MICROBIOLOGY (MICROBIO)

MICROBIO 1 — COOPERATIVE EDUCATION/CO-OP IN MICROBIOLOGY
1 credit.

Full-time off-campus work experience which combines classroom theory with practical knowledge of operations to provide students with a background upon which to base a professional career. Students receive credit only for the term in which they are actively enrolled and working. The same work experience may not count towards credit in MICROBIO 399.

Requisites: So st, and consent of supervising instructor and academic advisor.

Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Fall 2010

MICROBIO 100 — THE MICROBIAL WORLD
3 credits.

Roles of microorganisms and viruses in nature, health, agriculture, pollution control and ecology. Principles of disease production, epidemiology and body defense mechanisms. Biotechnology and the genetic engineering revolution. Primarily for non-science majors; not accepted for degree credit in Bacteriology. No degree credit for both Bact 100 101 or 303

Requisites: Open to Fr.

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No

Last Taught: Spring 2010

MICROBIO 101 — GENERAL MICROBIOLOGY
3 credits.

Survey of microorganisms and their activities; emphasis on structure, function, ecology, nutrition, physiology, genetics. Survey of applied microbiology—medical, agricultural, food and industrial microbiology. Intended to satisfy any curriculum which requires introductory level microbiology. See 102 if laboratory is desired. Stdts may not rec cr for both Bact 101 303. Stdts with 1 sem organic chem who will continue in biol or phys sci take 303. Open to Fr.

Requisites: CHEM 103 or 108 or 109 or 115.

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No

Last Taught: Fall 2017

MICROBIO 102 — GENERAL MICROBIOLOGY LABORATORY
2 credits.

Covers techniques and procedures used in general microbiology, including cultivation, enumeration, aseptic techniques, physiology and selected applications. Stdts may not receive credit for both Bact 102 304. Open to Freshmen

Requisites: Bact 101 or concurrent registration (preferred).

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No

Last Taught: Fall 2017

MICROBIO 289 — HONORS INDEPENDENT STUDY
1-2 credits.

INTER-AG 288

Requisites: Enrolled in the CALS Honors Prgm Sophomore or Junior standing.

Course Designation: Honors - Honors Only Courses (H)
Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Spring 2010

MICROBIO 299 — INDEPENDENT STUDY
1-3 credits.

Requisites: Open to Fr, So or Jr st written cons inst

Course Designation: Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Fall 2017

MICROBIO 303 — BIOLOGY OF MICROORGANISMS
3 credits.

Basic biology of microorganisms, including structure, function, physiology, genetics, ecology, diversity, and evolution. No degree cr for both Bact 101 303. Required of Bact majors, recommended for biol sci majors

Requisites: Prev crse in botany, zool, Biocore or gen biol; 1 sem org chem or con reg.

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No

Last Taught: Fall 2017
MICROBIO 304 — BIOLOGY OF MICROORGANISMS LABORATORY
2 credits.

Introduction to modern laboratory techniques used to study the distribution and properties of microorganisms. This is the companion lab to Microbiology 303. Degree credits cannot be earned in both Microbiology 102 and 304. No degree cr for both Bact 102 304. Required of Bact majors recommended for bio-sci majors

Requisites: Bact 303 or con reg.
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2017

MICROBIO 305 — CRITICAL ANALYSES IN MICROBIOLOGY
1 credit.

Train students to become scientific problem-solvers, to critically analyze data, and to comprehend the principles of microbiological research via active discussion of a combination of scholarly papers and contemporary, hot topics in our field.

Requisites: MICROBIO 303 or con reg
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2017

MICROBIO/FOOD SCI 324 — FOOD MICROBIOLOGY LABORATORY
2 credits.

Lab exercises dealing with food preservation, spoilage, and food poisoning. Isolation, identification and quantification of specific microbes occurring in foods, and food fermentations by bacteria and yeast.

Requisites: (MICROBIO 102 or MICROBIO 304) and MICROBIO/FOOD SCI/MICROBIO 325 or concurrent enrollment
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2017

MICROBIO/FOOD SCI 325 — FOOD MICROBIOLOGY
3 credits.

Principles of food preservation, epidemiology of foodborne illness, agents of foodborne illness, food fermentations and biotechnology.

Requisites: MICROBIO 101, MICROBIO 303, or M M & I 301
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2017

MICROBIO 330 — HOST-PARASITE INTERACTIONS
3 credits.

