FALL 2023

HARVARD
DIVISION OF MEDICAL SCIENCES

Fall 2023
Half Courses

Referred to as "Full Term" in the Academic Calendar

ENROLLMENT DEADLINES

Check-in Opens	**Aug. 9**
Check-in Deadline	**Aug. 21**
Course Registration	**Aug. 21**
Course Reg. Deadline	**Aug. 31**
Fall Full Term Begins	**Sept. 5**
Add/drop no fee	**Sept. 26**
Last day to add/enroll	**Oct. 23**
Last day to drop	**Nov. 6**

ACADEMIC CALENDAR

https://registrar.fas.harvard.edu/calendars#upcoming

REMINDERS

You **cannot register** for courses until you CHECK-IN (or go to: https://gsas.harvard.edu/policy/check-and-registration-resident-students#:~:text=Resident%20students%20must%20check%20in,the%20Academic%20Calendar%20for%20deadlines

Register for **16 credits is required** for full-time student status and health insurance eligibility. Register by going to https://my.harvard.edu/

Due to the new Prior Term Enrollment process, students will enroll in Spring 2024 courses in November 2023. For more information visit: https://registrar.fas.harvard.edu/prior-term-registration

For questions, contact: dms_courses@hms.harvard.edu

Revised 8/24/23

BBS 230A (NEW! Part A) Analysis of Biological Literature
Davie Van Vactor

BBS 330 Critical Thinking & Research Proposal Writing
Matthew Harris, April Craft

BCMP 200 Principles of Molecular Biology
Joseph Loparo, Karen Adelman, Alan Brown, Stirling Churchman, Frank Slack, Ralph Scully

BCMP 218 Molecular Medicine
Srinivas Viswanathan, Sagar Koduri

BCMP 230 Principles & Practice of Drug Development
Stan Neil Finkelstein, Peter Sorger

BMIF 201 Concepts in Genome Analysis
Shamil Sunyaev, Michael Baym, Heng Li

GENETIC 201 Principles of Genetics
Fred Winston, Maxwell Heiman, Thomas Bernhardt, Jenna Galloway, Matthew Warman

HBTM 235 Principles of Human Disease: Physiology & Pathology
Connie Cepko

IMMUN 201 Advanced Topics in Immunology
Thorsten Mempel, Shiv Pillai

IMMUN 301 Immunology Seminar
Shiv Pillai, Lydia Lynch

INDP 300 Writing and Communication for the Biomedical Sciences (CROSS REGISTER)
Jason Silverstein, Naomi Hein
PLEASE NOTE: PhD students to follow CROSS-REGISTRATION deadlines for this course, 8/07 through 9/25

MICROBI 202 Mechanisms of Bacterial Pathogenesis & Host Immune Response
Marcia Goldberg, Amy Barczak, Sophie Helaine, Jonathan Kagan, Michael Starnbach, Lauren Essler

NEUROBIO 212 Mathematical Tools for Neuroscience
Eleanor R. Batty

NEUROBIO 215A The Discipline of Neuroscience
Rick Born

NEUROBIO 230 Visual Recognition: Computational & Biophysical Perspective
Gabriel Kreiman

SHBT 201 Biology of the Inner Ear
Sunil Puria

VIROLOGY 200 Introduction to Virology
Jonathan Abraham, Philip Kranzusch

VIROLOGY 202 Proposal Writing
Todd Allen, Smita Gopinath, Sizun Jiang, Max Nibert, Silvi Rouskin

Biological & Biomedical Sciences

BBS 230A Analysis of Biological Literature

David Van Vactor

2 units. Enrollment limited 70. Instructor consent required.

NOTE: Each course part, "A" and "B" is worth 2 credits. Complete both parts for full 4 credits.

Fall 1 Part A
T/TH, 3:00pm – 5:00pm
Meeting Dates: September 5 – December 10
Meeting Locations:
Initial Lecture 9/5: Tosteson Medical Education Ctr. (TMEC), Rm 227.
Breakout rooms vary by date - instructor to provide details.

BBS 230A is an integrated literature analysis course comprised of two related components: (1) seminar-style, small group paper discussions with BBS faculty members that focus on understanding, dissecting, and evaluating seminal research papers; and (2) sections led by teaching fellows that focus on developing each student's analytical approach to scientific literature, publication, and professional growth.

BBS 230A will take place between September and mid-October, with one additional session in December.

