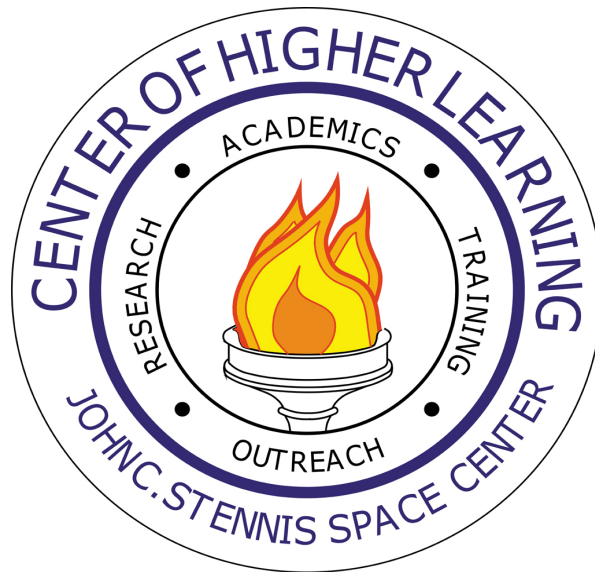


Center of Higher Learning

Your Partner in Education



**Graduate Degrees
in
Marine Science, Hydrographic Science
Civil, Electrical, Industrial, & Mechanical Engineering
Applied Physics
Engineering and Applied Science
Business Administration
Computer Science
Geospatial Sciences
Selected Undergraduate Courses**

Spring 2012

Building 1103, Room 103
John C. Stennis Space Center
<http://www.chl.state.ms.us>

Dear Prospective Student:

The Center of Higher Learning is pleased to serve as your coordinator for academic programs at the John C. Stennis Space Center. CHL offers a wide variety of individual classes and complete degree programs for the employees and organizations of the Stennis Space Center. We strive to meet and exceed your expectations - please let us know if we can serve you better.

Enclosed you will find the Spring 2012 semester class schedule. All of the classes listed will be offered on-site in the upcoming semester. Also enclosed is information on registration times and dates, contact information for our participating schools, and information on admission procedures for each school. If you have any questions, please contact me via e-mail at Keith.Long@usm.edu or by phone at (228) 688-7662.

Additionally, the Center of Higher Learning's website is a good source of information for our degree programs and individual courses. The URL is:

<http://www.chl.state.ms.us>

Please let us know if you have any questions or comments.

We look forward to serving your academic needs!

Keith Long
Associate Director

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Degree Programs Offered through the Center of Higher Learning

PARTICIPATING INSTITUTIONS	DEGREE PROGRAMS
Mississippi State University	Master of Engineering (Interdisciplinary) Master of Industrial Engineering
University of New Orleans	MS in Applied Physics Ph.D. in Engineering and Applied Science
University of Southern Mississippi	Ph.D. in Marine Science MS in Marine Science MS in Hydrographic Science Master of Business Administration MS in Geography w/ GIS & Remote Sensing emphasis MS in Computer Science Bachelor of Science in Business Administration
Pearl River Community College	Undergraduate classes leading towards an associate-level degree

Registration Activities Spring 2012

SCHOOL	DATE & TIME	LOCATION
Mississippi State University	Call Keith Long at 228-688-7662. Deadline is xxx and classes begin on xxx	Building 1103 Room 103
University of New Orleans	Registration is Wednesday, Jan. 11, 2012 from 10:00a – 1:00p. Classes begin on Jan. 17, 2012.	Building 1103 Room 103
University of Southern Mississippi Department of Marine Science	Deadline for registration is Jan. 13, 2012. Classes begin on Jan. 17, 2012. Call Bridget May at 228-688-3175.	Building 1020
University of Southern Mississippi	Deadline for registration Jan. 13, 2012. Classes begin on Jan. 17, 2012.	Building 1103 Room 103
Pearl River Community College	Registration at the Hancock Center is Jan. 2, 2012. Students may register with CHL in Bldg. 1103 at any time prior to the beginning of classes. Classes begin at Stennis on January 9, 2012.	Building 1103 Room 103 or Hancock Co. campus (228) 467-2761

Center of Higher Learning Degree Programs

The Center of Higher Learning offers complete degree programs at Stennis Space Center through participating universities. All courses associated with these degree programs are available on-site at SSC. For more information about enrolling in one of these degree programs, please call Keith Long at (228) 688-7662.

