

Program of Study

Curriculum

Prior to arriving on campus, students will be contacted with instructions from the SSO (Heather Ginther) for registering for their classes their first fall quarter. At the start of their first quarter, each new graduate student should contact the SSO for any assistance in enrolling in their required coursework for their first year. *Enrolling in courses before the quarter formally begins ensures that your quarterly paycheck will be dispersed promptly at the beginning of the quarter.*

At the start of their first quarter, each new graduate student may meet with Dr. Jan Carette, the current Graduate Program Director, if they desire guidance while charting the coursework needed to complete the requirements for a Ph.D. This is to ensure that all students have had appropriate undergraduate preparation for the program, and to identify gaps in basic science to be remedied during the initial period of graduate study. The required background coursework, which most individuals have already had when entering the program, is listed here:

- General Biology (2 quarters or 1 year)
- Organic Chemistry (2 quarters or 1 year)
- Organic Chemistry (2 quarters or 1 year)
- Physical Chemistry (1 quarter or 1 semester)
- Physics (2 quarters or 1 year)
- Biochemistry (1 quarter or 1 semester)
- Biostatistics (1 quarter or 1 semester)
- Advanced Genetics (1 quarter or 1 semester)
- Advanced Molecular Biology (1 quarter or 1 semester)
- Advanced Cell Biology (1 quarter or 1 semester)
- Microbiology, Virology or Immunology

If an enrolled student was unable to receive this course work prior to enrolling at Stanford, it is highly encouraged that they seek out an appropriate undergraduate course to fill their knowledge gap. It should be noted that an undergraduate course may be taken as credit/no credit or audited. Another option is to purchase a textbook using the department flex funding available to each student and refresh key concepts from undergraduate courses. First year graduate students should contact and work with the SSO to determine their best option in this case.

Gaps are filled by identifying Stanford courses given at the advanced undergraduate and graduate level by the Departments of Biological Sciences, Chemistry, Microbiology and Immunology, Cellular and Molecular Physiology, Genetics, Biochemistry, Cell Biology, Developmental Biology.

- The core course requirements for students entering this year are given below and in **Appendix I**. Typical entering students satisfy all of these requirements within their first three to six quarters (this usually means taking three courses per quarter, two to five hours per week each). Please check Explore Courses website for day, time, and room location.

Course requirements

Quarter Offered	Subject/ Course Number	Course Title	Units	Day(s)	Time(s)
Autumn	BIOS 200	Foundations in Experimental Biology	5 uni	M/W/F	10:00am-12:00pm
	MI 250	Frontiers in Microbiology & Immunology	1 unit	Tues	5:30-6:30pm
	MI 399	Graduate Research	4 unit	N/A	N/A
*	BIOS 217	Foundations of statistics and reproducible research	2 unit	N/A	N/A
Winter	BIO 214/ BIOC 224/ MCP 221	Advanced Cell Biology	4 unit	M/F	9:00am-11:00am
	MI 215	Principles of Biological Technologies	3 unit	T/TH	1:30-3:00pm
	MI 399	Graduate Research	3 unit	N/A	N/A
*	BIOS 216	The Practice of Reproducible Research	2 unit	N/A	N/A
Spring	MI 210	Advanced Pathogenesis of Bacteria, Viruses, and Eukaryotic Parasites	4 unit	T/TH	1:30-3:30pm
	MED 255	The Responsible Conduct of Research	1 unit	Varies	Varies
	MI 399	Graduate Research	5 unit	N/A	N/A

*Classes have been added this year AY 22-23 as apart of the general requirements. These are 3 week courses offered at the end of Autumn and Winter terms. These courses would give students a strong basis for thinking about experimental design and common pitfalls in data analysis and interpretation.

Students will register for MI 250: Frontiers in Microbiology and Immunology once in their first year and once in the second year for a total of 2 units. Even though students only enroll in MI 250 in the Fall term it is an entire year course. All though no longer a part of the required curriculum, MI 200: Molecular and Cellular Immunology: An Introductory Course is a recommended course. In the fourth year, students will need to complete a second ethics course, please see **Appendix II** for a list of approved courses.

Take one elective from the approved list, **Appendix III**. Prior approval from the student's adviser and department Graduate Program Director is required to use a course not from the elective list.

Students register for MI 399 Graduate Research as needed to maintain enrollment in 10 units each quarter, including summer, until they complete a minimum of 135 units and are eligible for TGR status.