Course Notes: BBS 230A is open for enrollment only to BBS and BIG students. This course and its second part, BBS 230B, is required for first-year BBS students. Students must complete the fall semester (BBS 230A) to enroll in the summer semester (BBS 230B).

Course Heads: David Van Vactor, davie_vanvactor@hms.harvard.edu
Additional Instructors: Ryoji Amamoto, Roby Bhattacharyya, John Sean Clohessy, Steve Elledge, Alejandro Gutierrez, Nada Kalaany, Naama Kanarek, Julie-Aurore Losman, Margie Oettinger, Nilay Sethi, Rich Sherwood, Alex Soukas, Marc Wein, Xu Zhou; Cristina Aguayo-Mazzucato; Timothy Hla; Marcos Simoes-Costa; Jessalyn Ubellacker; Yuyu Song; William Hwang; Alexander Banks; Maria Gutierrez-Arcelus

BBS 330 Critical Thinking & Research Proposal Writing

Matthew Harris, April Craft

4 units.
Th, 2:00pm – 3:30pm
Meeting Dates: September 5 – December 16
Session 1 (in-person lecture): September 7
Session 2 (in-person lecture): September 21
Meeting Locations: Session 1 and Session 2 (lectures) held in NRB 350, small group sessions will be held in person locations/times TBD

A small group tutorial systematically guiding students in the writing of original, hypothesis-driven research proposals from initial topic selection through completion of a final draft.

Course Notes: This course is open to second year BBS students. Others need permission of the instructors. Students will be placed in small groups using the sectioning tool in my.harvard. Dates, times and locations for Sessions 3 and 4 will be determined by the faculty running the small group sessions. Group assignments will be posted on the course website.

Class Notes: Session 1 (lecture) will be held early in Sept. Session 2 (lecture) will be held later in same month. Small group sessions will be scheduled by faculty instructors.

Recommended Prep: Check course website for downloadable material

Course Heads: Matthew Harris, matthew.harris@childrens.harvard.edu, April Craft, april.craft@childrens.harvard.edu
Other instructors: Caroline Burns, Geoff Burns, William Pu, Christina Jacobsen, Mimi Bandopadhayay, Hong Chen, Sean Stowell, Christian Dibble, Ming Ru Wu, Roby Bhattacharyya, Yu-Hua Tseng, John (Sean) Clohessy, Ralph Scully, Duane Wesemann, Yohannes Tesfaigzi, Cristina Aguayo-Mazzucato, Allegra Petti, Jessica Lehoczky

Biological Chemistry & Molecular Pharmacology

BCMP 200 Principles of Molecular Biology

Joseph Loparo, Karen Adelman, Alan Brown, Stirling Churchman, Frank Slack

4 units. Enrollment limited to 72. Instructor consent required.
M/W/F, 11:00am – 12:00pm
Meeting Dates: September 6 – December 11
Meeting Location: Tosteson Medical Ed. Ctr. (TMEC) – Rm 227
(Note: if applicable, breakout rooms vary by date - instructor to provide details)

Principles of Molecular Biology is a course organized around the Central Dogma of Biology with presentations covering fundamental aspects of DNA and RNA structure, their function, and their interactions with proteins. The course opens with a discussion of the physical and chemical properties that drive the interactions of proteins with nucleic acids. This is used as a basis for understanding the material presented in the subsequent six modules, which cover DNA replication, DNA repair, gene regulation, transcription, RNA processing, and translation. Throughout this course, an emphasis will be placed on how the structure of small molecular machines (proteins) define their function in the processes and pathways that are introduced.

Recommended Prep: Intended primarily for graduate students familiar with basic molecular biology or with strong biology/chemistry background.

Course Head: Joseph Loparo, joseph_loparo@hms.harvard.edu
Other Instructors: Karen Adelman, Alan Brown, Stirling Churchman, Frank Slack, Ralph Scully
Curriculum Fellow: John Peters, john_peters@hms.harvard.edu

BCMP 218 Molecular Medicine

Srinivas Viswanathan, Sagar Koduri

4 units. Enrollment limited to 25. Instructor consent required
T, 1:00pm - 3:00pm
Meeting Dates: September 5 – December 5
Meeting Location: Tosteson Medical Ed. Ctr. (TMEC) – Rm 250
(Note: if applicable, breakout rooms vary by date - instructor to provide details)

A seminar on various human diseases and their underlying genetic or biochemical bases. Primary scientific papers discussed. Lectures by faculty and seminars conducted by students, faculty supervision.

