

STUDENT GUIDE TO MARINE DEGREE PROGRAMS IN FLORIDA UNIVERSITIES



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This document summarizes information about the location and extent of academic marine programs conducted by four-year institutions of higher learning in Florida. Its focus is degree-granting departments. It is intended to (1) guide students interested in coastal and ocean educational opportunities offered by Florida's four-year colleges and universities; (2) provide faculty, plus scientists and administrators from other governmental and private organizations, with information about university capabilities; and (3) inform teachers, guidance counselors, and the general public.

The Scope of Marine Programs in Florida

The stereotyped impression of professional work in a marine subject in Florida involves a marine biologist studying sea creatures in a balmy tropical lagoon, or an oceanographer operating "high-tech" instruments aboard a wave-tossed vessel -- or below it in a submersible vehicle. Florida academic marine programs deal with fishes, shellfish, plants and other living organisms, of course, as well as the chemical and physical processes of oceans and coastal bays worldwide. But a much broader array of marine studies includes engineering, biotechnology, food science and nutrition, economics, policy and management, law, and many others.

Thus students may take courses not only in traditional marine science offerings, such as coastal ecology or physical oceanography, but also in an extensive variety of other disciplines ranging from anthropology to zooarcheology. The many marine-related courses only can be identified by examining the catalogs of different Florida institutions.

Marine science and oceanography in Florida are comparatively young fields of study. While the departments in these traditional areas have developed programs of excellence in these fields, newer fields also are evolving. For example, coastal policy and ocean law programs reflect the need to address urbanization of the seashore. The directory below (p. 10) identifies selected areas of concentration that complement actual degree programs of marine departments.

Both public and private institutions are involved in the marine disciplines. They provide undergraduate and graduate students with training through:

- **RESEARCH**, as faculty and primarily graduate students discover new information through laboratory and field study, experimentation, literature and data analysis, and other studies of marine and coastal systems.
- **EDUCATION**, with students and scholars examining state-of-the-art and historical information and methods of problem assessment and solution, both in and out of the classroom.
- **EXTENSION**, where technology transfer between marine and coastal audiences is provided by faculty experts through workshops, continuing education, publications, etc.
- **PUBLIC SERVICE**, which brings knowledge and expertise together in various governmental-industry-non-profit-academic arrangements to create new opportunities or solve problems.

Degrees and Other Opportunities

Generally in Florida colleges and universities, marine academic degree programs emphasize the natural and engineering sciences. For example, biology is studied at virtually every school. More recently, coastal policy studies have developed and now are offered at four institutions. Florida academic marine studies are concentrated at the graduate level.

The existence of a program of study culminating in award of a specific degree provides assurance to an undergraduate or graduate student that some minimum number of courses and faculty in the particular field are available to his or her plan of study. Table 1 lists organized degree programs in marine subjects. Also, the few certificate and track-level offerings that allow an undergraduate student to major in a marine field, while not actually earning a bachelor's degree, are listed in Table 1. The subjects emphasized in those fields of study are identified in Table 2.



Furthermore, these institutions (Figure 1), and others not listed in Table 1, offer opportunities for developing a study program that may emphasize other marine subjects but not award a degree. In this situation the student may take fewer formal courses, may not have as large a pool of faculty from which to draw, or may require collaboration from several departments. Academic creativity need not suffer, of course, but the program may differ from one in a traditional marine department. It is particularly in the social sciences that opportunities for developing a personal emphasis in a marine field may be the primary means for students to proceed. For example, there are not departments of "marine anthropology" or "marine economics," yet excellent individual study programs--particularly at the graduate level--have been developed. Some areas of emphasis are identified in the directory.



Table 1. Florida Four-year Institutions of Higher Learning with Organized Degree Programs in Marine Subjects.

Institution*	Level of Degree and Academic Unit or Field		
	Bachelor's	Master's	Doctoral
Eckerd College (EC)	B.S., Marine Sci.	--	--
Florida Atlantic University (FAU)	B.S., Ocean Eng.	M.S.E., M.E., Ocean Eng.	Ph.D., Ocean Eng.
Florida Institute of Technology (FIT)	B.S., Ocean Eng. B.S., Oceanog. B.S., Mar. Biol.	M.S., Ocean Eng. M.S., Oceanog. M.S., Mar. Biol.	Ph.D., Ocean Eng. Ph.D., Oceanog. Ph.D., Mar. Biol.
Florida International University (FIU)	Certificate, Marine Sci.	M.S., Biol. Sci.	Ph.D., Biol. Sci.
Florida State University (FSU)	--	M.S., Oceanog.	Ph.D., Oceanog.
Jacksonville University (JU)	B.S., B.A., Marine Sci.	--	--
Nova University (NU)	B.S., Ocean Studies	M.S., Ocean Sci.	Ph.D., Oceanog.
University of Florida (UF)	B.S., Zoology	M.S., M. Eng., Coast. & Oc. Eng. M.S., Zoology	Ph.D., Eng. Ph.D., Zoology
University of Miami (UM)	B.S., B.A., Marine Sci.	M.S., M.A., Marine & Atmos. Sci.	Ph.D., Marine & Atmos. Sci.
University of South Florida (USF)	--	M.S., Marine Sci.	Ph.D., Marine Sci.
University of Tampa (UT)	Major, Marine Sci.	--	--
University of West Florida (UWF)	B.S., Mar. Biol.	M.S., Biol. M.P.A. Coast. Studies	--

*Abbreviations are used in Table 2.

