MCB Curriculum 2025-2026

General Methods/Professional Development (GM/PD) Courses

Please check the University of Washington Time Schedule for the most updated course information.

The following courses are highly recommended for MCB students to take to further develop their professional skills.

GENERAL METHODS/PROFESSIONAL DEVELOPMENT (GM/PD) COURSES

GM/PD Course One:

Course Number: BIOL 508
Course Title: Developing Evidence-Based Instructional Materials and Teaching Strategies
Instructor (s): Linda Martin-Morris
Location: N/A
Credits: 2.0
Quarter, Weeks, and Frequency course is offered: Autumn, weeks 1-10. ***Not currently offered.*** *Expected to be offered in 2026-2027.*
Schedule for 2025-26: N/A
Attributes:
Sub Area (if applicable):
Synopsis: Trainees form teams of three to develop their own course materials. They also work with an experienced teacher-educator to learn teaching strategies and practice teaching skills.
Prerequisite: Completed general exam and approval from thesis advisor.

GM/PD Course Two:

Course Number: BIOL 509
Course Title: Practicing Evidence-Based Instructional Materials and Teaching Strategies
Instructor (s): Linda Martin-Morris
Location: N/A
Credits: 2.0
Quarter, Weeks, and Frequency course is offered: Winter, Spring, weeks 1-10. ***Not currently offered.*** *Expected to be offered in 2026-2027.*
Schedule for 2025-26: N/A
Attributes:
Sub Area (if applicable):

Synopsis: Each team of three trainees (from BIOL 508) delivers a 10-week, special topics seminar course in Biology in either winter or spring quarter. A mentor observes class meetings, and after class meets with the trainees to discuss the strengths of their teaching and to brainstorm on strategies to addressing areas that need improvement.
Prerequisite: BIOL 508, completed general exam, and approval from thesis advisor.

GM/PD Course Three:

Course Number: CENV 500
Course Title: Communicating Science to the Public Effectively
Instructor(s): Sophie Hurwitz
Location: UW
Credits: 3.0
Quarter, Weeks, and Frequency course is offered: Winter, weeks 1-10, every year. *Will be offered in Winter 2026.*
Schedule for 2025-26: Wed, Fri. 12:00-1:20 p.m.
Attributes: Career development and methods
Sub Area (if applicable):
Synopsis: Teaches emerging scientists how to effectively communicate their research to the public. Uses lessons and tools such as group discussion, feedback, and practice.
Note: Space is limited in this course and it often fills quickly, with an extensive waitlist. An application process and expectation agreement must be completed by the student to be considered for the course. Please reach out to the instructor for more information about the application process.

GM/PD Course Four:

Course Number: MCB 512 (Offered jointly with CONJ 512)
Course Title: Scientific Speaking Seminar
Instructor(s): Jihong Bai
Location: FH
Credits: 1.5
Quarter, Weeks, and Frequency course is offered: Winter, weeks 1-5, odd years. *Will be offered in Winter 2027.*
Schedule for 2025-26: N/A
Attributes: Career development and methods
Sub Area (if applicable):
Synopsis: A crucial part of a scientific career is the ability to effectively deliver a research seminar. This course will focus on all aspects of giving a seminar and teach students how to introduce the research topic, how to make clear and effective slides, and how to explain methods and data in a clear manner. Students will prepare their own research seminar throughout the course. Each week they will practice a part of it and receive feedback from other students and the instructors.

By the end of the course, students will have an entire seminar about their thesis project prepared. The course will also give examples of good and bad seminars and help students learn how to communicate with non-scientists about their research.

