

# **GMS 6121: Infectious Diseases**

**3 credit hours**

**Online**

**Course director:**

**Paul A. Gulig, Ph.D.**

Bacteriology, Mycology, Parasitology

Professor

Department of Molecular Genetics & Microbiology

College of Medicine

[gulig@ufl.edu](mailto:gulig@ufl.edu)

352-294-5544

**INSTRUCTORS:**

**Scott Tibbetts, Ph.D.**

Virology

Associate Professor

Department of Molecular Genetics & Microbiology

College of Medicine

[stibbe@ufl.edu](mailto:stibbe@ufl.edu)

352-273-5628

**Stephanie Karst, Ph.D.**

Virology

Professor

Department of Molecular Genetics & Microbiology

College of Medicine

[skarst@ufl.edu](mailto:skarst@ufl.edu)

352-273-5627

**OFFICE HOURS:** By email appointment

**COURSE WEBSITE:** <https://ufl.instructure.com/>

**Course Communications:** General course announcements will be posted as an “Announcement” in Canvas or will be emailed to all students via Gatorlink email. Students are expected to view Announcements and check their UF email daily to keep informed of communication from the faculty. Failure to view an Announcement will not be a valid excuse for missing important updates or adverse consequences as a result. Specific questions for the course director or instructors are best asked during class or by email, either directly or through the Canvas system. Gatorlink email is preferred over Canvas.

**Required Text:** There is no required textbook. General course materials and required reading are available on the Canvas course website in the Modules section.

**Supplemental Texts:** We highly recommend that you use the following textbooks as study aids:

- Schaechter's Mechanisms of Microbial Diseases. 6th ed 2021 (Lippincott William & Wilkins) V Dirita, NC Englebert, and MJ Imperiale.
- Fundamentals of Molecular Virology, 2nd NH Acheson. (John Wiley & Sons)

**Course Description:** The online version of GMS 6121 is an entry level graduate course to prepare students for advanced courses such as GMS 6108 Bacterial Physiology, Genetics, and Antibiotics, GMS 6132 Gene and Immunotherapy, and GMS 7133 Advanced Molecular Virology. The goal of this course is to provide an overview of infectious pathogens that cause human disease, with a particular emphasis on viral and bacterial pathogens and some mycology and parasitology. Students will gain a fundamental understanding of the principles and mechanisms of microbial pathogenesis. In general, individual lectures cover (a) general classification and common molecular features of a family of pathogens, and (b) specific mechanisms by which a representative pathogen or pathogens within the family cause disease. Rather than covering most of the important microorganisms, select representative model organisms are taught in detail with the goal that students will be able to apply knowledge and concepts in self-study moving forward in their education and careers.

**Prerequisite Knowledge and Skills:** General biology, biochemistry, and cell biology.

**Instructional Methods:** Everything that is required is posted in the Modules section of the Canvas course. Lecture videos are assigned "due dates" for purposes of scheduling; however, the videos may be watched at any time. The lecture videos are divided into 2 to 3 segments for ease of watching. A single PDF version of the video PowerPoint is posted for each lecture. Each lecture has an open note/open book multiple choice question homework/quiz that has a definite due date – by default 11:59 pm of the Sunday after the lectures are assigned. Homework quizzes are not collaborative - they must be completed individually. Sharing of questions and answers in any format will be considered cheating. The homework/quiz reviews key points from the lecture, and the questions and are similar in format and content to the multiple choice exam questions. Some lectures are devoted to current infectious disease “hot” topics and associated scientific papers. In these cases, it is expected that students read the appropriate papers and participate in online discussions as indicated for the specific lecture.

## **COURSE POLICIES**

### **Quiz/Exam Policy:**

- **Homework/Quizzes:** Online multiple choice homework/quizzes are aimed at encouraging timely mastery of assigned course material, and therefore may be done during self-study using online resources and/or the text. They are open note/open book, but students may not collaborate on completing them.

- **Exams:** Exams are multiple choice and will be administered by Honorlock and are closed book. They are usually administered over three day windows with attempt made at including a weekend day.

**Make-up Policy:** If a student misses an assignment such as a homework or quiz, it may be made up according to University of Florida policy for allowable excused absences (<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>).

