**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.

# 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

# 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

# Instructional Delivery Strategy:

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

# 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.

# 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

# 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.

# 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.

# 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.

# 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,**](mailto: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.