Interrelationships between bacterial and viral parasites and their host cells or tissues. Stresses microbial strategies and mechanisms of colonization, invasion, pathogenesis and resistance of host defenses.

Requisites: Bact 101 102, or Bact 303 304; or equiv
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Spring 2016

MICROBIO 375 — SPECIAL TOPICS
1-4 credits.

Subjects of current interest to undergrads.

Requisites: Variable prerequisites depending on topic
Course Designation: Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2017

MICROBIO 399 — COORDINATIVE INTERNSHIP/COOPERATIVE EDUCATION
1-8 credits.

Requisites: So or Jr or Sr st cons suprvsg inst, advisor, intrshp prog coordinator
Course Designation: Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Workplace - Workplace Experience Course
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2013

MICROBIO 400 — STUDY ABROAD IN MICROBIOLOGY
1-6 credits.

Provides an area equivalency for courses taken on Madison Study Abroad Programs that do not equate to existing UW courses. W.-Madison Study Abroad Program

Requisites: Current registration in a U.
Repeatable for Credit: Yes, unlimited number of completions

MICROBIO/SOIL SCI 425 — ENVIRONMENTAL MICROBIOLOGY
3 credits.

Microbial interactions in soils, water, extreme environments and biofilms. Modern methods for studying microbial ecology. role of microbes in nutrient cycles and biogeochemistry. Use of microbes for mitigating manmade environmental problems of industrial, agricultural, and domestic origin.

Requisites: Bact 303, CHEM 341 or 343
Course Designation: Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Spring 2017
MICROBIO 450 — DIVERSITY, ECOLOGY AND EVOLUTION OF MICROORGANISMS
2 credits.

Fundamental concepts relating to the phylogenetic diversity, ecology and evolution of microbes. Active learning methods applying these concepts will promote a deeper understanding of microbiology.

Requisites: Bact 303, 1 sem of genetics, either BIOCHEM 501 or equiv or 507 or equiv
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2017

MICROBIO 470 — MICROBIAL GENETICS & MOLECULAR MACHINES
3 credits.

An undergraduate-level course in modern microbial genetics and molecular processes. Emphasis on the use of eubacterial and eukaryotic microbes to elucidate cellular function. Discussion of experimental approaches to study microbes and their use in biotechnology, bioremediation, and medicine.

Requisites: MICROBIO 303
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2017

MICROBIO/SOIL SCI 523 — SOIL MICROBIOLOGY AND BIOCHEMISTRY
3 credits.

Transformations of nutrients and contaminants in soils and groundwater by microorganisms: emphasis on enzymatic mechanisms and metabolic pathways. Approaches for analyzing microbial populations and activities including molecular techniques. Applications of microbial activities for bioremediation of contaminated soils and groundwater.

Requisites: CHEM 104; Bact 303 or Bot 375 or BIOCHEM 501, or cons inst
Course Designation: Breadth - Physical Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2017

MICROBIO/BIOLOGY 525 — ADVANCED BIOLOGICAL LABORATORY PRACTICES: A RESEARCH EXPERIENCE
2 credits.

Theory and practice of techniques typically used in microbiological and related biological research; biological experimental data interpretation and analysis; practice writing a research paper, reading primary literature, presenting their work to peers, and self-directing an independent research project (including keeping accurate lab notebooks); critical thinking in controversial scientific research ethics.

Requisites: MICROBIO 303 and 304
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No

MICROBIO 526 — PHYSIOLOGY OF MICROORGANISMS
3 credits.

Biochemistry of microbial processes. Bact 527 is the accompanying lab.

Requisites: Bact 303, 370 either BIOCHEM 501 or BmolChem 603.
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2017

MICROBIO/M & I/PATH-BIO 528 — IMMUNOLOGY
3 credits.

Development and functions of immune response in animals; a comprehensive study of experimental humoral and cellular immunity.

Requisites: Two sem chem and one sem zoology or gen biology
Course Designation: Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2017
MICROBIO/ONCOLOGY 545 — TOPICS IN BIOTECHNOLOGY
1 credit.

Seminars on current topics in agricultural, medical, and industrial biotechnology such as: microbiological production of food, drink, biopharmaceuticals; production methods, genetic engineering (vectors, recombination cloning), continuous fermentation; bioconversion processes and production of chemicals from biomass; plant biotechnology; transgenic animals.