Note: Three other State Universities, Florida A&M, University of Central Florida, and University of North Florida, have individual faculty involved in marine teaching and research.

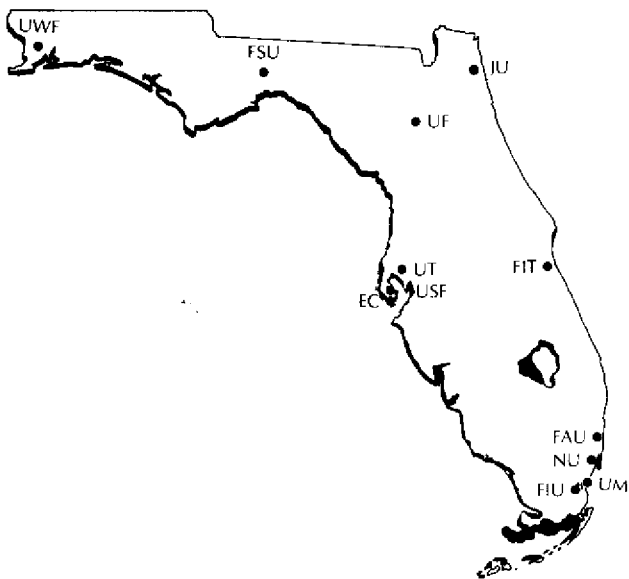


Figure 1. Location of Marine Academic Programs in Florida Four-Year Colleges and Universities. (Field Laboratories Not Indicated.) (Abbreviations Given in Table 1.)

Table 2. Fields of Study within Florida Academic Marine Programs. (Degree Programs Identified in Table 1.)

Institution*	Subject Area and Level of Degree**						
	Biology	Chemistry	Coastal Affairs***	Engineering	Geology	Physics	
EC	U	U	--	--	U	U	
FAU	--	--	--	U,G	--	--	
FIT	U,G	U,G	G	U,G	G	U,G	
FIU	U,G	U	--	--	U	U	
FSU	G	G	--	--	G	G	
JU	U	U	--	--	--	U	
NU	U,G	G	U,G	--	G	G	
UF	U,G	--	--	G	--	--	
UM	U,G	U,G	G	G	U,G	U,G	
USF	G	G	--	--	G	G	
UT	U	U	--	--	--	--	
UWF	U,G	--	G	--	--	--	

* Abbreviations coded from Table 1.

** U = Undergraduate (includes majors and tracks), G = Graduate level of study (degree programs only, in a marine subject area department).

*** The category of coastal affairs includes the various subjects of coastal zone management, marine policy, coastal studies, etc.

Directory of Degree Programs, with Additional Facilities

In the following list the department(s) responsible for marine studies identified in Tables 1 and 2 are indicated first. Then, additional marine facilities are identified, along with departments with some ongoing marine activity but which do not offer degrees or majors in marine or coastal studies. Note that other Florida institutions and departments not listed may offer individual marine courses.

Eckerd College

Director of Admissions
P.O. Box 12560
St. Petersburg, FL 33733
813/864-8331

Florida Atlantic University

Department of Ocean Engineering
Boca Raton, Florida 33431
305/393-3430

Florida Institute of Technology

Department of Oceanography and Ocean Engineering
Department of Biological Sciences
Office of Admissions
150 W. University Boulevard
Melbourne, Florida 32901-6996
407/768-8000 ext. 8030
Toll free 1/800/352-8324, In Fl. 1/800/348-4636
Additional Activities: Indian River Marine Science Research Center.

Florida International University

Marine Science Program
College of Arts and Sciences
Tamiami Campus
Miami, Florida 33199

Florida State University

Department of Oceanography
Tallahassee, Florida 32306
904/644-6700
Additional Activities: Edward Ball Marine Laboratory; Geophysical Fluid Dynamics Institute; Dept. of Biological Sciences; Academic Diving Program; Center for Aquatic Research and Resource Management; Dept. of Economics; Antarctic Marine Geology Facility; Florida Resource and Environmental Analysis Center.

Jacksonville University

Marine Sciences Program
Department of Biology and Marine Science
Jacksonville, Florida 32211
904/744-3950

Nova University

Institute of Marine and Coastal Studies
Oceanographic Center
8000 N. Ocean Drive
Dania, Florida 33304
305/920-1909

University of Florida

Department of Coastal and Oceanographic
Engineering
336 Weil Hall
Gainesville, FL 32611
Marine Biology Program
Department of Zoology
223 Bartram Hall
Gainesville, Florida 32611
904/392-1097, 392-1107

Additional Activities: Whitney Marine Laboratory;
University of Florida Marine Laboratory; Dept. of
Fisheries and Aquaculture; Communications
Science Laboratory; Florida Museum of Natural
History; Dept. of Food Science and Human Nutri-
tion; Dept. of Food and Resource Economics;
Marineland Marine Education Center; Center for
Governmental Responsibility; Fish and Wildlife
Cooperative Research Unit; Dept. of Environmental
Engineering Sciences.

