

 <b>FLORIDA ATLANTIC UNIVERSITY</b>	<b>NEW COURSE PROPOSAL</b> <b>Graduate Programs</b>		UGPC Approval _____ UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner Posted _____ Catalog _____
	<b>Department</b> Biological Sciences <b>College</b> CESCOS <i>(To obtain a course number, contact erudolph@fau.edu)</i>		
<b>Prefix</b> BSC <b>Number</b> 6317	<i>(L = Lab Course; C = Combined Lecture/Lab; add if appropriate)</i> <b>Lab Code</b>	<b>Course Title</b> MARINE ECOSYSTEM MANAGEMENT	
<b>Credits</b> <i>(Review Provost Memorandum)</i> 3	<b>Grading</b> <i>(Select One Option)</i> <b>Regular</b> <input checked="" type="radio"/> <b>Sat/UnSat</b> <input type="radio"/>	<b>Course Description</b> <i>(Syllabus must be attached; see Guidelines)</i> Marine Ecosystem Management is a graduate-level discussion course where advanced topics on managing marine resources that use a broad ecosystem-based approach (marine ecosystem based management - MEBM) are introduced.	
<b>Effective Date</b> <i>(TERM &amp; YEAR)</i> Fall 2017	<b>Prerequisites</b> Graduate standing at FAU or permission of instructor		<b>Corequisites</b>  <b>Registration Controls</b> <i>(Major, College, Level)</i>
<b>Prerequisites, Corequisites and Registration Controls are enforced for all sections of course</b>			
<b>Minimum qualifications needed to teach course:</b> Member of the FAU graduate faculty and has a terminal degree in the subject area (or a closely related field.)		<b>List textbook information in syllabus or here</b>	
<b>Faculty Contact/Email/Phone</b> DR. Koch-mkoch@fau.edu7-3325		<b>List/Attach comments from departments affected by new course</b>	

<b>Approved by</b> Department Chair _____ College Curriculum Chair _____ College Dean _____ UGPC Chair _____ Graduate College Dean _____ UFS President _____ Provost _____	<b>Date</b> 3-6-17 3-8-17 3/7/2017 3-29-2017 3-29-17
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Email this form and syllabus to [UGPC@fau.edu](mailto:UGPC@fau.edu) one week before the UGPC meeting.

# SYLLABUS (Spring 2019)

## MARINE ECOSYSTEM MANAGEMENT

BSC ##### CRN #####, 3 Credits

Meeting days: ### time: ### - ###; Meeting room ### (Boca)  
Instructor: Dr. Marguerite Koch [mkoch@fau.edu](mailto:mkoch@fau.edu); 7-3325  
Department of Biological Sciences; Florida Atlantic University  
Office Hours: ##### and any time by appointment  
at Sanson Science (Biology building) Room 267

**Prerequisites:** Graduate standing at FAU or permission of instructor.

**Course Description:** Marine Ecosystem Management is a graduate-level discussion course where advanced topics on managing marine resources that use a broad ecosystem-based approach (marine ecosystem based management - MEBM) are introduced. The material for this course is presented using a student-centric learning style appropriate for graduate students. This includes: (1) reading/discussing EBM books, articles and reports from various scientists in the field and organizations concerned with the conservation of marine resources and human commodities referred to as “ecosystem services”; (2) student-led presentations of EBM tools and case studies; (3) several guest speakers working on developing EBM science and those implementing EBM approaches in the “real world”; and (4) group project to develop a mock Marine Ecosystem-Based Assessment Project.

**Course Objectives:** The objective of this course is to present graduate students who are interested in the research and conservation of marine resources the opportunity to learn about the field of marine ecosystem management, a contemporary approach to sustaining marine ecosystems and their ecological services important for mankind (e.g., fisheries, tourism, biodiversity), primarily through developing Marine Spatial Plans (MSP) but also through outreach activities. This field is in resurgence, as the past approaches to marine fisheries and ecosystem management have failed to sustain marine resources at local, national and global levels; this problem will also be discussed. The course will also present some of the challenges and various approaches needed to conduct successful EBM in different socio-political regions of the world to address marine conservation. Regardless of the fact that some students will remain focused on the scientific field of marine biology/ecology/chemistry etc., scientists are being asked and willfully engage with other researchers and organizations involved in management and conservation. Thus, this course’s objective is to prepare graduate students to be able to contribute to marine conservation and be aware of the various activities ongoing using EBM tools and MSP. The course also presents the topic of scientific communication through one of our readings and discussion; this topic will also be covered through our case studies and by our guest speakers.

