

COURSE SYLLABUS

FOOD AND ENVIRONMENTAL VIROLOGY

FOS 4223

Fall 2024

SCHEDULE AND CLASS LOCATION

When: M,F | Period 7 (1:55 PM - 2:45 PM)
Where: FAC 0127 (click [here](#) for more info)

INSTRUCTOR

Dr. Naim Montazeri

Office location: Room 341A, FSHN Bldg, 572 Newell Dr, Gainesville, FL 32611.

Email: nmontazeri@ufl.edu

Website: <https://fshn.ifas.ufl.edu/about/faculty-bio-pages/montazeri/>

Office Hours: W: 2-3 pm (prior appointment is highly recommended as my availability may vary). Alternative meet times will be provided upon request.

Preferred communication method: Canvas message (click [here](#) for instruction). Usual response time within 24-48 hours.

COURSE DESCRIPTION

Food virology is an emerging topic within the field of food microbiology. This course explores the ecology of viruses, their role in human illnesses; transmission to human through food, water, and contact surfaces; risk assessment; and prevention strategies. Through this course, students develop a competency framework within their discipline.

COURSE OBJECTIVES

1. Discuss the role viruses play in the ecosystem, their impact on bacterial populations, and human illnesses
2. Critically relate and illustrate mechanisms under which viruses evolve and persist in the environment
3. Demonstrate methods for the isolation, purification, and detection of viruses in environmental samples
4. Assess and critically analyze potential routes for the transmission of viruses to human through food, water, and contact surfaces
5. Delineate mitigation strategies to prevent transmission of pathogenic viruses to human

COURSE PREREQUISITES

MCB2000/L, MCB3020/L, or FOS4222.

RELEVANT COURSES

- FOS 4222/4222L/5225C: Food Microbiology
- FOS 6226C - Advanced Food Microbiology
- MCB 4271/4271L/5270: Antimicrobial Resistance
- MCB 4503/5505: Virology
- ANS 6637: Quantitative Microbial Risk Assessment of Pathogens in Food Systems

COURSE STRUCTURE

This course is designed for upper-level undergraduate and graduate students. According to the Bloom’s taxonomy, the content of this course is intended to help students understand, apply, and analyze (connecting different concepts) the issues in food and environmental virology as its relevance to foodborne and waterborne illnesses. Class materials are composed of lecture slides, handouts, reading materials, and videos. Further reading materials such as book chapters will be provided for a greater understanding of the core concepts. All the further reading materials will be included in the exams. The students will complete a group assignment on a case study. The students will be evaluated through peer-evaluation and a rubric provided in Canvas. There will be quizzes, one mid-term, and one final exam.

DELIVERY OF LECTURES

This course is designed for upper-level undergraduate and graduate students. According to the Bloom’s taxonomy, the content of this course is intended to help students understand, apply, and analyze (connecting different concepts) the issues in food and environmental virology as its relevance to foodborne and waterborne illnesses. Class materials are composed of lecture slides, handouts, reading materials, and videos. Further reading materials such as book chapters will be provided for a greater understanding of the core concepts. All the further reading materials will be included in the exams. The students will complete an assignment on a case study and present as a written report and orally at the end of the semester. There will be quizzes, one mid-term, and one final exam.

REQUIRED READING MATERIALS

- Cook N. 2013. *Viruses in Food and Water - Risks, Surveillance and Control*. Woodhead Publishing, England (freely available through UF Knovel App.: <https://app.knovel.com/s.v?cv58h0Mj>)
- All other reading materials will be provided by the instructor and will be shared in Canvas.

RECOMMENDED READING MATERIALS

- Koopmans M. *et al.* 2008. *Food-Borne Viruses - Progress and Challenges*. American Society for Microbiology Press, Washington, DC, USA
- Knipe D. M. & Howley P. M. 2007. *Fields Virology*. 5th Edition. Lippincott Williams & Wilkins. Philadelphia, PA, USA
- Carter J. & Saunders V. 2013. *Virology: Principles & Applications*. 2nd Edition. John Wiley & Sons Ltd. England
- Peer-reviewed articles published in prestigious journals such as the Journal of Virology, Food and Environmental Virology, Food and Environmental Microbiology, and Journal of Food Protection
- University of Florida libraries and online sources such as e-books, ILL, and Knovel App.

COURSE ANNOUNCEMENTS

All the course materials will be posted on Canvas prior to the class. All announcements will be made through Canvas. It is the student’s responsibility to check the announcement. **Make sure to TURN ON ALL notifications for this course** (click [here](#) for a step-by-step guide). Students can reach out to the instructor and TAs through Canvas Inbox (preferred) or email.

