

CHECK LIST FOR THE B.S. DEGREE IN MICROBIOLOGY EMPHASIS IN CLINICAL LABORATORY SCIENCE AND PUBLIC HEALTH MICROBIOLOGY

Adviser: Ms. Marlene De Mers, CLS, MT(ASCP)SH (mdemers@sciences.sdsu.edu)

The emphasis in clinical laboratory science and public health microbiology is a State of California approved program of study that prepares students for Public Health Microbiologist and Clinical Laboratory Scientist academic certification and licensing examinations*. Students interested in this emphasis should check with the emphasis adviser before beginning coursework regarding the availability of required internships and other considerations.

PREPARATION FOR THE MAJOR (44 units of lower division courses)

Biol 203	Principles of Cell & Molecular Biol.	3	_____	Chem 232	Organic Chemistry	3	_____
Biol 203L	Princ. of Cell & Molecular Biol. Lab	1	_____	Chem 232L	Organic Chemistry Lab	1	_____
Biol 204	Principles of Organismal Biology	3	_____	Math 121	Calculus for the Life Sciences I	3	_____
Biol 204L	Principles of Organismal Biology Lab	1	_____	Math 122	Calculus for the Life Sciences II	3	_____
Biol 215	Biostatistics	3	_____	Phys 180A	Fundamentals of Physics	3	_____
Chem 200	General Chemistry	5	_____	Phys 182A	Physical Measurements	1	_____
Chem 201	General Chemistry	5	_____	Phys 180B	Fundamentals of Physics	3	_____
Chem 251	Analytical Chemistry	5	_____	Phys 182B	Physical Measurements	1	_____

Microbiology is an **impacted major**. Students who wish to declare a Microbiology major are initially placed into the Microbiology **premajor**. Premajors must meet department-specific criteria in order to be admitted to the major. (Note that admission to SDSU is a separate process from admission to the major, and is reviewed by a separate administrative unit.)

For this catalog year, admission to the Microbiology major requires:

- completion of the Preparation for the Major courses
- a GPA of 2.7 or higher in Preparation courses
- a minimum grade of C in each Preparation course
- an overall GPA of at least 2.6
- satisfaction of the lower-division writing competency requirement
- no coursework for the premajor or the major may be graded Cr/NC

Students who have completed these requirements must meet with the Biology undergraduate advisors to be admitted to the major.

Students who do not meet one or more minimum grade or minimum GPA requirements should meet with the Biology undergraduate advisors to determine the appropriate course of action.

EMPHASIS IN CLINICAL LAB SCIENCE / PHM (Minimum of 36 upper division units)

Required courses for B.S. degree (at least 31 units⁴):

Biol 350	General Microbiology	4	_____	Biol 528	Microbial Ecology ¹	3	_____
Biol 352	General Genetics and Evolution	3	_____	Biol 549	Microbial Genetics and Physiology	3	_____
Biol 354	Ecology and the Environment	3	_____	Biol 584	Medical Microbiology	3	_____
Chem 365	Biochem., Cell & Mol. Biol. I	3	_____	Biol 585	Cellular & Molecular Immunology ²	3	_____
Biol 366	Biochem., Cell & Mol. Biol. II	4	_____	OR Biol 485	Principles of Immunology ²	3	_____
Biol 366L	Biochem., Cell & Mol. Biol. Lab. I	2	_____				

At least 5 units must be selected from the following:

Biol 496	Clinical Hematology ⁴	3	_____	Biol 567L	Biochem., Cell & Mol Biol Lab II ³	2	_____
Biol 528	Microbial Ecology	3	_____	†Biol 588	Parasitology	3	_____
Biol 554	Molecular Virology	3	_____	Biol 590	Physiology of Human Systems	4	_____
†Biol 555	Principles of Electron Microscopy	2	_____	Chem 432	Organic Chemistry	3	_____
Biol 556	Scanning Electron Microscopy Lab.	2	_____	Chem 432L	Organic Chemistry Lab	1	_____
Biol 557	Transmission Electron Micro. Lab.	3	_____				

* See <http://www.sci.sdsu.edu/bioadvise/cls.html> for a description of the licensing procedure for clinical laboratory scientists.

† Not taught in AY 11-12.

¹ In some semesters, Bio 567L may substitute for Biol 528. Prior approval of the advising office is required.

² Biol 585 is not open to students with credit in Biol 485. Biology 485 is STRONGLY recommended for CLS students.

³ Additional prerequisite is required (Biology 567).

⁴ A hematology course is required for students seeking certification as a Clinical Lab Scientist, but is not strictly required for the B.S. degree in Microbiology with CLS emphasis.