Course Notes: Faculty mentors will guide student-led discussions of the papers.
Prerequisites: College-level mastery of principles of cellular and molecular biology and genetics.

Course Head: Srinivas Viswanathan, Srinivas.viswanathan@dfci.harvard.edu, Sagar Koduri, vkoduri1@partners.org
Teaching Fellow: Adrian Coscia

BCMP 230 Principles & Practice of Drug Development

Stan Neil Finkelstein, Peter Sorger

4 units
W, 3:00pm - 6:00pm
Meeting Dates: September 6 – December 13
Meeting Location: MIT Building 4, Room 237

Introduction to and critical assessment of the concepts, technologies and practical challenges of developing new medicines and bringing them to market. Pharmacology fundamentals, preclinical drug discovery, clinical trials, manufacturing and regulatory issues, as well as financing and marketing are discussed for small molecule, biologic and cellular therapies.

Course Notes: Suitable for individuals with a wide variety of backgrounds and interests from biology to engineering, business and medicine (undergraduate, graduates in MBA, MD and PhD programs). Taught by MIT and HMS faculty and by industry experts. Emphasizes a high level of student engagement via weekly news updates and projects involving collaboration across interdisciplinary teams.
Prerequisites: No particular course is required. Knowledge of basic biology, biomedicine or bioengineering, and familiarity with basic economic principles will be helpful but not necessary for the course.
Website: https://www.principlespracticedrugdevelopment.org/

Course Heads: Stan Finkelstein, finkelst@hcp.med.harvard.edu, Peter Sorger, peter_sorger@hms.harvard.edu
Other Instructors: Han Xu (HMS), GK Raju (MIT)

Biomedical Informatics

BMIF 201 Concepts in Genome Analysis

Shamil Sunyaev, Michael Baym, Heng Li

4 units
M/W, 2:30pm - 4:00pm
Meeting Dates: September 6 – December 4
Meeting Location: Tosteson Medical Ed. Ctr. (TMEC) – Rm 302
(Note: if applicable, breakout rooms vary by date - instructor to provide details)

This course focuses on quantitative aspects of genetics and genomics, including computational and statistical methods of genomic analysis. We will introduce basic concepts and discuss recent progress in population and evolutionary genetics and cover principles of statistical genetics of Mendelian and complex traits. We will then introduce current genomic technologies and key algorithms in computational biology and bioinformatics. We will discuss applications of these algorithms to genome annotation and analysis of epigenomics, cancer genomics and metagenomics data. Proficiency in programming and basic knowledge of genetics and statistics will be assumed.

Course Head Shamil Sunyaev, ssunyaev@hms.harvard.edu
Other Instructors: Michael Baym, Heng Li

Genetics

GENETIC 201 Principles of Genetics

Fred Winston, Maxwell Heiman, Thomas Bernhardt, Jenna Galloway, Matthew Warman

4 units
M/W/F, 9:10am – 10:40am
Meeting Dates: September 6 – December 8
Meeting Location: Armenise – Rm 125
(Note: if applicable, breakout rooms vary by date - instructor to provide details)

An in-depth survey of genetics that covers basic principles and modern approaches. We will

draw on examples from various systems, including bacteria, yeast, Drosophila, C. elegans, zebrafish, mouse, and human.

Course Notes: Intended for first-year graduate students.

Course Heads: Fred Winston, winston@genetics.med.harvard.edu, Max Heiman, heiman@genetics.med.harvard.edu
Other Instructors: Thomas Bernhardt, Jenna Galloway, Matthew Warman

Human Biology & Translational Medicine

HBTM 235 Principles of Human Disease: Physiology & Pathology

Connie Cepko

4 units
M/ F, 9:00am – 10:30am
W, 9:00am – 10:30am
Breakdown (subject to change): M/F – lectures, W – tutorials
Meeting Dates: September 5 – December 8
Meeting Location:
Lectures: NRB 350
Tutorials: Building C, Rm. 135

This course covers the normal physiology and pathophysiology of selected organs, through lectures, readings, tutorials based on clinical cases, and patient presentations. Human biology is emphasized, with some examples also drawn from model organisms. Recent therapeutic approaches, including applications of stem cells, gene therapy, and genome editing will be covered.