### Discussion Dates/Topics

All out of class readings are listed under the topic below and can be found uploaded to Canvas.

### Introduction to EBM and MSP and Syllabus

### State of Marine Ecosystems & Managing “Slow Moving Problems”

*Class Discussion:*

1. Millennium Ecosystem Assessment Report:
  - a. Marine Fisheries Systems (Chapter 18 pg 477-501) (2003)
  - b. Coastal Systems (Chapter 19 pg 515-543) (2003)

2. Halpern et al. 2008 - A Global Map of Human Impact on Marine Ecosystems. *Science*:319: 948-952
3. Olsen 2016- Missing the Slow Train Problems
4. Marine Ecosystems and Management (MEAM) – Addressing Long-Term Problems

### **What is the Framework of Ecosystem Based Management?**

#### *Class Discussion:*

Ecosystem-Based Management for the Oceans – Karen McLeod and Heather Leslie (2009)

1. Part I- Setting the Stage
  - a. Why EBM? (chapter 1)
  - b. What do managers need? (chapter 2)
2. Part II- Conceptual Basis for Ecosystem-Based Management
  - a. The oceans as peopled Seascapes (integrating social-ecological science) (chapter 3)
  - b. Resilience Science & how integrate into EBM (chapter 4)
  - c. Valuing Ecosystem Services (chapter 6)
3. WAVES –Wealth Accounting and the Valuation of Ecosystem Services

### **Implementing Ecosystem Based Management**

#### *Class Discussion*

Ecosystem-Based Management for the Oceans – Karen McLeod and Heather Leslie (2009)

1. Part III-Connecting concepts to practice
  - a. Monitoring and Evaluation, indicators, TOOLS EBM tools network (chapter 7)
  - b. Ecosystem Service Trade-offs (chapter 8)
  - d. Building the legal and institutional framework (chapter 10)
2. Marine Spatial Planning: A Step-by-Step Approach  
UNESCO Report by Charles Ehler and Fanny Douvère

### **Development of Marine Spatial Planning in US**

#### *Class Discussion*

1. Orchestrating our Oceans Collier 2013
2. Final Recommendations of Interagency Ocean Policy Task Force (July 19, 2010)
3. National Ocean Policy Implementation Plan (April, 2013)
4. Marine Planning Handbook (July, 2013)
5. Report on the Implementation of the National Ocean Policy (March, 2015)
6. Legal Authorities relating to Implementation of Coastal and Marine Spatial Planning

*Guest Speaker* (Skype/Call) Ellen Prager – Ocean Science Communication/Outreach

1. Connection: Hollywood Storytelling Meets Critical Thinking (*Discuss Book*)

### **New Northeast Ocean Plan-1st Regional Ocean Plan approved National Ocean Council**

### **New Mid-Atlantic Ocean Plan-2nd Regional Ocean Plan approved NOC**

*Guest Speaker* (Skype/Call) Pamela Fletcher – Florida Sea Grant Extension activities

### **Fisheries Policy and Marine Reserves (*Guest Speaker: ##*)**

1. Fisheries Readings
2. The End of the Line: How Overfishing Is Changing the World and What We Eat (*Discuss Book*)

**\*\*SPRING BREAK\*\***



	73-75	C
	70-72	C-
	66-69	D+
	63-65	D
	60-62	D-
	<60	F

**Honor Code:** Students agree to adhere to the honor code, the text of which is at [http://wise.fau.edu/regulations/chapter4/4.001\\_Code\\_of\\_Academic\\_Integrity.pdf](http://wise.fau.edu/regulations/chapter4/4.001_Code_of_Academic_Integrity.pdf).