Mississippi State University

MS in Civil Engineering - (662) 325-3050

Civil engineers are presented with opportunities to take an active role in improving the quality of life by meeting the challenges of environmental protection; traffic congestion; safe drinking water; urban development and community planning.

Civil engineering encompasses 7 sub-disciplines. These include structural, environmental, transportation, geotechnical, water resources, construction and geodetic engineering. Students can major in environmental, structures, transportation or general civil engineering.

Dr. Tom White, Head & Graduate Coordinator
Department of Civil Engineering

tdwhite@civil.msstate.edu
www.civil.msstate.edu

MS in Electrical Engineering - (662) 325-3912

Electrical engineering is the application of scientific and mathematical knowledge to the practical needs of society to design and build a variety of products as well as deliver services and process information that rely on electricity.

The Department offers a thesis and a non-thesis program in all the major areas in electrical and computer engineering. Graduate courses include communications, controls, digital computing, signal and image processing, electromagnetics, high voltage, microelectronics, power systems and VLSI.

Dr. Marshall Molen, Head
Dr. Nicolas Younan, Graduate Coordinator
Department of Electrical and Computer Engineering

molen@ece.msstate.edu
younan@ece.msstate.edu
www.ece.msstate.edu

MS in Industrial Engineering - (662) 325-3865

Industrial engineering is the application of engineering methods and the principles of scientific management to the design, improvement, and installation of integrated systems of people, materials, information, equipment, and energy.

The industrial engineer is often involved in designing or improving major systems that encompass the total organization. Because of their management skill and global view of the organization, a large proportion of industrial engineers move into management positions, and later advance into top-management positions.

Dr. Larry Brown, Head
Dr. Stanley F. Bullington, Graduate Coordinator
Department of Industrial Engineering

brown@enr.msstate.edu
bullington@enr.msstate.edu
www.ie.msstate.edu

MS in Mechanical Engineering – (662) 325-3260

Mechanical engineering is the application of science and mathematics to the design, development, and operation of mechanical and energy systems. Examples of these systems include mechanical machines ranging from simple linkages and gears to complex automated robots and energy machines ranging from basic water pumps to high-performance rocket engines.

The Mechanical Engineering curriculum is directed to three areas: mechanical systems, energy systems, and automation. A non-thesis Master of Science degree option is also available.

Dr. Glenn Steele, Head
Dr. Rogelio Luck, Graduate Coordinator
Department of Mechanical Engineering

steele@me.msstate.edu
luck@me.msstate.edu
www.me.msstate.edu

The Graduate Admissions telephone number is 662-325-7000 and the home page is <http://www.msstate.edu/dept/grad/>.

University of New Orleans

MS in Applied Physics

Physics is simply defined as the study of matter and energy. Subfields include condensed matter, atomic and molecular, nuclear, elementary particle, astrophysics, astronomy, cosmology, optics, acoustics, chemical physics, biophysics, geophysics, and engineering physics

The basic areas of study in physics are classical mechanics, electromagnetism, thermodynamics and statistical mechanics, quantum mechanics, and laboratory physics. Courses are also taken in the subfields and in mathematical and computational physics disciplines.

Ph.D. in Engineering and Applied Science

The Ph.D. in Engineering and Applied Science is an interdisciplinary, integrative degree involving faculty from the College of Engineering and the College of the Sciences. The program is particularly suited to the emerging trends in the scientific and engineering communities.

Departments participating in the program are Civil and Environmental Engineering, Electrical Engineering, Mechanical Engineering, Naval Architecture and Marine Engineering, Computer Science, Geology and Geophysics, Mathematics, and Physics.

For further information about UNO degree programs at Stennis Space Center, please contact:

Dr. George E. Ioup
Director, UNO At SSC

geioup@uno.edu
(504) 280-5590

University of Southern Mississippi

Ph.D. in Marine Science

Marine scientists investigate, interpret and model all aspects of ocean processes. Doctoral students are educated through the research process in collaboration with a faculty advisor conducting research at the forefront of the field.