Requisites: BIOCHEM 501 and GENETICS 466 or equiv
Course Designation: Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2017

MICROBIO 551 — CAPSTONE RESEARCH PROJECT IN MICROBIOLOGY
2 credits.

Students will conduct independent research in either a PI’s laboratory or in small groups in our teaching laboratories. Students will discuss progress of their projects and research ethics, will write a research proposal and will prepare and present a poster with final results for the department Poster Session. The in-class students use microbiological, molecular, and bioinformatic approaches to investigate the microbial ecology of environmental microbial communities. Research-lab students will progress toward goals established by the research mentor / PI.

Requisites: MICROBIO 527
Course Designation: Gen Ed - Communication Part B
Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Spring 2017

MICROBIO/GENETICS 607 — ADVANCED MICROBIAL GENETICS
3 credits.

Molecular genetic methods and related aspects of prokaryotic and lower eukaryotic biology, as well as critical analysis of the scientific literature. Approximately two-thirds of the course will focus on prokaryotes and one-third on lower eukaryotic microbes.

Requisites: GENETICS 466 or equiv, BIOCHEM 501 or equiv, Grad st or cons inst
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2017

MICROBIO/BIOCHEM/GENETICS 612 — PROKARYOTIC MOLECULAR BIOLOGY
3 credits.

Molecular basis of bacterial physiology and genetics with emphasis on molecular mechanisms; topics include nucleic acid-protein interactions, transcription, translation, replication, recombination, regulation of gene expression.

Requisites: Bact 370 or equiv BIOCHEM 501 or equiv, or cons inst
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2017

MICROBIO/PL PATH 622 — PLANT-BACTERIAL INTERACTIONS
2-3 credits.

Physiology, genetics, taxonomy, and ecology of bacterial pathogens, epiphytes, and symbionts of plants.

Requisites: A course in advanced bacteriology; GENETICS 466 or equiv; BIOCHEM 501 or equiv; or cons inst
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2017

MICROBIO 625 — ADVANCED MICROBIAL PHYSIOLOGY
3 credits.

Course topics will focus on microbial physiology with an emphasis on metabolic processes.

Requisites: Bact 550 or equiv, and BIOCHEM 501 or 601 or con reg cons inst
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2013

MICROBIO 632 — INDUSTRIAL MICROBIOLOGY/BIOTECHNOLOGY
2 credits.

Application of modern techniques of genetics and physiology to the large-scale production of microbial products; industrial strain improvement; scale-up of microbial processes; survey of industrial processes using microorganisms.

Requisites: Bact 526 BIOCHEM 501 or equiv
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2017
Microbiology (MICROBIO) 640 — General Virology: Multiplication of Viruses
3 credits.

Bacterial and animal viruses, their structure, multiplication, and genetics.
Requisites: Intro crs in bact, biochem genetics
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2017

Microbiology/OncoLOGY/PL Path 650 — Advanced Microbiology of Foodborne Pathogens
3 credits.

Infectious and toxigenic agents of foodborne disease; detection, identification, and control methods; ecology and survival strategies of pathogens in foods; virulence mechanisms of foodborne pathogens.
Requisites: Bact/FOOD SCI/MICROBIO 325 or cons inst
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2010

Microbiology/Botany/Genetics/M M & I/Pl Path 655 — Biology and Genetics of Filamentous Fungi
3-4 credits.

Fungal genetics, genomics, and physiology using plant pathogenic fungi and the genetic models Aspergillus nidulans and Neurospora crassa as model systems to explore the current knowledge of fungal genetics and plant/fungal interactions.
Requisites: Cons inst; PL PATH 300 332 recommended; GENETICS 466 or equiv; general microbiol crse
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2016

Microbiology/BioChem 668 — Microbiology at Atomic Resolution
3 credits.

Three-dimensional protein structures form the basis for discussions of high resolution microbiology; how particular problems are solved with given protein architectures and chemistries and how themes of protein structure are modified and recycled. g. BIOCHEM 501), molecular biol (e.g. Bact 526 or 612) required, one semester of physical chem preferred
Requisites: Biochem (e.
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2017

Microbiology 681 — Senior Honors Thesis
2-3 credits.

Individual lab research for majors for an honors degree in bacteriology (LS students must take 3 cr per sem).
Requisites: Hon prog candidacy
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Honors - Honors Only Courses (H)
Repeatable for Credit: No
Last Taught: Fall 2017

Microbiology 682 — Senior Honors Thesis
2-4 credits.