**Disability Act:** In compliance with the Americans with Disabilities Act (ADA), students who require reasonable accommodations due to a disability to properly execute coursework must register with the Office of Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses- Boca Raton, Davie, and Jupiter, however, disability services are available for students on all campuses. Religious Accommodations: Students who wish to be excused from coursework, class activities or examinations must notify the instructor in advance of their intention to participate in religious observation and request an excused absence.

**Classroom Etiquette Policy:** All laptops and phones should be closed and not in use unless you are following a digital version of the paper being discussed. During a guest speaker presentation, all electronics must be put away and full attention paid to the speaker. University policy on the use of electronic devices states: "In order to enhance and maintain a productive atmosphere for education, personal communication devices, such as cellular telephones and pagers, are to be disabled in class sessions." You may be asked to leave the class session for noncompliance.

**Attendance Policy:** Students will not be penalized for absences due to participation in University-approved activities, including athletic or scholastics teams, musical and theatrical performances, and debate activities or research-related meetings. These students will be allowed to make up missed work without any reduction in the student's final course grade. Reasonable accommodation will also be made for students participating in a religious observance. Please get prior approval for missing classes.

**Make Up:** If any discussion day is missed a 2-4 page summary of the literature discussed will be turned in to the instructor before the next class meeting. Please let the instructor know that a class will be missed.

**Incomplete Grade:** A grade of Incomplete ("I") is reserved for students who are passing a course but have not completed all the required work because of exceptional circumstances. A grade of "I" will only be given under certain conditions and in accordance with the academic policies and regulations put forward in FAU's University Catalog. The student must show exceptional circumstances why requirements cannot be met. A request for an incomplete grade has to be made in writing with supporting documentation, where appropriate. As per university policy, an incomplete grade will only be given to a student who fulfills all of the following criteria:

- a. misses multiple exams or the final examination due to a legitimately documented emergency as defined by the FAU Academic Policies and Regulations
- b. has a grade of C or better
- c. submits evidence of the emergency and signs an incomplete agreement.

**Safety:** No food or drinks are permitted in the lecture hall.

Discussion of The Nature Conservancy (TNC) Project on Reef Ecosystem Services (*Guest Speaker: ##*)

Group Presentations Case Studies of International Ecosystem-Management Programs  
Work on Nature Conservancy Reef Ecosystem Services Project; Guest Speaker ##.

Work on Nature Conservancy Reef Ecosystem Services Project

Class Ecosystem-Based Assessment Project (e.g., FL SE coast) & Ecosystem Services Project  
Applying Conceptual and Simulation Modeling to Marine Ecosystem Mgt. (*Guest Speaker: ##*)

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### **Final Exam Meeting**

Presentation of Class Ecosystem-Based Assessment Project (e.g., FL SE coast) & Ecosystem Services Project

### **Grading:**

Class Participation on Readings (50%), Case Study Presentations (25%); Class Project (25%).

### **Books:**

1. **Ecosystem-Based Management for the Oceans** by Karen McLeod and Heather Leslie (2009)  
ISBN-13: 9781597261555, Publisher: Island Press, Publication date: 5/22/2009
2. **The End of the Line: How Overfishing Is Changing the World and What We Eat** by Charles Clover (2008); Paperback: 400 pages Publisher: University of California Press; 1 edition (March 17, 2008) ISBN-10: 0520255054, ISBN-13: 978-0520255050
3. **Connection: Hollywood Storytelling Meets Critical Thinking** by Randy Olson, Dorie Barton, Brian Palermo (2013)- Paperback: 216 pages Publisher: Island Press; 1 edition (August 28, 2009)  
Language: English ISBN-978-0615872384

**Uploaded Documents for Reading:** All readings will be uploaded to Blackboard and listed by date of discussion-Uploads will be available at least one week in advance, as many of the documents are lengthy.Details Grading:

- Class Participation (come to class, participate in discussion, be prepared)
- Group Projects-everyone has to contribute equally in group projects

Grading Scale	>100-96	A+
	93-95	A
	90-92	A-
	86-89	B+
	83-85	B
	80-82	B-
	76-79	C+