Graduate level education and research programs are offered in four core areas of marine science (biological, geological, chemical and physical oceanography). These areas include aquaculture, fisheries and numerical ocean modeling.

MS in Marine Science

Marine Science students are actively included in marine research and participate in cruises and field programs. Recent projects have involved travel to Bermuda, Hawaii, the Antarctic, South America, the Mediterranean Sea, Belize and the Arabian Sea. Students can specialize within one of the many sub-fields of marine science such as biological oceanography, marine chemistry, geological oceanography, physical oceanography, bio-optics, remote sensing and numerical modeling.

MS in Hydrographic Science

The Master of Science in Hydrographic Science is a non-thesis program that can be completed in 12 months for either of two options.

Option 1 is a practical field-oriented degree program that includes a spring field project on a hydrographic survey vessel. This program qualifies for Category A Level certification from the International Federation of Surveyors / International Hydrographic Organization Advisory Board of Standards for Hydrographic Surveyors. Option 2 is a theoretical and classroom-oriented program, designed to meet a broader range of student needs. It includes a research project.

Dr. Steven Lohrenz, Chair
USM Department of Marine Science

steven.lohrenz@usm.edu
(228) 688-3177

Master of Business Administration

The advent of the information age has radically changed the way business is conducted around the world. With the global spread of capitalism, increasing trade liberalization, and the proliferation of information technology, competition in the business world has become more dynamic and intense than ever before. To meet these new challenges, today's business managers need more than just knowledge about the global business environment. They also need well-developed communication, critical thinking, and decision-making skills to help them quickly and effectively assess, integrate and react

to new information. The Master of Business Administration program at the University of Southern Mississippi (USM) is dedicated to providing students with the decision making, critical thinking, and communication skills necessary for success in today's business world.

The University of Southern Mississippi Master of Business Administration (MBA) degree program is offered at the John C. Stennis Space Center as a two or three year program of study, depending on the individual's academic background. Stennis employees are encouraged to apply for full admission to the MBA program through the USM Graduate School. Permission can be given on a case-by-case basis for those interested in taking individual courses as non-degree-seeking students.

Dr. Beth LaFleur
Director, USM Graduate Business Programs

Beth.LaFleur@usm.edu
601-266-4641

Master of Science in Geography with GIS & Remote Sensing Emphasis

The Geography Department at the University of Southern Mississippi offers the comprehensive Masters degree in Geography with an emphasis in GIS and remote sensing. The program is a 36-hour (minimum) program designed so that a student can complete the coursework and associated graduate research entirely at the Stennis campus.

Dr. Clifton Dixon
Chair, Dept. of Geography

C.Dixon@usm.edu
(601) 266-4729

Master of Science in Computer Science

The Department of Computer Science at the University of Southern Mississippi Gulf Park emphasizes applied computer science that will allow the student to begin exploring special topics and state-of-the-art subjects. The program requires a minimum of 36-hours of work. Of these 36 hours, 18 must be in computer science courses numbered 600 or above. Students may also choose a 6-hour thesis or a 3-hour project as apart of their required course load.