TESTS AND GRADING

There will be one mid-term and one final. The final will be accumulative covering last 2-3 modules (to be confirmed). Quizzes will be used to gauge progress throughout the semester and will be graded. In-class pop quizzes will have bonus points toward your next exam.

FOS4222 Final grade (see below) You cannot drop a test.

Activity	Grade percentage
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Quizzes	10%
Mid-terms	20%
Assignment	35%
Final Exam	35%

*Does not include pop quizzes.

Grading Scale: **A** (94 to 100), **A-** (90 to <94), **B+** (87 to <90), **B** (84 to <87), **B-** (80 to <84), **C+** (77 to <80), **C** (74 to <77), **C-** (70 to <74), **D+** (67 to <70), **D** (64 to <67), **D-** (61 to <64), **E** (0 to <61).

There will be no curving or readjustment based on class performance. For further information on UF's Grading Policy, consult: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

DELIVERY OF LECTURES

The class sessions may be audio recorded during the class time as a resource for students to the lectures. No online attendance will be accepted.

REQUIRED READING MATERIALS

- Cook N. 2013. *Viruses in Food and Water - Risks, Surveillance and Control*. Woodhead Publishing, England, selected sections (freely available through UF Knovel App.: <https://app.knovel.com/s.v?cv58h0Mj>)
- All other reading materials will be provided by the instructor and will be shared in Canvas.

RECOMMENDED READING MATERIALS

- Koopmans M. *et al.* 2008. *Food-Borne Viruses - Progress and Challenges*. American Society for Microbiology Press, Washington, DC, USA
- Knipe D. M. & Howley P. M. 2007. *Fields Virology*. 5th Edition. Lippincott Williams & Wilkins. Philadelphia, PA, USA
- Carter J. & Saunders V. 2013. *Virology: Principles & Applications*. 2nd Edition. John Wiley & Sons Ltd. England
- Peer-reviewed articles published in prestigious journals such as the Journal of Virology, Food and Environmental Virology, Food and Environmental Microbiology, and Journal of Food Protection
- University of Florida libraries and online sources such as e-books, ILL, and Knovel App.

COURSE ANNOUNCEMENTS

Course materials and announcements will be on Canvas. Check regularly and enable notification (click [here](#) for a step-by-step guide). Contact instructors and TAs via Canvas for prompt responses.

COURSE EVALUATIONS

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/>.

PUBLIC HEALTH PROTECTIONS

- Do not come to the class if you have a contagious illness or flu-related symptoms. In case of an illness, a doctor's note to be provided if missing a class activity.

MINIMUM TECHNICAL SKILLS/REQUIREMENTS

To complete your tasks in this course, you will need a basic understanding of how to operate a computer, and how to use basic software.

The University of Florida expects students entering an online program to acquire computer hardware and software appropriate to his or her degree program. Most computers are capable of meeting the following general requirements. A student's computer configuration should include:

- Microphone; Speakers or headphones; Broadband connection to the Internet and related equipment (Cable/DSL modem) for office hours.
- Your instructor might request that you obtain the [iClicker Cloud](#) (free for students) to respond to polls and in-class quizzes. This will be communicated in advance.
- Microsoft Office Suite installed (provided by the university)

Individual colleges may have additional requirements or recommendations, which students should review prior to the start of their program.

COURSE POLICIES

- Attendance is required. Please refrain from checking or sending e-mails, texts, etc during class or lab sessions. Students are expected to participate in class discussions.
- Makeup exams will only be given with the permission of the instructor if adequate notice and documentation (such as doctor's note) is provided in advance (at least 12 hours prior to the exam). Requirements for make-up exams, assignments, and other work in this course are consistent with university policies that can be found at catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/
- Assignments must be submitted through Canvas as a text entry or Word/PDF file (no email submissions will be accepted)
- Late assignment/report submittal: A 10% pt penalty per day will be assigned for late assignments or reports turned in within two days after the due date. No submission will be accepted after two days past the due date.
- As a portion of class materials will be delivered online, you are responsible for observing all posted due dates, and are encouraged to be self-directed and take responsibility for your learning.
- Our class sessions may be audio/visually recorded for educational purposes. **As in all courses, unauthorized sharing of class materials is prohibited.**
- Be on time.

