section's regular courses by tutoring individual or small groups of students in a laboratory, in voluntary discussion groups, or other voluntary course activities.

*Prerequisite(s):* Consent of instructor; upper division standing.

*Learning Activities:* Variable 1-5 hour(s).

*Repeat Credit:* May be repeated for credit.

*Grade Mode:* Pass/No Pass only.

### **MMG 198 – Directed Group Study (1-5 units)**

*Course Description:* Directed group study. May be taught abroad.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Variable.

*Grade Mode:* Pass/No Pass only.

### **MMG 199 – Special Study for Advanced Undergraduates (1-5 units)**

*Course Description:* Special study for advanced undergraduates. May be taught abroad.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Variable.

*Grade Mode:* Pass/No Pass only.