Dr. Louise Perkins
Faculty, Dept. of Computer Science

Louise.Perkins@usm.edu
(228) 867-2609

University Points of Contact

INSTITUTION	ADDRESS	CONTACT INFO
Center of Higher Learning	Keith Long, Associate Director Building 1103, Room 103 Stennis Space Center, MS 39529	Keith.Long@usm.edu Phone: (228) 688-7662 Fax: (228) 688-7454
University of Southern Mississippi Department of Marine Science	Dr. Monty Graham, Chair Building 1020 Stennis Space Center, MS 39529	Monty.Graham@usm.edu Phone: (800) 644-4207 Phone: (228) 688-3177 Fax: (228) 688-1121
University of Southern Mississippi Master in Business Administration Graduate School of Management	Dr. Beth LaFleur, Director Graduate Business Programs University of Southern Mississippi USM Box 5178 Hattiesburg, MS 39406	Beth.LaFleur@usm.edu Phone: (228) 214-3438
University of Southern Mississippi Master of Science in Geography	Dr. Clifton Dixon, Chair USM Dept. of Geography USM Box 5051 Hattiesburg, MS 39406	C.Dixon@usm.edu Phone: (601) 266-4729 Fax: (601) 266-6219
University of New Orleans UNO at Stennis Space Center	Dr. George Ioup, Director UNO at SSC University of New Orleans New Orleans, LA 70148-2840	geioup@uno.edu Phone: (504) 280-5590 Phone: (228) 688-7213 Fax: (504) 280-6048
Mississippi State University Off- Campus Programs in Engineering	Rita Burrell Graduate & Distance Education Drawer 9544 Mississippi State, MS 39762-9544	rburrell@bagley.msstate.edu Phone: (662) 325-5923
Pearl River Community College	Raymunda Barnes Director, PRCC Hancock Center 454 Hwy 90, Suite D Waveland, MS 39576	Phone: (228) 467-2761 Fax: (228) 467-2763

Mississippi State University

Spring 2012

Course List

CE 6990	Analysis Mitigation of C2D	Mon – Wed	2:00 – 3:15p
CE 6990	Numerical Methods of WRE	Mon – Wed	2:00 – 3:15p
CE 8303	Material Characterization	Tues – Thurs	9:30 – 10:45a
CE 8593	Environmental Hydrology	MWF	12:00 – 12:50p
CE 8923	Water Quality Modeling I	MWF	11:00 – 11:50a
CE 8953	Fine Sediment Processes	Tues – Thurs	12:30 – 1:45p
CE 8990	Advanced Geotechnical Site Characterization	Tues – Thurs	3:30 – 4:45p
ECE 6323	Electromagnetic Compatibility	Tues – Thurs	8:00 – 9:15a
ECE 6653	Intro to Power Electronics	Mon – Wed	12:30 – 1:45p
ECE 6743	Computer Aided Design of Digital Systems	MWF	10:00 – 10:50a
ECE 8443	Pattern Recognition	Tues – Thurs	2:00 – 3:15p
ECE 8990	Smart Grid	Mon – Wed	3:30 – 4:45p
ECE 8990	DSP, GPUs and Visualization 3	Tues – Thurs	3:30 – 4:45p
EM 6123	Intro to Finite Element	Tues – Thurs	11:00a – 12:15p
EM 6133	Composite Materials	MWF	10:00 – 10:50a
EM 6213	Advanced Mechanics of Materials	MWF	1:00 – 1:50p
EM 8203	Applied Elasticity	Tues – Thurs	12:30 – 1:45p
EM 8213	Fracture Materials	Mon – Wed	2:00 – 3:15p
IE 6173	Occupational Safety Engineering	MWF	9:00 – 9:50a
IE 6533	Project Management	Tues – Thurs	9:30 – 10:45a
IE 6543	Logistics Engineering	Tues – Thurs	11:00a – 12:45p
IE 6573	Process Improvement Engineering	MWF	10:00 – 10:50a
IE 6623	Engineering Statistics II	Tues – Thurs	8:00 – 9:15a
IE 8773	Systems Simulation II	Wednesday	3:30 – 6:15p
IE 8990	Integer Programming	Tues – Thurs	2:00 – 3:15p
ME 8223	Inelasticity	MWF	11:00 – 11:50a
ME 8243	Finite Element in ME	MWF	11:00 – 11:50a

Course Descriptions

CE 6990 Analysis Mitigation of C2D Mon – Wed 2:00 – 3:15p
 Instructor: Islam El-Adaway

Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).

CE 6990 Numerical Methods of WRE Mon – Wed 2:00 – 3:15p
 Instructor: James Martin

Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).

CE 8303 Material Characterization Tues – Thurs 9:30 – 10:45a
 Instructor: Isaac Howard

(Prerequisite: CE 3413 and CE 3313 or equivalent). Three hours lecture. Characterization of advanced material behaviors for pavement subgrades, bases and surface courses, Stree dependency, viscoelasticity, repeated load moduli, and stabilization are central behaviors of interest.

