



Estuarine and Coastal Ecology
EVPP/BIOL 581
Syllabus
Spring 2020
M 4:30-7:10 PM
Potomac Science Center 3102



Instructor: **Dr. Kim de Mutsert**, kdemutse@gmu.edu
Assistant Professor, Environmental Science and Policy
(703) 993-4480
Office: Potomac Science Center 3115
Office hours: Mondays 2-4 PM and by appointment

Course Web Site: Go to <http://mymason.gmu.edu>, log in with your email name and your GMU email password, and then select Estuarine and Coastal Ecology BIOL/EVPP-581 (Spring 2020). All information will be in this location.

Note: The course takes place at an off-campus location: The Potomac Science Center, 650 Mason Ferry Ave, Woodbridge, VA.

Course Description and Goals: This course is an overview of the ecology of coastal systems including rocky coasts, salt marshes, mangroves, seagrasses, and beaches. There will be an emphasis on estuaries, for example the Chesapeake Bay. During the course, students will examine the physical, chemical, and biological processes and their interrelationships. Students will learn concepts in coastal geomorphology, physical oceanography, biogeochemistry, biology, ecosystem ecology, and anthropogenic impacts as related to estuaries and coasts. After completion of the course, students should have knowledge of the physical, chemical, and biological processes operating in these systems. Student should understand how these systems are formed, and why and how they are important. In addition, students should understand how anthropogenic factors affect these systems. Through this course, students will also strengthen their presentation and discussion skills, and their ability to interpret scientific literature and to think critically.

Course Content and Instructional Methods: The course consists of lectures and student presentations followed by discussions. Below is a list of lecture topics by week. Lectures will consist of PowerPoint presentations that will be posted to our course on the day of the lecture. All students will give a 15-minute (max) presentation in class on a topic of their choosing within the subject of Estuarine and Coastal Ecology (the topic does not have to correspond with the lecture topic of that week). One week before each presentation, the presenting student will assign one paper (publication in a scientific journal) to the rest of the class on the topic of their presentation. Each presentation will be followed by a question and discussion session about the presentation and the assigned paper. Reading and interpreting scientific papers is part of the course; your participation grade (25 pts of total) will be based on reading the assigned material and participating in the discussions. Check the course web site every week for readings that are part of the course material. The last day of class all students will turn in an 8-page double-spaced term paper; this paper dives deeper into the same topic as the student's presentation. Students should use multiple sources (books or publications in scientific journals) for their term papers.

A separate lab will be offered every other year that compliments this course (EVPP/BIOL 582). The lab is a facultative part of the course (it is a separate 1-credit course), but highly recommended. During the lab, students will receive hands-on experience in the field on the topics discussed in class at different field sites in the Potomac River and the Chesapeake Bay. In three fieldtrips, the estuarine environment from freshwater tidal to the Atlantic coast will be experienced and sampled.

Grading:	2 mid term exams:	125 pts each
	Cumulative Final:	150 pts
	Participation:	25 pts
	Student Presentations:	75 pts
	Term Paper:	100 pts

