

OPTIONAL PHYSICAL MARINE SCIENCE CONCENTRATION

Students may choose to declare a concentration in Physical Marine Science. The concentration requires:

- **Physics 121 and 122 (chosen in the Marine Science CORE courses)**
- **ERS 101 or ERS 102 or ERS 109 (chosen in the Marine Science CORE courses)**
- **MAT 127 Calculus II**
- **15 credit hours in SMS electives selected from the SMS Physical Marine Science Elective list below**
- **6 additional credit hours chosen from the SMS Physical Marine Science Electives OR**

Additional Physical Marine Science Electives list

The Concentration adds approximately 10 credit hours to the basic requirements for the Marine Science degree.

Students are encouraged to take Semester by the Sea courses at the Darling Center in the Autumn of their junior or senior year.

SMS Physical Marine Science Electives: choose a minimum of 15 credits				Credits	Sem.	Grade
SMS	300*	Marine Ecology		3	_____	_____
SMS	325	Marine Geology		3	_____	_____
SMS	330	Descriptive Physical Oceanography		3	_____	_____
SMS	333	Applied Meteorology		3	_____	_____
SMS	350	SBS: Undergraduate Seminar		1	_____	_____
SMS	352*	SBS: Marine Ecology		4	_____	_____
SMS	410	Marine Physics		4	_____	_____
SMS	460	Climate Change: Understanding the Forecast		3	_____	_____
SMS	481	SBS: Design of Marine Organisms		4	_____	_____
SMS	482	SBS: Human Impacts on the Ocean		3	_____	_____
SMS	490	SBS: Special Topics (Appropriate topics)		1 to 4	_____	_____
SMS	491	Problems in Marine Sciences (Appropriate topics)		Arr.	_____	_____
SMS	520	Chemical Oceanography		3	_____	_____

* Either SMS 300 or SMS 352 may be counted toward the Physical Marine Science Concentration, but not both.

Additional Physical Marine Science Electives

CHY	242	Principles of Quantitative Analysis and Solution Equilibri		5	_____	_____
CHY	251	Organic Chemistry I (AND Lab, CHY 253)		5	_____	_____
CHY	252	Organic Chemistry II (AND lab, CHY 254)		5	_____	_____
CHY	371	Physical Chemistry I		3	_____	_____
CHY	372	Physical Chemistry II		3	_____	_____
CHY	461	Advanced Inorganic Chemistry I		3	_____	_____
ERS	314	Invertebrate Paleontology		3	_____	_____
ERS	315	Principles of Sedimentology & Stratigraphy		4	_____	_____
	534	Coastal Sedimentology		4	_____	_____
MAT	228	Calculus III		4	_____	_____
MAT	258	Intro. To Diff Eqns with Linear Algebra		4	_____	_____
SIE	433	Remote Sensing		4	_____	_____