CE 8593	Environmental Hydrology Instructor: Jairo Nelvedir Diaz-Ramirez	MWF	12:00 – 12:50p
	(Prerequisite: Consent of instructor). Three hours lecture. Discuss hydrologic cycle and its effects on water quality; principles and models for pollutant transport and transformations in surface runoff, in-stream, unsaturated soil, and groundwater.		
CE 8923	Water Quality Modeling I Instructor: James Martin	MWF	11:00 – 11:50a
	(Prerequisite: Consent of instructor). Development of the mathematical formulations describing the distribution of concentration of conservative and non-conservative pollutants in natural waters.		
CE 8953	Fine Sediment Processes Instructor: William McAnally, III	Tues – Thurs	12:30 – 1:45p
	(Prerequisite: Consent of Instructor). Three hours lecture. Fine sediment processes in transport, deposition, and erosion by water. Fluid-particle interactions, flocculation process in clay sediments, lutocline, formations and fluid mud, bed formation processes.		
CE 8990	Advanced Geotechnical Site Characterization Instructor: Staff	Tues – Thurs	3:30 – 4:45p
	Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).		
ECE 6323	Electromagnetic Compatibility Instructor: John Donohoe	Tues – Thurs	8:00 – 9:15a
	(Prerequisite: ECE 3323 or consent of instructor). Three hours lecture. Introduction to EMC standards, EMC measurements emissions and susceptibility, non-ideal behavior of components, signal spectra, crosstalk and shielding.		
ECE 6653	Intro to Power Electronics Instructor: Michael Mazzola	Mon – Wed	12:30 – 1:45p
	(Prerequisite: Grade of C or better in both ECE 3614 and ECE 3424 or equivalent). Three hours lecture. Introduction to power electronic circuits, with emphasis on design and analysis of power semiconductor converters including DC-DC converters, PWM inverters, and DC power supplies.		
ECE 6743	Computer Aided Design of Digital Systems Instructor: Staff	MWF	10:00 – 10:50a
	(Prerequisites: Grade of C or better in ECE 3724. Credit or registration in ECE 3424). Two hours lecture. Three hours laboratory. Hierarchical digital design using available design software. Computer aided design workstations will be used to give students access to state-of-the-art design techniques.		
ECE 8443	Pattern Recognition Instructor: Derek Anderson	Tues – Thurs	2:00 – 3:15p
	(Prerequisite: MA 4533/6533 or consent of instructor). Three hours lecture. Classification description, and structure of pattern recognition, patterns and feature extractions, engineering approaches including statistical and syntactic, and signal processing applications.		
ECE 8990	Smart Grid Instructor: Yong Fu	Mon – Wed	3:30 – 4:45p
	Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years.)		