GM/PD Course Five:

Course Number: MCB 517
Course Title: Build Everything
Instructor(s): Sudarshan Pinglay, Sanjay Srivatsan
Location: FH
Credits: 1.5
Quarter, Weeks, and Frequency course is offered: Spring, weeks 1-5. *Will be offered in Spring 2026.*
Schedule for 2025-26: Tues, Thurs. 1:30-2:50 p.m.
Attributes: Career development and methods
Sub Area (if applicable):
Synopsis: Build Everything is an interdisciplinary, project-driven course in synthetic biology that teaches students how to design and construct biological systems from first principles. Inspired by MIT's How to Grow (Almost) Anything, this course combines engineering, molecular biology, and computational design to explore topics ranging from DNA synthesis and protein design to synthetic genomes and multicellular engineering. Each week features lectures by leading researchers from Seattle and the Bay Area, with design challenges and culminating student project proposals. The course emphasizes creativity, innovation, and design across different biological scales. Ideal for graduate students with backgrounds in biology, bioengineering, or computational sciences.

GM/PD Course Six:

Course Number: MCB 543
Course Title: Logic Constructs and Methodologies of Biological Research
Instructor(s): Sandy Bajjalieh
Location: UW
Credits: 3.0
Quarter, Weeks, and Frequency course is offered: Spring, weeks 1-10, every year. *Will be offered in Spring 2026.*
Schedule for 2025-26: Tues, Thu. 1:00-2:30 p.m.
Attributes: Career development and methods
Sub Area (if applicable):
Synopsis: Explores the logic and methods of general scientific practice, form historical, logical, and practical points of view. Covers philosophical and methodological matters upon which there is consensus, and cutting issues of ongoing controversy. Includes both theoretical and practical application of scientific method.

GM/PD Course Seven:

Course Number: MCB 560
Course Title: MCB Biotechnology Externship
Instructor(s): TBD
Location: TBD
Credits: 2.0
Quarter, Weeks, and Frequency course is offered: Summer, weeks 1-10. ***Course offering dependent on annual funding availability.***
Schedule for 2025-26: TBD
Attributes: Career development and methods
Sub Area (if applicable):
Synopsis: This externship program provides MCB students with the opportunity to gain firsthand research experience in biotechnology companies in the Puget Sound area. Applications are available in the early spring and reviewed by the Externship Program Director. Applications are submitted to participating companies to find a suitable match. This externship is only available during the summer between Year 1 and Year 2 to students who have completed 3 rotations and identified a dissertation laboratory. Students are supported by MCB for the summer quarter.

GM/PD Course Eight:

Course Number: P BIO 519
Course Title: Membrane and Muscle Biophysics Seminar
Instructor (s): N/A
Location: N/A
Credits: 1.0
Quarter, Weeks, and Frequency course is offered: Spring. ***Not currently offered.***
Schedule for 2025-26: N/A
Attributes: Career development and methods, seminar
Sub Area (if applicable):
Synopsis: This course will allow graduate students to learn presentation tools to improve their skills. Students will attend scientific seminars given by Postdoctoral Fellows from the Departments of Physiology and Biophysics and Pharmacology, presenting their current research on cell membrane function, cell physiology, and muscle contraction. A discussion session will follow each seminar with emphasis on two aspects; the first will be a scientific discussion to identify the scientific question, experimental approaches, and conclusions of the research; the second will focus on the presentation techniques.
Prerequisite: Permission of instructor.

GM/PD Course Nine:

Course Number: UCONJ 510
Course Title: Introductory Laboratory Based Biostatistics
Instructor (s): N/A

Location: N/A
Credits: 2.0
Quarter, Weeks, and Frequency course is offered: Summer, A-Term only. ***Not currently offered.***
Schedule for 2025-26: N/A
Attributes: Lecture-based with assignments
Sub Area (if applicable):
Synopsis: Introduces methods of data description and statistical inference for experiments. Covers principles of design and analysis of experiments; descriptive statistics; comparison of group means and proportions; linear regression; and correlation. Emphasizes examples from laboratory-based biomedical sciences, and provides demonstrations using standard statistical programs.

Working with Datasets

As a graduate student, you will likely encounter and work with a large dataset. Classes that include computational work, such MCB 536 (Tools for Computational Biology) for example, may be of interest to students. We encourage you to review the foundational and elective courses under the Computational Biology Area of Interest Suggested Curriculum for more computational course suggestions.