

The University of Southern Mississippi

Division of Marine Science

Spring 2022 - Course List

MAR 591 / 642	Isotope Biogeochemistry	Mon / Wed	11:00am – 12:15pm
MAR 600	Biological Oceanography	Mon / Wed	8:00am – 9:15am
MAR 600L	Biological Oceanography Laboratory	Tuesday	9:30am – 12:15pm
MAR 621	Geological Oceanography	Thursday	9:30am – 12:15pm
MAR 621L	Geological Oceanography Laboratory	Wednesday	1:00pm – 3:45pm
MAR 655	Estuaries	Mon / Wed	1:00pm – 2:15pm
MAR 665	Oceanographic Data Analysis	Tues / Thurs	1:00pm – 2:15pm
MAR 667	Waves and Tides	Tues / Thurs	9:30am – 10:45am
MAR 670	Coastal Physical Oceanography	Tues / Thurs	11:00am – 12:15pm
MAR 675	Data Assimilation into Ocean Models	Mon / Wed	9:30am – 10:45am
MAR 683	Aquatic Chemistry	Monday	9:30am – 12:15pm
MAR 689	Seminar in Marine Science	Friday	2:30pm – 3:30pm
MAR 761	Numerical Modeling of Ocean Currents	Mon / Wed	1:00pm – 2:15pm
HYD 601	Hydrographic Data Management	Mon / Wed	8:00am – 9:15am
HYD 604	Kinematic Positioning	Tues / Thurs	11:00am – 12:15pm
HYD 605	Applied Bathymetry	Mon / Wed	11:00am – 12:15pm
HYD 611	Remote Sensing for Hydrographers	Tues / Thurs	9:30am – 10:45am
HYD 612	Water Levels	Mon / Wed	9:30am – 10:45am

Course Descriptions

MAR 591 / 642	Isotope Biogeochemistry Instructor: Hayes	Mon / Wed	11:00am – 12:15pm
	(Section H001) Prerequisite(s): Permission of instructor. This course provides an introduction to isotope geochemistry and a survey of its applications in marine science. Stable and radioactive isotope systems are powerful tracers and chronometers for many biological, physical, chemical and geological issues in oceanography.		
MAR 600	Biological Oceanography Instructor: Mojica	Mon / Wed	8:00am – 9:15am
	(Section H001) Marine biological regimes and the influence of geological, physical, and chemical oceanographic features.		
MAR 600L	Biological Oceanography Laboratory Instructor: Mojica	Tuesday	9:30am – 12:15pm
	(Section H001) A laboratory for MAR 600.		
MAR 621	Geological Oceanography Instructor: Wallace	Thursday	9:30am – 12:15pm
	(Section H001) Study of the formation and deformation of the oceanic crust and the distribution and character of marine sediments.		

MAR 621L	Geological Oceanography Laboratory Instructor: Wallace (Section H001) MAR 620. Examination and interpretation of marine geological samples and data.	Wednesday	1:00pm – 3:45pm
MAR 655	Estuaries Instructor: Shiller (Section H001) Prerequisite(s): MAR core courses or permission of instructor. An introduction to estuary processes and ecology, with discussion of the impact of human activities.	Mon / Wed	1:00pm – 2:15pm
MAR 665	Oceanographic Data Analysis Instructor: Wiggert (Section H001) Prerequisite(s): MAR 660 or permission of instructor. Analysis techniques with applications to physical oceanographic time series data. Topics will include correlation, spectral, and principal component analysis.	Tues / Thurs	1:00pm – 2:15pm
MAR 667	Waves and Tides Instructor: Nechaev (Section H001) Prerequisite(s): MAR 660 and permission of instructor. Wind-generated surface gravity waves, tide-generating forces, observing water levels, and numerical simulation of ocean tides.	Tues / Thurs	9:30am – 10:45am
MAR 670	Coastal Physical Oceanography Instructor: Nechaev (Section H001) Prerequisite(s): MAR 660 or permission of instructor. Dynamic circulation of continental shelves; includes steady and time-varying flows, pressure gradients, wind stress, bottom friction, and oceanic forcing.	Tues / Thurs	11:00am – 12:15pm
MAR 675	Data Assimilation into Ocean Models Instructor: Nechaev (Section H001) The course reviews statistical and deterministic data assimilation methods utilized for the analysis of oceanographic observations with the emphasis on variational technique and ensemble methods.	Mon – Wed	9:30 – 10:45a
MAR 683	Aquatic Chemistry Instructor: Shiller (Section H003) Prerequisite(s): Permission. Principles of inorganic, organic, and physical chemistry applied to quantitative description of processes in natural waters: Thermodynamic and kinetic aspects of electrolyte solutions, carbon dioxide/carbonate systems, dissolution and precipitation, organic geochemistry, metal-ligand complexes, electron transfer, surface chemistry of aquatic particles, and particle aggregation and stabilization processes in water.	Monday	9:30am – 12:15pm
MAR 689	Seminar in Marine Science Instructor: Shiller (Section H001) Prerequisite(s): Permission of instructor. Current topics in marine science explored via student discussion and presentation. May be repeated.	Friday	2:30 – 3:30p
MAR 761	Numerical Modeling of Ocean Currents Instructor: Nechaev (Section H001) Course provides the basic concept of numerical modeling and numerical algorithms used in ocean general circulation models.	Mon / Wed	1:00pm – 2:15pm
HYD 601	Hydrographic Data Management Instructor: Hiroji (Section H001) Prerequisite(s): Permission of instructor. The methods of data acquisition and control, capture, processing, and analysis applied to construction of navigational charts.	Mon / Wed	8:00am – 9:15pm