ECE 8990	DSP, GPUs and Visualization 3 Instructor: Robert Moorhead	Tues – Thurs	3:30 – 4:45p
	Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years.)		
EM 6123	Intro to Finite Element Instructor: Masoud Rais-Rohani	Tues – Thurs	11:00a – 12:15p
	(Prerequisite: Consent of Instructor). Three hours lecture. Introduction to the mathematical theory, formulation, and computer implementation of the finite element method. Application to one-and two-dimensional problems in engineering mechanics.		
EM 6133	Composite Materials Instructor: Thomas Lacy, Jr.	MWF	10:00 – 10:50a
	(Prerequisites: EM 3213 and MA 3253.) Three hours lecture. Stress, strain, constitutive relations for anisotropic material, lamina properties, laminate properties, composite beams and plates.		
EM 6213	Advanced Mechanics of Materials Instructor: Philip Gullett	MWF	1:00 – 1:50p
	(Prerequisite: EM 3213). Three hours lecture. Stress, strain, stress-strain relationships, strain energy, failure theories, curved beams, unsymmetrical bending, shear center, torsion of noncircular sections, energy principles, Castigliano's theorem, inelastic behavior.		
EM 8203	Applied Elasticity Instructor: Tonya Stone	Tues – Thurs	12:30 – 1:45p
	Three hours lecture. Analysis of stress and strain; stress-strain relations; bending and torsion of beams; stress functions; strain energy.		
EM 8213	Fracture Materials Instructor: James Newman, Jr.	Mon – Wed	2:00 – 3:15p
	(Prerequisite: EM 3213 or consent of instructor). Three hours lecture. History of fracture and development of fracture mechanics principles. Linear elastic and elastic-plastic stress analysis of cracked bodies. ASTM standards and applications.		
IE 6173	Occupational Safety Engineering Instructor: Kari Reeves	MWF	9:00 – 9:50a
	(Prerequisite: Junior standing). Three hours lecture. Causes and prevention of industrial accidents. Analysis of hazardous processes and materials. Design of occupational safety systems and programs.		
IE 6533	Project Management Instructor: Lesley Strawderman	Tues – Thurs	9:30 – 10:45a
	(Prerequisites: Grade of C or better in IE 4613). Three hours lecture. Use of CPM, PERT, and GERT for planning, managing and controlling projects. Computer procedures for complex networks.		
IE 6543	Logistics Engineering Instructor: Burak Eksioglu	Tues – Thurs	11:00a – 12:45p
	(Prerequisite: IE 4613 and senior or graduate standing, Corequisite :IE 4733 or MA 4733). Three hours lecture. Analysis of complex logistics networks. Integration of supply, production, inventory, transportation, and distribution. Strategies for reducing logistics costs and lead times. Customer-supplier partnerships.		

IE 6573	Process Improvement Engineering Instructor: Stanley Bullington	MWF	10:00 – 10:50a
	Three hours lecture. Introduction to quality and productivity improvement methodologies and tools. The design and implementation of continuous improvement systems in organizations.		
IE 6623	Engineering Statistics II Instructor: Mingzhou Jin	Tues – Thurs	8:00 – 9:15a
	(Prerequisite: Grade of C or better in IE 4613). Three hours lecture. Continuation of IE 4613/6613. Introduction to engineering applications of regression, experimental design and analysis, and nonparametric methods.		
IE 8773	Systems Simulation II Instructor: Allen Greenwood	Wednesday	3:30 – 6:15p
	(Prerequisite: IE 4773/6773). Three hours lecture. Continuation of IE 4773. Includes: Advanced theory and practice of simulation. The statistics of simulation. Simulation languages. Continuous simulations.		
IE 8990	Integer Programming Instructor: Burak Eksioglu	Tues – Thurs	2:00 – 3:15p
	Credit and title to be arranged. This course is to be used on a limited basis to offer developing subject matter areas not covered in existing courses. (Courses limited to two offerings under one title within two academic years).		
ME 8223	Inelasticity Instructor: Douglas Bammann	MWF	11:00 – 11:50a
	(Prerequisite: EM 8113 and EM 8203) Three hours lecture. This course covers plasticity, creep, viscoelasticity, and inelastic behavior in relation to microstructure-property relations, constitutive modeling at different length scales, and computational simulations. (Same as CE 8323).		
ME 8243	Finite Element in ME Instructor: Oliver Myers	MWF	11:00 – 11:50a
	(Prerequisites: ME 4403 and EM 3213). Three hours lecture. Concepts and applications of finite element analysis in mechanical engineering problems.		

Mississippi State University Registration Information

Admissions

All students participating in the off-campus program should register through CHL. Unclassified students can transfer a limited number of credits into their degree program. Rita Burrell (662-325-5923) is the Manager, Graduate and Distance Education and will assist students in pursuing their Master's degree program.

Registration

The deadline for Spring 2012 registration is January 8, 2012. Please call Keith Long at 228-688-7662 or come by Bldg. 1103, Room 109 to register or for more details.

Tuition for Spring 2012

Graduate tuition for Spring 2012 for graduate engineering courses offered via distance is \$303.50 / per credit hour + \$125 distance fee/per credit for total of \$428.50/per credit hour.

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.

Textbooks

Students wishing to order textbooks can do so by calling the MSU Bookstore at (662) 325-2247 or the Campus Book Mart at (662) 323-7660.