Continuation of 681.
Requisites: Honors program candidacy Bact 681
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Honors - Honors Only Courses (H)
Repeatable for Credit: No
Last Taught: Spring 2017

Microbiology 691 — Senior Thesis
2 credits.

Requisites: Consent of instructor
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2015

Microbiology 692 — Senior Thesis
2 credits.

Requisites: Consent of instructor
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Spring 2016

Microbiology 699 — Special Problems
1-4 credits.

Requisites: Sr or Grad st cons inst
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2017

Microbiology 710 — Microbial Symbiosis
3 credits.

Covers the themes and diversity of plant and animal associations with microbes with an emphasis on beneficial relationships. Examples will be drawn from recent literature.
Requisites: Graduate or professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2016
MICROBIO/BIOCHEM 726 — REGULATION OF GENE EXPRESSION IN PROKARYOTES
3 credits.

An intensive examination of a limited number of systems to illustrate the range of molecular mechanism utilized to control gene expression in bacteria.

Requisites: Bact/Genetics/BIOCHEM/GENETICS/MICROBIO 612 or cons inst
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2010

MICROBIO 731 — SEMINAR
1 credit.

Reviews of microbiological subjects, and reports on research work.

Requisites: Graduate or professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2017

MICROBIO/M & I 740 — MECHANISMS OF MICROBIAL PATHOGENESIS
3 credits.

Lecture-discussion. Host-pathogen relationships in microbial diseases. Entry level course for infectious diseases sequence (see Med Micro 760, 790).

Requisites: Cons inst, MMI 301 or equiv a course in immunology
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2017

MICROBIO/M & I/PATH-BIO 790 — IMMUNOLOGY OF INFECTIOUS DISEASE
3 credits.

Immunobiology and immunogenetics of resistance to infectious disease agents of man and animals; immunoregulatory mechanisms associated with evasion of host immunity.

Requisites: MMI 720 or equiv, MMI 740 or equiv, cons inst
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2015

MICROBIO 811 — ADVANCED PROBLEMS IN MICROBIOLOGY
1 credit.

Required course for first-year Ph.D. graduate students in the Microbiology Doctoral Training Program (MDTP); combines faculty lectures, review of primary literature, student presentations, and small group discussions to explore the diversity of scientific topics comprising the field of contemporary microbiology.

Requisites: 1st yr st in Microbiol Doctoral Training Progm
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2017

MICROBIO 875 — SPECIAL TOPICS
1-4 credits.

Of current interest to graduates.

Requisites: Variable prerequisites depending on topic
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2017

MICROBIO 901 — ADVANCED SEMINAR
1 credit.

Recent advances in specialized areas of microbiology.

Requisites: Bact 729 Grad st cons inst
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2017

MICROBIO/BIOCHEM/BMOLCHEM/M M & I 914 — SEMINAR-MOLECULAR BIO SCIENCES (ADVANCED)
1 credit.

During the fall semester, molecular biosciences trainees who have not achieved dissertator status will present seminars based primarily on literature related to their projects. During the spring semester, molecular biosciences trainees with dissertator status will present seminars based upon their own research.

Requisites: Graduate or professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2017
MICROBIO/BIOCHEM 917 — REGULATION OF GENE EXPRESSION
(ADVANCED SEMINAR)
1 credit.

Participants will discuss recent literature in topics related to prokaryotic and eukaryotic gene regulation. These topics include but are not limited to regulation of transcription, translation, and genome organization. Each week, one student participant will lead a critical discussion on a recent publication in the field of gene regulation. The discussion leader will explain the background materials, methodology, experimental results, and broader implications of the publication. All participants will be expected to take an active role in the discussion.

Requisites: Graduate or professional standing

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Fall 2017

MICROBIO/BIOCHEM/CBE 932 — BIOTECHNOLOGY TRAINING
PROGRAM SEMINAR
1 credit.

Biotechnology Training Program trainees will present their research for critical review by audience. Required of Biotechnology Training Program trainees

Requisites: Grad st.

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Fall 2017

MICROBIO 990 — RESEARCH
1-9 credits.

Full lab and literature review of a problem in microbiology. Leads to preparation of thesis and publication.

Requisites: Consent of instructor

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Fall 2017

MICROBIO 999 — SPECIAL PROBLEMS
1-6 credits.

Requisites: Consent of instructor

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Summer 2001