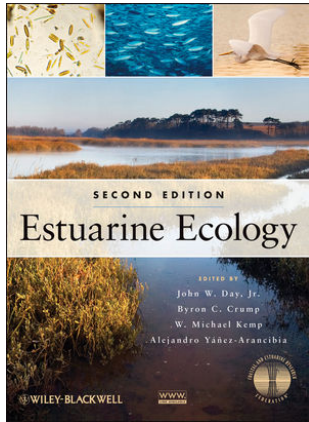
Lecture Topics and Assignments Schedule

Week	Date	Topic	Readings
1	1/27	Intro to Class and Coasts; Coastal and Estuarine Processes	Ch. 1
2	2/3	Movie: "The Margins of Land"	
3	2/10	Coastal Geomorphology	Ch. 2
4	2/17	Biogeochemistry	Ch. 3
5	2/24	Estuarine Mixing and Microbial Ecology	Ch. 9 and 10
6	3/2	Exam 1: Physical and Biogeochemical Considerations	
7	3/9	Spring Recess	
8	3/16	Phytoplankton and Benthic Algae; Student Presentation	Ch. 4 and 8
9	3/23	Saltmarshes, Mangroves and Seagrasses; Student Presentation	Ch. 5, 6, and 7
10	4/1	Estuarine Invertebrates; Student Presentation	Ch. 11 and 12
11	4/6	Guest lecture Amy Fowler; Student presentation	
12	4/13	Exam 2: Biological Life in Estuaries	
13	4/20	Estuarine Nekton and Food Webs; Student Presentation	Ch. 13 and 16
14	4/27	Estuarine and Coastal Fisheries; Student Presentation	Ch. 18 and Bb
15	5/4	Wildlife and Human Impact; All Term Papers Due	Ch. 19 and 20

Cumulative Final Exam (Study everything offered in this class): Date: 5/11 Time: 4:30-7:10 PM

Readings:

Assigned textbook:



Day, J. W. Jr., B. C. Crump, W. M. Kemp and A. Yáñez-Arancibia (eds). 2012. Estuarine Ecology, second edition. Wiley-Blackwell, New Jersey. ISBN: 978-0-471-75567-8.

This book is freely available as an ebook from the GMU library.

Other suggested readings for this class:

Bertness, M. D., S. D. Gaines and M. E. Hay (eds). 2001. Marine Community Ecology. Sinauer Associates, Inc. Sunderland, MA.

Day, J. W. Jr., C A. S. Hall, W. M. Kemp, and A. Yanez-Arancibia (eds). 1989. Estuarine Ecology. John Wiley & Sons, Inc. New York.

Woodroffe, C. D. 2002. Coasts: Form, process and evolution. Cambridge University Press, Cambridge, UK.

Honor Code: Adherence to the *GMU Honor Code* is expected of all students, specifically:

Members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.

In all assignments and communications, **plagiarism** will not be tolerated. This applies equally to oral and written communications in the context of any evaluated (graded) course assignments. Work submitted for credit in a different class cannot be resubmitted for credit in this class. In presenting quotes, paraphrasing statements or logical arguments from others in any medium (on-line, oral or written), students should properly cite their source. Any public usage of original material from this course (e.g., presentations, images, etc.) without explicit permission of its creator shall be construed as stealing. As stated in the Honor Code, infractions may result in invalidated credit for dishonorable work and lowered grade, including failure from the class, suspension or dismissal. Inquiries for clarification from the professor are welcome. Thank you in advance for your conscious attention to these issues.

Absenteeism Policy: Please inform your instructor in advance if you will be absent from class due to sickness or other reasons.

Disability Accommodations

If you have a documented learning disability or other condition that may affect academic performance you should: 1) make sure this documentation is on file with Disability Services (SUB I, Rm. 4205; 993-2474; <http://ds.gmu.edu>) to determine the accommodations you need; and 2) talk with me to discuss your accommodation needs.

Sexual Harassment, Sexual Misconduct, and Interpersonal Violence

George Mason University is committed to providing a learning, living and working environment that is free from discrimination and a campus that is free of sexual misconduct and other acts of interpersonal violence in order to promote community well-being and student success. We encourage students who believe that they have been sexually harassed, assaulted or subjected to sexual misconduct to seek assistance and support. University Policy 1202: Sexual Harassment and Misconduct speaks to the specifics of Mason’s process, the resources, and the options available to students.

Notice of mandatory reporting of sexual assault, interpersonal violence, and stalking: As a faculty member, I am designated as a “Responsible Employee,” and must report all disclosures of sexual assault, interpersonal violence, and stalking to Mason’s Title IX Coordinator per University Policy 1412. You may seek assistance from Mason’s Title IX Coordinator, Jennifer Hammat (703-993-8730) or by email cde@gmu.edu. **If you wish to speak with someone confidentially, please contact one of Mason’s confidential resources, such as Student Support and Advocacy Center (SSAC) at 703-993-3686 or Counseling and Psychology Services (CAPS) at 703-993-2380. The 24-hour Sexual and Intimate Partner Violence Crisis Line for Mason is 703-380-1434.**