Course Note: Course enrollment is open to graduate students from any program as well as undergraduates.
Prerequisites: Knowledge of introductory biochemistry, molecular biology, and cell biology required (MCB52 and MCB54 or equivalent for undergraduates).

Course Head: Connie Cepko, cepko@genetics.med.harvard.edu

Immunology

IMMUN 201 Advanced Topics in Immunology

Thorsten Mempel, Shiv Pillai

4 units. Enrollment limited to 40. Instructor consent required
T/Th, 1:00pm – 4:00pm EST
Meeting Dates: September 5 – December 5
Meeting Location: Modell – Rm 100A

This course provides an intensive and in-depth examination of a selection of fundamental concepts in immunology. It takes advantage of the unique expertise of members of our Immunology faculty to illustrate how these concepts have been established and continue to be developed based on seminal work in the field including contributions from their own laboratories.

Course Notes: Intended for students who have had prior exposure to immunology on the undergraduate level. In the absence of such exposure, students must obtain the permission of the Course Director.

Prerequisites: A background in genetics and biochemistry is strongly recommended.

Course Heads: Thorsten Mempel, tmempel@mgh.harvard.edu, Shiv Pillai, pillai@helix.mgh.harvard.edu
Other Instructors: Jonathan Kagan, Ulrich von Andrian, Frederick Alt, Nir Hacohen, Amy Wagers, Michael Carroll, Facundo Batista, Kai Wucherpfennig, Vijay Kuchroo, Arlene Sharpe, Judy Lieberman, Lydia Lynch, Stephanie Dougan, Andrew Luster

IMMUN 301 Immunology Seminar

Shiv Pillai, Lydia Lynch

4 units. Enrollment limited to 20. Instructor consent required.
W.
Speaker Meet and Greet: 12:00pm - 1:00pm
Discussion Class: 2:00pm - 3:30pm

301 Seminars: 4:00pm – 5:15pm
Reception: 5:15pm – 6:15pm
Meeting Dates: September 6 – November 29

Meeting Location:
Meet and Greet/Discussion Class: Modell 100A
301 Seminars: Armenise Amp. (125)

Gives students exposure to research topics in immunology. Students prepare for the weekly seminar through readings, discussions, and preparing brief write-ups. These discussions are facilitated by members of the Committee on Immunology.

Course Note: Required for, and limited to, first-year Immunology graduate students. All others will be evaluated for enrollment on a case by case basis. Attendance is required at both the speaker Meet and Greets and the seminars. Meet and Greet timing can be found in class notes in my.harvard.

Course Heads: Shiv Pillai, pillai@helix.mgh.harvard.edu, Lydia Lynch, llynch@bwh.harvard.edu

INDP 300 Writing and Communication for the Biomedical Sciences (CROSS REG.)

Jason Silverstein, Naomi Hein

PLEASE NOTE: PhD students to follow CROSS-REGISTRATION deadlines for this course, 8/07 through 9/25

2 units
Meeting Dates: September 5 – December 8

Section 1: Online - Zoom
T, 10:00am – 12:00pm
Meeting Link: Zoom link to be provided by course instructor

Section 2: In-person
F, 10:00am – 12:00pm
Meeting Location: Countway Library, L1-024

Course Notes: There are two sections of this course. Students are only required to enroll in one section. PhD students must enroll in the in-person section.

This course prepares students for the demands of writing and communicating in the medical sciences. The class has two linked agendas: students will learn how to turn raw research into polished academic argument, and students will practice specific lessons through exercises that allow them to think about their own developing scholarship. The course is divided into three units. In the first unit we examine the main components of academic argument (structure, evidence, and analysis). In this section, students will learn how to write with sources. In the second unit, we focus on framing insights, entering the scholarly conversation, and crafting and responding to sophisticated critiques. In this section, students will learn how to frame both the human health and scholarly significance of their work. In the final unit, students will learn how to communicate their work in various forms, including writing an abstract, grant, blog, before turning to presentation skills, such as crafting an elevator pitch and how to present at a conference or thesis defense. Students will have frequent opportunities for feedback on issues of grammar and syntax. By the end of the course, students will have learned how to communicate their research in a variety of ways to academic and professional audiences.