Refund Policy

If Student completely withdraws from the University:

Until the 10th class day of semester	90%
During 11-15 class days of semester	80%
During 16-20 class days of semester	65%
During 21-25 class days of semester	45%
During 26-30 class days of semester	25%
After 30th class day of semester	NO REFUND

If Student withdraws from an individual course:

Until the 10th class day of semester	90%
After 10th class day of semester	No Refund & Student will be assessed a \$50.00 course change fee

Withdrawal and/or Drop Courses

Call Rita Burrell at 662.325.5923

University of New Orleans

Spring 2012

Course List

ENEE 6566	Optical Communications	Tuesday	6:00 – 8:45pm
ENEE 6570	Optimization Techniques in Engineering	Thursday	6:00 – 8:45pm
ENEE 6581	Introduction to Digital Image Processing	TBA	TBA
GEOG 4810	Remote Sensing I	TBA	TBA
PHYS 4195	Ocean Acoustics	TBA	TBA
PHYS 4198	Introduction to Space Weather	TBA	TBA
PHYS 4201	Introduction to Math Physics	TBA	TBA
PHYS 6205	Digital Filtering Image Processing	Tues – Thurs	9:30 – 10:45am
PHYS 6210	Wavelet Transform Applications	TBA	TBA
PHYS 6325	Underwater Acoustic System Analysis	TBA	TBA

Course Descriptions

ENEE 6566 Optical Communications Tuesday 6:00 – 8:45pm
 Instructor: Abdul Alsamman

Credit: 3 hours. Prerequisite: A BS degree in Engineering, Mathematics or Physics, or consent of the department. The methods and techniques employed in optical communications. Optical sources and photodetectors, modulation and reception schemes, and characteristic models of both fiber optic and atmospheric channels will be examined. Overall optical system performance analysis will also be addressed. Topics include: historical developments; optical sources - lasers and light emitting diodes; optical modulation; optical detectors - PIN photodiodes, avalanche photodiodes and other types; optical channel models - atmospheric propagation and fiber optic propagation; optical channel coupling; and system example/performance modeling.

ENEE 6570 Optimization Techniques in Engineering Thursday 6:00 – 8:45pm
 Instructor: Huimin Chen

Credit: 3 hours. Prerequisite: BS degree in engineering mathematics or physics or consent of department. Introduction to the formulation of engineering optimization problems. The use of nonlinear optimization techniques such as Steepest Descent, Newton-Raphson, and Conjugate Gradients and Constrained Nonlinear Optimization Techniques in engineering problems. Geometric programming in engineering problems.

ENEE 6581 Introduction to Digital Image Processing TBA TBA
 Instructor: TBA

Credit: 3 hours. Prerequisite: EE 4535 or consent of the department. Introduction to digital image processing techniques for enhancement, compression, restoration, reconstruction, and analysis. 2-D signals and systems, sampling and scanning, random fields, discrete cosine transform, discrete Karhunen-Loeve transform, gray scale transformations, linear, ranked order, and morphological filters, human vision, printing and display of images, entropy-based compression, vector quantization, transform coding, predictive coding, image degradation models, Weiner filter, constrained deconvolution, edge detection.

GEOG 4810 Remote Sensing I TBA TBA
 Instructor: Marco Giardino

Credit: 3 hours. Prerequisite: three hours of geography or consent of department. A comprehensive introductory course that deal with fundamental physical principles of the science of remote sensing, the theory and practice of image interpretation, and information extraction techniques for aerial photos and satellite imagery. Includes remote sensing applications pertaining to management of natural resources and contemporary environmental issues. Practical exercises expose students to image processing and interpretation techniques.