**If you encounter medical, personal, or professional matters that interfere with your success in this course, please contact me right away. I am an accommodating and fair person. However, once a crisis has resulted in failure, there is little that we can do.**

## GRADING POLICIES

**Grading:** Students will take 4 closed-note exams, each covering approximately one quarter of the course material. Together, exams will account for 70% of the final grade. In addition, students will take open-book homework/quizzes over online material after to each class period. Homework/quizzes will cumulatively account for 30% of the final grade. **Quizzes submitted late will be subject to up to a 50% penalty. There is no make-up or extra credit.**

**Grading Scale:** The default grading scale for the class is: A  $\geq$ 90, A- 87-89.9, B+ 84-86.9, B 80-83.9, B- 77-79.9, C+ 74-76.9, C 70-73.99, C- 67-69.9, D+ 64-66.9, D 60-63.99, D- 57-59.9, E  $\leq$ 66.9. This scale has been shifted downward in the past, but it will never be shifted upwards. See the UF policy on grades at: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

## UF POLICIES

**Course Evaluation:** “Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.”

**University Policy on Accommodating Students with Disabilities:** Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

**University Policy on Academic Misconduct:** Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code at <http://www.dso.ufl.edu/students.php>.

**Netiquette/Communication Courtesy:** All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats  
<http://teach.ufl.edu/docs/NetiquetteGuideforOnlineCourses.pdf>

### Getting help

For issues with technical difficulties for E-learning in Canvas, please contact the UF Help Desk at:

- [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu)
- (352) 392-HELP - select option 2
- <https://lss.at.ufl.edu/help.shtml>

Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Other resources are available at <http://www.distance.ufl.edu/getting-help> for:

- Counseling and Wellness resources
- Disability resources
- Resources for handling student concerns and complaints
- Library Help Desk support

### Course Summary:

#### Date

#### Details

Wed Aug 23, 2023

Assignment 1. INTRO: virus basics (mod 1), virus structure and classification (mod 2)

Fri Aug 25, 2023

Assignment 2. INTRO: virus replication (mod 3) + LAB: virus growth (mod 1)

Sun Aug 27, 2023

Quiz 1. QUIZ - Virus Basics, Structure and Classification

Quiz 2. QUIZ - virus replication / virus growth

Mon Aug 28, 2023

Assignment 3. LAB: virus quantification (mod 2), virus diagnostics (mod 3)

Wed Aug 30, 2023

Assignment 4. Viral Pathogenesis and Genetics, Pt 1 - Lecture in 2 modules

Fri Sep 1, 2023

Assignment 5. Viral Pathogenesis and Genetics, Pt 2 - Lecture modules 3 & 4

Sun Sep 3, 2023

Quiz 3. QUIZ - LAB: virus quantification, virus diagnostics

Wed Sep 6, 2023	Quiz 4. Viral Pathogenesis and Genetics, Pt 1 - Quiz
Fri Sep 8, 2023	Quiz 5. Viral Pathogenesis and Genetics, Pt 2 - Quiz
Sun Sep 10, 2023	Assignment 6. Picornaviruses - Lecture in 4 modules
	Assignment 7. Caliciviruses and Astroviruses - Lecture in 3 modules
	Quiz 6. Picornaviruses - Quiz
	Quiz 7. Caliciviruses and Astroviruses - Quiz
	Quiz Honorlock test
Mon Sep 11, 2023	Assignment 8. Flaviviruses & Togaviruses - Lecture in 3 modules
Wed Sep 13, 2023	Assignment 9. Coronaviruses - Lecture in 3 modules
Fri Sep 15, 2023	Assignment 10. Influenzaviruses - Lecture in 3 modules
Sun Sep 17, 2023	Quiz 10. Influenza viruses - Quiz
	Quiz 8. Flaviviruses & Togaviruses - Quiz
	Quiz 9. Coronaviruses - Quiz
Tue Sep 19, 2023	Quiz Exam 1 (Sept. 17-19)
	Assignment 11. Mononegavirales - Lecture in 3 modules (tested on exam 2)
Wed Sep 20, 2023	
Fri Sep 22, 2023	Assignment 12. Ebola virus - Lecture in 3 modules
	Assignment 12. Ebola virus - paper discussion lecture in 4 modules
Sun Sep 24, 2023	Quiz 11. Mononegavirales - Quiz
	Quiz 12. Ebola virus - Quiz
Mon Sep 25, 2023	Assignment 13. Reoviruses - Lecture in 3 modules
Wed Sep 27, 2023	Assignment 14. Retrovirus replication - Lecture in 3 modules
Fri Sep 29, 2023	Assignment 15. HIV pathogenesis - Lecture in 3 modules
Sun Oct 1, 2023	Quiz 13. Reoviruses - Quiz
	Quiz 14. Retrovirus Replication - Quiz
	Quiz 15. HIV pathogenesis - Quiz
Mon Oct 2, 2023	Assignment 16. Papillomaviruses - Lecture in 3 modules
	Assignment 16. Papillomaviruses - Lecture in 3 modules
Wed Oct 4, 2023	Assignment 17. Polyomaviruses - Lecture
	Assignment 17. Polyomaviruses - Lecture
	Assignment 18. Herpesviruses - Lecture in 3 modules
	Quiz 18. Herpesviruses - Quiz
Sun Oct 8, 2023	Quiz 16. QUIZ - Papillomaviruses
	Quiz 17. QUIZ - Polyomaviruses
Mon Oct 9, 2023	Assignment 19. Poxviruses - Lecture in 3 modules
	Assignment 19. Poxviruses - lecture in 4 sections
Thu Oct 12, 2023	Quiz 19. QUIZ - Poxviruses
Sun Oct 15, 2023	Quiz Exam 2 (Oct. 13-15)
Mon Oct 16, 2023	Assignment 20. Bacterial Structure - lecture in 3 parts
Wed Oct 18, 2023	Assignment 21. Bacterial Physiology - Lecture in 3 parts
Fri Oct 20, 2023	Assignment 22. Bacterial Genetics - Lecture in 3 parts
Sun Oct 22, 2023	Quiz 20. Bacterial Structure - Quiz
	Quiz 21. Bacterial Physiology Quiz