UF POLICIES

University Policy on Accommodating Students with Disabilities

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://disability.ufl.edu/>) by providing appropriate documentation. Once registered, students will receive an accommodation letter that must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

University Policy on Academic Conduct

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<https://policy.ufl.edu/regulation/4-040/>) specifies a number of behaviors that are in violation of this code and the possible sanctions.

Among the changes are inclusion of language on the use of generative **Artificial Intelligence and other related tools**. You are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Netiquette and Communication Courtesy

All members of the class are expected to follow rules of common courtesy during, before, and after class, in all email messages, threaded discussions, and chats.

TECHNICAL HELP

Technical Difficulties

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

- <http://helpdesk.ufl.edu>
- (352) 392-HELP (4357)
- Walk-in: HUB 132

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

CAMPUS HELPING RESOURCES

New! Whole Gator is an important app to all sorts of campus sources. It is also accessible under Campus Resources Tab in Canvas. <https://studentlife.ufl.edu/wholegator/>.

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/
- Counseling Services, Groups and Workshops, Outreach and Consultation, Self-Help Library, Wellness Coaching
- U Matter We Care, www.umatter.ufl.edu/
- Career Connections Center, <https://career.ufl.edu>
- Complaints: <https://hr.ufl.edu/manager-resources/employee-relations/>
- Library Support: cms.uflib.ufl.edu/ask
- Teaching Center: teachingcenter.ufl.edu/
- Writing Studio: writing.ufl.edu/writing-studio/

Food and Environmental Virology
Class Schedule (subject to change)
FOS 4223 & 6224

Week	Session	Day	Date	Topics	activity
<i>Module 1: Intro to virology</i>					
1	1	F	Aug 23	Pre-assessment and intro	Pre-assessment (5 bonus point)
	2	M	Aug 26	Ecology of viruses	
2	3	F	Aug 30	Basic virology – 1	
	-	M	Sep 2	No class (Labor Day)	
3	4	F	Sep 6	Basic virology – 2	
<i>Module 2: Infectious diseases and global health</i>					
	5	M	Sep 9	Infection, nutrition, and microbiome	
4	6	F	Sep 13	Foodborne viruses and global health – 1	Take-home quiz 1 (Module 1)
	7	M	Sep 16	Foodborne viruses and global health – 2	
<i>Case studies – checkpoint 1</i>					
5	8	F	Sep 20	Overview of students' case studies – 1	Case studies: 5-min presentations
<i>Module 3: Foodborne/waterborne viruses</i>					
	9	M	Sep 23	Enteric viruses - hepatitis viruses	
6	10	F	Sep 27	Enteric viruses - human norovirus	Take-home quiz 2 (Module 2)
	11	M	Sep 30	Enteroviruses and emerging viruses	
<i>Module 4: Environmental reservoirs for foodborne viruses – 1</i>					
7	12	F	Oct 4	Water and wastewater	
<i>Mid-term exam</i>					
	13	M	Oct 7	Review for mid-term exam	
8	14	F	Oct 11	Mid-term exam, modules 1-4	
<i>Module 4: Environmental reservoirs for foodborne viruses – 2</i>					
	15	M	Oct 14	Meat, seafood, and dairy products	
9	-	F	Oct 18	No class (Homecoming observed)	
	16	M	Oct 21	Fruits and vegetables	
<i>Case studies – checkpoint 2</i>					
10	17	F	Oct 25	Overview of students' case studies – 2	In-class presentations (3-5 slides)
<i>Module 5: Bacteriophages and their applications</i>					
	18	M	Oct 28	Bacteriophages	
11	19	F	Nov 1	Applications of bacteriophages	One-page summary of case study due
<i>Module 6: Isolation and detection of viruses</i>					
	20	M	Nov 4	Isolation and purification	
12	21	F	Nov 8	Detection and quantification	
	-	M	Nov 11	No class (Veterans Day)	
13	22	F	Nov 15	Infectivity assessment and use of surrogates	
	23	M	Nov 18	Lab demo	
<i>Module 7: Inactivation of viruses in food and on contact surfaces</i>					
14	24	F	Nov 22	Prevention and control strategies	
	-	M	Nov 25	No class (Thanksgiving)	
15	-	F	Nov 29	No class (Thanksgiving)	
<i>Case studies – checkpoint 3</i>					
	25	M	Dec 2	Grad students' oral presentations	Undergrad reports due
		W	Dec 4	No class	Peer evaluations/Grad papers due
<i>Final exam</i>					
	26	R	Dec 12	Final exam, modules 3, 5-7 (3-4 pm)	