



## **Statement of the MAF Faculty**

### **College of Environment and Life Sciences**

#### **Expected Student Outcomes for Marine Affairs Undergraduates**

The Department of Marine Affairs has developed its undergraduate major B.S. program in Coastal Marine Policy and Management with a mix of departmental courses focusing on coastal/ocean management. Together with supporting courses in other fields the major provides students with a body of knowledge, conceptual frameworks, skills, problem-solving abilities, and an awareness of individual and societal interplay with the wider and dynamic world around them.

The capabilities developed by students in this program are the cumulative product of the following integrated elements:

- courses in the Marine Affairs Department major (30 credits)
- supporting requirements: Biology 101, Math 111 or 131, OCG 123 or 401, STA 220 or 308, WRT 333
- supporting electives in AFS, BIO, CHM, NRS, OCE, PHY, REN, STA (18 credits, at least nine at 300 level or higher)
- general education requirements

### **Knowledge**

**1. Depth and Application of Knowledge:** You will acquire knowledge and skills necessary to pursue and obtain a professional position or graduate/professional training in your field. At the completion of your program of study you will be able to:

- a. identify the key physical and biological characteristics of the coastal/ocean natural environment [e.g., food webs, coastal erosion, sources of pollution, freshwater-salt water interplay]
- b. appreciate the multiple uses of coastal and ocean areas
- c. understand the importance of coastal/ocean areas to human well-being
- d. understand that humans are an important component of the coastal/ocean ecosystem
- e. comprehend the sectoral and integrated governance and management efforts of coastal/ocean uses
- f. comprehend the political, and social, and economic factors influencing governance and management efforts
- g. understand the interplay of science and public policy



- h. comprehend the emerging efforts at ecosystem-based governance and management of coastal/ocean areas and their legal, political, social, and economic implications
- i. explain the historical development of the field of marine affairs
- j. understand basic legal principles and the legal framework of coastal/ocean space

**2. Quantitative Competence:** You will identify and use appropriate quantitative methods to analyze relevant data. At the completion of your program of study you will have the ability to:

- a. understand statistical concepts in marine affairs
- b. utilize statistical techniques to draw inferences and develop governance and management recommendations
- c. understand basic mathematical operations that could be applied to marine affairs

**3. Methods of Inquiry:** You will understand and use methods of inquiry appropriate to marine affairs and have the ability to:

- a. understand research as a process of critical inquiry dedicated to the development and evaluation of knowledge
- b. develop research questions, the answers to which can improve governance and management efforts
- c. comprehend different research methodologies, their strengths and limitations
- d. understand and apply geographical information systems (GIS) to marine affairs analyses
- e. understand the use and limitations of modeling techniques in marine affairs

**4. Problem-Solving:** You will use acquired knowledge, skills, and insights to solve complex problems. At the completion of your program of study you will have the ability to:

- a. recognize the dimensions and complexity of the types of problems facing marine affairs analysts in their political context
- b. understand the need to incorporate knowledge, methods, and skills from a variety of fields
- c. comprehend the multiple concerns that may be at stake in any given problem area
- d. develop effective management



## Communication

**5. Information Management:** You will gather and interpret information from diverse sources and be able to:

- a. develop knowledge of available data sources
- b. locate and collect data from appropriate sources
- c. logically analyze, critically evaluate, and draw appropriate conclusions from gathered data
- d. manipulate data bases and utilize geographical information systems (GIS)

**6. Communication:** You will communicate clearly and effectively and be able to:

- a. speak in an articulate, organized manner with clear presentation of ideas, research findings, making effective use of time and being able to respond to questions
- b. write in a logical and concise manner, effectively utilizing collected data and analysis
- c. prepare appropriate visual materials, charts, graphs, maps, and diagrams
- d. tailor written/oral communications as appropriate for different audiences

**7. Multi-Disciplinary Perspective:** You will recognize the value of, and participate in, multidisciplinary teams and be able to:

- a. incorporate/integrate the contributions of multiple disciplines to marine affairs analyses
- b. interact effectively with professionals in multiple fields

## Personal growth

**8. Ethical principles:** You will understand and apply ethical principles to issues, problems, and professional practices and will:

- a. understand the ethical questions that arise in coastal/ocean management
- b. develop a personal ethic related to the discipline of marine affairs
- c. understand ethics in the academic, research, and professional environment

**9. Global Awareness:** You will develop an awareness of the global community and ecology in its multiple dimensions and will:

- a. be familiar with global environmental concerns



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- b. be knowledgeable of major international efforts to achieve better coastal/ocean management and the requirements of coordinating and harmonizing such efforts
- c. be aware of approaches of different societies to coastal/ocean questions
- d. understand how different cultures and societies adapt to and use their coastal/ocean resources
- e. understand the role of the United States in global ocean affairs

**10. Personal Development:** You will develop a sense of responsibility to self, community and will:

- a. recognize the role you may play in coastal/ocean management
- b. develop interpersonal and organizational skills needed for professional life
- c. use reflection and self-evaluation to set goals for personal development



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## **MAF Roadmap**

**Description of ocean/coastal environment/ecology →**

**Knowledge of ocean/coastal uses, stakeholders →**

**Impact and significance of human uses on ocean/coastal environment →**

**Need for ocean/coastal governance/management →**

**Governance/management institutions, processes, approaches and policies →**

**Difficulties in achieving effective governance/management →**

**Advancing governance/management, ecosystem-based management**