

MSCI 790 – Section 009 (3 credits, CRN = 21233)
The Marine Microbiome: A 21st Century Perspective

Fall 2022

Classroom: Jones 615

Schedule: Tuesday & Thursday 4:05 – 5:20 PM

Instructor: Dr. <PROF_FIRST_NAME> <PROF_LAST_NAME>, Assistant Professor of the School of Earth, Ocean and Environment

Office: EWS 610A

Phone: <PHONE>

Email: <PROF_EMAIL>

Office Hours: Friday 3:30-5:30 pm or by appointment

Course Description:

This course studies the total of microorganisms and viruses in marine environments using theories. The latest technologies and methods used in marine microbial ecology will be examined.

1. Learning Outcomes:

Upon completion of the course, the student should be able to:

- Discuss the roles of microbes in the evolution of Earth's biosphere
- Provide a historic perspective on the development of molecular ecology.
- Describe the metabolic classification of microbes based on carbon and energy sources
- Describe microbial growth and the environmental factors controlling it
- Discuss microbial diversity and its metabolic significance
- Compare approaches for understanding microbial activities in the environment
- Describe the roles of microbes in the global carbon and nitrogen cycles
- Discuss microbial degradation processes and bioremediation
- Describe different types of microbial symbiotic relationships
- Identify examples of the use of microbes in environmental biotechnology

2. Required Textbook:

Environmental Microbiology – from genomes to biogeochemistry, Eugene L. Madsen, 2016, John Wiley & Sons, Second Edition, ISBN 978-1-118-43963-0

Available through the UofSC library

3. Instructional Delivery Strategy:

The course will include classroom lectures (25%), student presentations (15%), class discussions (20%), and a course project (40%).

4. Course Requirements:

Each student will give three in-class oral presentations on assigned topics. There will be a course project that will start by the fifth week of the course.

Final grades will be calculated using the following weighting:

50%	Course project
20%	Participation in class discussions
30%	Oral presentations

Grading scheme:

(90-100=A; 87-89=B+; 80-86=B, 77-79=C+; 70-76=C; 67-69=D+; 60-66=D; <60=F)

Oral presentation format:

Each student will give three 30-min oral presentation to the class on an assigned paper followed by discussions. **Presentations should focus on teaching the material to the class.** Non-presenting students are required to read the articles before the student presentation and submit at least one question to the instructor before class.

5. Attendance Policy and Class Expectations:

- attend every class period (prior approval or doctors excuse required for absences)
- come to class prepared to contribute and learn
- do assigned readings before class and take notes during class
- all cell phones should only be used for class-related activities

6. Office of Student Disability Services policy statement:

Any student with a documented disability should contact the Office of Student Disability Services at 803-777-6142 to make arrangements for appropriate accommodations.

7. Academic Integrity

Students are expected to follow the Carolinian Creed and to respect the dignity, rights, and property of others.

As a Carolinian ...

I will practice personal and academic integrity;
I will respect the dignity of all persons;

I will respect the rights and property of others;
I will discourage bigotry, while striving to learn from differences in people, ideas and opinions;
I will demonstrate concern for others, their feelings, and their need for the conditions which support their work and development.

8. Caveats and Small Print

All materials generated for this class, which include but are not limited to syllabi, in-class materials, and exams, are copyrighted. You do not have the right to distribute these without written consent of the instructor.

9. Gamecock Recovery

Gamecock Recovery is UofSC's Collegiate Recovery Program designed to support students in or seeking recovery from substance use disorder. Gamecock Recovery provides mutual-aid meetings, recovery coaching, substance free events, resource navigation and community. To get connected, email gamecockrecovery@sc.edu, call 803.777.5781, or view the website at sc.edu/sape/recovery. The office is located in Strom Thurmond Wellness and Fitness Center Suite 301B.