Course Heads: Jason Silverstein, jason_silverstein@hms.harvard.edu, Naomi Hein, naomi_hein@hms.harvard.edu

Microbiology & Immunobiology

MICROBI 202 Mechanisms of Bacterial Pathogenesis & Host Immune Response

Marcia Goldberg, Amy Barczak, Sophie Helaine, Jonathan Kagan, Michael Starnbach, Lauren Essler

4 units. Enrollment limited to 20. Instructor consent required.
T/ Th, 10:00am - 12:00pm
Meeting Dates: September 5 – December 5
Meeting Location: NRB 1031

This course focuses on molecular mechanisms of bacterial pathogenesis and the host response to infection. The class consists of lectures and group discussions emphasizing themes of pathogenesis, methods, results, and interpretations of classic and contemporary literature.

Subjects including bacterial secretion systems, mechanisms of entry into host cells, biofilm formation, and motility are viewed primarily from the pathogen's perspective, whereas topics including inflammasome activation, TLR signaling, and adaptive immune responses provide a host-centric view. Additional sessions are spent examining current methods of antibiotic discovery and vaccine development.

The course also introduces students to the wide diversity of pathogenic bacteria. Organisms discussed include pathogenic E. coli, Shigella species, Vibrio cholerae, Listeria monocytogenes, Chlamydia trachomatis, Pseudomonas aeruginosa and Staphylococcus aureus, as well as a discussion of the challenges presented by currently unculturable species. Where relevant, connections will also be made with pathogenesis and immune responses to viruses, parasites, and fungi.

Course Notes: Designed to complement Microbiology 201; however, students who have not taken Microbiology 201 previously are welcome. Designed for graduate students in their first year or beyond, however undergraduates with specific interest in the field may also enroll.

Course Head: Marcia Goldberg, marcia.goldberg@mgh.harvard.edu
Curriculum Fellow: Lauren Essler, lauren_essler@hms.harvard.edu
Other Instructors: Amy Barczak, Sophie Helaine, Jonathan Kagan, Michael Starnbach

Neurobiology

NEUROBIO 212 Mathematical Tools for Neuroscience

Eleanor R. Batty

4 units. Enrollment limited to 25. Instructor consent required.
M/W, 9:00am – 10:30am
Meeting Dates: September 6 – December 6
Meeting Location: Tosteson Medical Ed. Ctr. (TMEC) – Rm 328
(Note: if applicable, breakout rooms vary by date - instructor to provide details)

This course aims to equip graduate students with the fundamental quantitative skills necessary for neuroscience research and to serve as a solid foundation for further computational neuroscience classes. The course is aimed at first-, second- or third-year students in the Neuroscience PhD program, and is open to other graduate students in the biosciences. This course will cover the basics of linear algebra, differential equations, probability/statistics, and machine learning (focusing on areas applicable to neuroscience). You will not need any math experience beyond high school calculus. Some amount of coding in Python is necessary for this class. This course will be a flipped classroom course with prerecorded lectures and students working together on problem sets & programming exercises during class time.

Course Notes: There will be some programming exercises in Python so some coding experience will be necessary (email instructor for advice on how to prepare).

Course Head: Eleanor R. Batty, Eleanor_Batty@hms.harvard.edu

NEUROBIO 215A The Discipline of Neuroscience

Rick Born

4 units. Instructor consent required.
T/Th, 9:00am – 12:00pm
Meeting Dates: September 5 – December 6
Meeting Location: Warren Alpert Building (WAB) 236

This course will endow students with the broad conceptual fluency in the discipline of neuroscience required to relate genes to circuit function, metabolism to neurological disease, and cell biology to neural computations. Through a combination of asynchronous instructional materials and synchronous in-class activities, students will learn to design, quantitatively analyze, and interpret experiments that address a variety of questions spanning molecular to systems neuroscience. During the first semester, students will think critically about the fundamental units of the nervous system within the context of cellular function, electrical conduction, and chemical signaling. The second half of the course builds upon this foundation to focus on broadly defined "networks of neural function"; as related to coordinated neural activity, the concerted execution of genetic programs, and anatomically defined structural networks. The course culminates with students writing an experimental proposal. Part one of a two-part series. The curriculum for this course builds throughout the academic year. Students are strongly encouraged to enroll in both the fall and spring course within the same academic year.

Course Notes: Please note that Program in Neuroscience (PiN) students must take both semesters to fulfill the requirement. Non-PiN students may enroll in just the fall semester with instructor approval. Students must complete the fall semester (NB215A) to enroll in the spring semester (NB215B).