HYD 604	Kinematic Positioning	Tues / Thurs	11:00am – 12:15pm
	Instructor: Oguntuase		
	(Section H001) Prerequisite(s): Permission of instructor. The use of satellites in geodesy, positioning, navigation, and altimetry demonstrated through classroom lectures and practical exercises.		
HYD 605	Applied Bathymetry	Mon / Wed	11:00am – 12:15pm
	Instructor: Oguntuase		
	(Section H001) Prerequisite(s): MAR 621 or MAR 668 or equivalent. An application of ocean acoustic and transducer principles to the methods of measuring and recording the shape of the sea bed.		
HYD 611	Remote Sensing for Hydrographers	Tues / Thurs	9:30am – 10:45am
	Instructor: Neves		
	(Section H001) Prerequisite(s): Permission of instructor. Remote sensing principles and photogrammetry for coastline delineation, ice mapping, bathymetry, and water column and surface properties.		
HYD 612	Water Levels	Mon / Wed	9:30am – 10:45am
	Instructor: Howden		
	(Section H001) Prerequisite(s): MAR 660 or permission of instructor. Theory and measurements of tidal and non-tidal water levels for hydrographic applications.		

University of Southern Mississippi Registration Information

Registration

The procedure for registering for USM courses at SSC varies, depending on the campus of origination for each USM course. Students interested in registering for a USM class should call Danielle Poole at 229-688-3170. Classes begin January 19th.

Admissions

All student applicants must complete an application form and provide official transcripts from all schools attended. All students entering USM for the first time must document proof of immunization for measles, mumps, and rubella.

Students pursuing a master's and Ph.D. degree must be fully admitted to the Graduate School and follow a program approved by the major department and the Graduate School. Application materials for Marine Science should be obtained from the Division of Marine Science in Building 1020 (phone number: 228-688-7097).

<https://www.usm.edu/admissions/>

Non-degree admission

Students who do not wish to pursue a degree may seek admission as a non-degree student. However, only a limited number of non-degree credits may be applied towards a master's degree, and no non-degree credits may be applied towards a doctoral degree.

Refund Schedule

100% minus a \$30 fee	First 6 working days
0%	After 6 working days

See <https://www.usm.edu/business-services/withdrawals-and-tuition-credit> for important refund information.

Tuition for Spring 2022

Graduate Students: Resident tuition is \$512.12 per graduate semester hour for 1-8 hours. Non-resident tuition is \$624.12 per graduate semester hour for 1-8 hours. More information about tuition and fees can be found at:

<https://www.usm.edu/business-services/general-tuition-fees.php>

More information about residency status can be found at:

<https://www.usm.edu/registrar/mississippi-residency.php>

Note: The Center of Higher Learning makes every attempt to accurately list tuition rates for our participating universities. It is advisable, however, to check with the University before submitting your final paperwork or payment.

Important Dates

January 19 th	Classes begin
January 26 th	Last day to drop full term classes without academic or financial penalty and receive 100% tuition credit
May 9 th	Final exams begin