	Quiz 22. Bacterial Genetics Quiz
	Quiz 23. Antibiotic quiz
Mon Oct 23, 2023	Assignment 23. Antibiotics and Resistance in 4 parts
Wed Oct 25, 2023	Assignment 24. Pathogenesis part 1
Fri Oct 27, 2023	Assignment 25. Pathogenesis part 2
Sun Oct 29, 2023	Quiz 24. Pathogenesis Quiz 1
	Quiz 25. Pathogenesis quiz 2
	Quiz 26. Enteric quiz 1
	Quiz 27. Enteric quiz 2
Mon Oct 30, 2023	Assignment 26. Enteric bacterial disease part 1
Wed Nov 1, 2023	Assignment 27. Enteric bacterial Disease Part 2
Fri Nov 3, 2023	Assignment 28. Sexually Transmitted Diseases
Sun Nov 5, 2023	Quiz 28. STD Quiz
Mon Nov 6, 2023	Assignment 29. Sepsis
Sun Nov 12, 2023	Quiz 29. Sepsis quiz
	Quiz 30. ETEC self-study and homework
Tue Nov 14, 2023	Quiz Exam 3 (Nov. 12-14)
Wed Nov 15, 2023	Assignment 31. Bacterial meningitis
Fri Nov 17, 2023	Assignment 32. Upper Respiratory Tract Infection
	Calendar Event University of Florida GatorEvals – Spring 2023 Main Project
Sun Nov 19, 2023	Quiz 31. Bacterial meningitis Homework
	Quiz 32. Upper Respiratory Tract Homework
Mon Nov 20, 2023	Assignment 33. Lower Respiratory Tract Infections
	Assignment 34. Skin and wound infections
	Calendar Event University of Florida GatorEvals – Summer 2023 Main Project
Sun Nov 26, 2023	Quiz 33. Lower Respiratory Tract Infections homework
	Quiz 34. Skin and wound infections homework
Mon Nov 27, 2023	Assignment 35. Bioterrorism and zoonoses
Wed Nov 29, 2023	Assignment 36. Vaccines
Fri Dec 1, 2023	Assignment 37. Microbiota
Sun Dec 3, 2023	Quiz 35. Bioterrorism and zoonoses homework
	Quiz 36. Vaccines homework
	Quiz 37. Microbiota HW
Mon Dec 4, 2023	Assignment 38. Mycology
Wed Dec 6, 2023	Assignment 39. Parasitology 1 - protozoans
	Assignment 40. Parasitology 2 - Worms
Sun Dec 10, 2023	Quiz 38. Mycology homework
	Quiz 39. Parasitology 1 - protozoans homework
	Quiz 40. Parasitology 2 homework
Thu Dec 14, 2023	Quiz Exam 4 (Dec 12-14)