Course Head: Rick Born, richard_born@hms.harvard.edu
Other Instructors: Lisa Goodrich, Lisa_Goodrich@hms.harvard.edu; Gary Yellen, Gary_Yellen@hms.harvard.edu; Bruce Bean, Bruce_Bean@hms.harvard.edu; Tom Schwarz, Thomas.Schwarz@childrens.harvard.edu; Pascal Kaeser, Pascal_Kaeser@hms.harvard.edu; Wade Regehr, Wade_Regehr@hms.harvard.edu; Josh Kaplan, Kaplan@molbio.mgh.harvard.edu; Beth Stevens, Beth.Stevens@childrens.harvard.edu; Anne Takesian, Anne_Takesian@meei.harvard.edu

NEUROBIO 230 Visual Recognition: Computational & Biophysical Perspective

Gabriel Kreiman

4 Units. Enrollment limited to 50. Instructor consent required
M, 3:00pm – 5:00pm
Meeting Dates: Sept. 11 – Dec. 11
Meeting Location: Cambridge campus – Northwest Building, B108

Examines how neuronal circuits represent information and how those circuits are implemented in artificial intelligence algorithms. Topics: architecture of visual cortex, neurophysiology, visual consciousness, computational neuroscience, models of pattern recognition and computer vision.

Course Notes: Neuro 130 cannot be taken if Neuro 230 has been taken. Neuro 130 cannot be taken concurrently with Neuro 230.
Course Website: Neurobiology 230, Visual Recognition, https://klab.tch.harvard.edu/academia/classes/hms_neuro300_vision/hms_neuro300_vision.html
Prerequisites: Prerequisite: ((LifeSci 1A OR LPS A) AND (LifeSci 1B)) AND may not be taken at the same time with NEURO 230
Recommended Prep: Math (Maa/Mab, Math 1A,1B, Math 19 a or equivalent). Physical Sciences 1. MCB 80.

Course Head: Gabriel Kreiman, gabriel.kreiman@childrens.harvard.edu

Speech & Hearing Bioscience and Technology

SHBT 201 From Sound to Neuron

Sunil Puria

4 Units. Enrollment limited to 20. Instructor consent required.
Lectures: T/ Th, 3:00pm – 5:00pm, Cambridge campus – Science Cntr., Rm 216
Recitation: M, 3:00pm – 5:00pm, Cambridge campus – Science Cntr., Rm 109
Meeting Dates: September 5 – December 12
Meeting Location: Cambridge campus – Science Cntr., Rm 216
(Note: if applicable, breakout rooms vary by date - instructor to provide details)

Acoustics, anatomy, normal biology, biophysics, physiology and morphology of the middle ear and inner ear, its sensory innervation and efferent control systems, and the mechanisms underlying sensorineural hearing loss and medical devices used to treat pathology. Material is presented through lectures, laboratory exercises, discussions of the primary literature, and textbooks.

Course Notes: Lecture notes will be available online.
Course Heads: Sunil Puria, sunil_puria@meei.harvard.edu

Virology

VIROLOGY 200 Introduction to Virology

Jonathan Abraham, Philip Kranzusch

4 units. Enrollment limited to 20. Instructor consent required.
M/W, 1:30pm - 3:45pm
Meeting Dates: September 6 – December 11
Meeting Location: Tosteson Medical Ed. Ctr. (TMEC) – Rm 423
(Note: if applicable, breakout rooms vary by date - instructor to provide details)

Introduction to virology. The lecture component reviews the basic principles of virology and introduces the major groups of human viruses. Weekly discussion groups critically analyze selected papers from the literature.

Course Notes: There will be mid-term and final projects consisting of proposals based on laboratory rotations.
Course Website: http://www.courses.fas.harvard.edu/6075
Prerequisites: Current Virology PhD student, or upon special consent

Course Heads: Jonathan Abraham, abraham@crystal.harvard.edu, Philip Kranzusch, philip_kranzusch@dfci.harvard.edu

VIROLOGY 202 Proposal Writing

Todd Allen

4 units. Enrollment limited to 12. Instructor consent required.
T, 2:00pm – 4:00pm
Meeting Dates and Times: September 5 – October 31
Meeting Location: Armenise, Rm. 125

Students will write, present, and evaluate research proposals in the areas of virus replication, viral pathogenesis and treatment and prevention of viral infections.

Prerequisites: General background in biochemistry and virology.

Course Head: Todd Allen, tallen2@partners.org
Additional Instructors: TBD