Host campus for the Florida Sea Grant College
Program, a statewide university research, extension,
and education consortium.

University of Miami

Rosenstiel School of Marine and Atmospheric
Science
4600 Rickenbacker Causeway
Miami, Florida 33149-1098
305/361-4155

University of South Florida

Department of Marine Science
St. Petersburg, Florida 33701
813/893-9130

Additional Activities: Department of Biology

Host campus for the Florida Institute of Oceanography, a consortium of universities and state agencies with responsibility to support oceanographic studies, research, and training.

University of Tampa

Marine Science Curriculum
Division of Science and Mathematics
401 W. Kennedy Boulevard
Tampa, Florida 33606-1490
813/253-3333

University of West Florida

Marine Biology Program
Biology Department
904/474-2746
Coastal Zone Management Studies
904/474-2955
Pensacola, Florida 32514-5751

Afterword

A particular reason for preparing a guide such as this for Florida is due to the state's unique visibility and reputation nationally, and beyond. Particularly in the eastern and central U.S., yet increasingly in other nations also, Florida is perceived as a place of myriad ocean and coastal opportunities -- a place for saltwater angling, beachgoing, and diving while on vacation, and of course as a place to live "someday," in retirement or earlier. Part of the Florida marine mystique includes a perception that jobs in "marine science" are plentiful and high-paying. Realistically, though, the job market for many marine-oriented careers is quite competitive. And studies in this field are rigorous and demanding.

The sources of information cited below offer insight into both the traditional fields of marine study, and also some of the newer fields described earlier. Two-year institutions, namely public and private junior and community colleges, also offer marine studies programs, including specializations and majors. Many of these are applied and vocational in nature.

Sources of Information

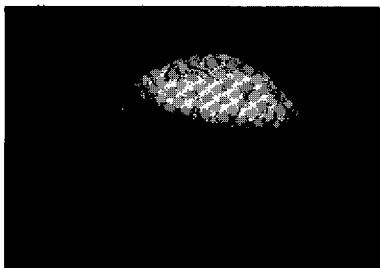
Often the requests for information by high school students, particularly, and some undergraduates are less specific in defining their interests or future plans. Therefore the following list of titles is intended to meet a diverse range of needs, from career counseling and locating marine information, to more detailed descriptions of marine curricula for specialized student programs. Prices if known are given.

- Anonymous. 1982. Fisheries as a Profession. (14 pp. brochure.) American Fisheries Society, 5410 Grosvenor Lane, Bethesda, Maryland 20814.
- Anonymous. 1987. (2 items)
Oceanography Reading Lists for Young Students. (22 pp. brochure.)
Oceanography Reading Lists for Adults. (36 pp. brochure.)
Office of the Research Librarian, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts 02543.
- Anderson, A.L. 1987. Questions about Careers in Oceanography. (18 pp. brochure.) Sea Grant Marine Information Service, Texas A&M University, College Station, Texas 77843-4115. Order Item TAMU-SG-87-401.
- Burtis, W.S. 1982. Ocean Opportunities: A Guide to What the Oceans Have to Offer. (32 pp. magazine.) Institute of Electrical and Electronic Engineers; and Marine Technology Society, 1730 M. Street, N.W., Washington, D.C. 20036. (\$2.00) (Note: Focuses on ocean careers, including social sciences. Numerous color photographs.)
- Leahy, T.M. 1984. Marine Education and Research Organizations in Florida. (86 pp. directory.) Florida Sea Grant Extension Program, G022 McCarty Hall, University of Florida, Gainesville, Florida 32611-0103. Order Item SGEB-3.
- Michigan Sea Grant Program Advisory Service. 1980. (3 items.)
Scientific Marine Careers. (12 pp. brochure.) Bulletin E-1355. (\$.30).
Professional Marine Careers. (12 pp. brochure.) Bulletin E-1356. (\$.30).
Technical Marine Careers. (12 pp. brochure.) Bulletin E-1357. (\$.30).
Michigan State University Cooperative Extension Service, East Lansing, Michigan 48824.

Naval Oceanographic Office. 1988. University Curricula in Oceanography and Related Fields. (204 pp. book.) U.S. Naval Oceanographic Office, Bay St. Louis, Mississippi 39522-5000.

Rosenfeld, L.K. 1988. A Post-graduate View of Undergraduate Programs in Oceanography. *Oceanography* (magazine), Volume 1, Number 1, pp. 11, 12, 35. The Oceanography Society, 1755 Massachusetts Avenue, N.W., Suite 700, Washington, D.C. 20036.

Universidad de Puerto Rico. 1984. Carreras en las Ciencias Marinas. (16 pp. booklet.) Programa Sea Grant, Departamento de Ciencias Marinas, Recinto Universitario de Mayaguez, Mayaguez, Puerto Rico 00708. Order Publicacion Num. 16. (Note: In Spanish.)





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