PHYS 4195	Ocean Acoustics Instructor: Stan Chin-Bing	TBA	TBA
	<p>Credit: 3 hours. Prerequisite: PHYS 2064 and MATH 2221 or consent of department. Using the fundamental laws of physics, the mathematical framework for selected topics in underwater acoustic theory will be developed such that prior knowledge of acoustics is not required. Emphasis will be on underwater acoustic theory and the models developed and used to predict acoustic transmission loss. The course will develop in depth those areas of underwater acoustics not covered extensively in PHYS 4322. The course can be a continuation of PHYS 4322 or stand alone as an introductory course to underwater acoustics. Topics covered: Wave propagation, Spherical waves, Reflection coefficients, Ray Theory of sound transmission with correction terms (Modified Ray Theory), Sonar Equations, Acoustic waveguides (Normal Mode Theory) with impedance boundary conditions, Acoustic scattering by rough surfaces and bubbles, Helmholtz-Kirchoff Theory of acoustic scattering.</p>		
PHYS 4198	Introduction to Space Weather Instructor: Don Holland	TBA	TBA
	<p>Credit: 3 hours. Prerequisite: College Algebra and at least on Phys class or consent of instructor. This course will introduce the student to space weather. The physics and science in this course will be predominantly phenomenological, or conceptual in nature, i.e., the science will not involve rigorous math, derivations, etc. Typically, the course will cover such topics as the structure and attributes of the sun, solar magnetic fields, solar wind, the geomagnetic field, and the ionosphere. Ramifications of space weather will be explored to include impact on satellites, radio communications, human radiation doses, and electrical/electronic equipment. The primary objective of the course is to provide the student with a broader understanding and appreciation for solar-terrestrial interactions. As such, the course will be adapted to the abilities and interests of the student(s).</p>		
PHYS 4201	Introduction to Math Physics Instructor: Stan Chin-Bing	TBA	TBA
	<p>Credit: 3 hours. Prerequisite: Consent of department. A course in differential equations and courses in university physics should constitute a sufficient background. The trust of the course will be to introduce new mathematical physics "tools" not usually encountered in undergraduate physics while providing a review and extension of those topics already familiar to the student. The course will culminate with examples and applications that will use the various topics covered. Topics to be covered: review of ordinary differential equations; vector analysis (including potential theory); coordinate systems (and differential vector operations); determinants and matrices; functions of a complex variable; second-order differential equations; Sturm-Liouville theory - orthogonal functions; Bessel functions (including Airy and Hankel functions); applications to underwater acoustics (other applications may also be considered, depending on student needs).</p>		
PHYS 6205	Digital Filtering Image Processing Instructor: George Ioup	Tues – Thurs 9:30 – 10:45am	
	<p>Credit: 3 hours. Prerequisite: Phys 4205 or consent of department. The discrete Fourier transform and the fast Fourier transform in physical applications; noise characteristics and techniques of noise removal; one-dimensional image enhancement and restoration; two-dimensional image processing; and applications to seismic data, pictures, and other physical data. Includes: Fourier series, Gibbs oscillations, the DFT, the FFT, FFT algorithms, DFT theorems, two-dimensional Fourier Transforms, two-dimensional DFTs, coordinate axes, origin location, symmetries, redundancies for the one-and two-dimensional DFTs of complex and real data, Laplace and Z transforms.</p>		

PHYS 6210 Wavelet Transform Applications

TBA

TBA

Instructor: Juliette Ioup

Credit: 3 hours. Prerequisite: PHYS 6209 or consent of department. Distortions and artifacts; Moments and smoothness; Daubechies wavelets; Coiflets; biorthogonal wavelets; Cohen-Daubechies-Feauveau wavelets; FBI fingerprints; Battle-LeMarie wavelets; spline wavelets; Sinc wavelets; multiwavelets; chirplets; curvelettes; Denoising; Image compression; audio, speech, and music compression; Vector map compression; Edge detection; Shrikage; Synthetic aperture radar; Turbulent flow around Antarctica; Geophysical inversion and migration; Seismic data; Hurricanes; Denoising in underwater acoustics; Classification of underwater mammals; Identification of sperm whales; Differential equations; Random vibration analysis; Medical applications, Feature detection.

PHYS 6325 Underwater Acoustic System Analysis

TBA

TBA

Instructor: Stan Chin-Bing

Credit: 3 hours. Prerequisite: Phys 4322 and Phys 4205 or consent of professor. Underwater acoustics, Fourier methods, noise, beamforming, target characteristics, statistical basis for performance analysis, examples of acoustic system analysis.

University of New Orleans Registration Information

Admissions

Applicants for non-degree admission to the Graduate School must have a Bachelor's degree. Up to 12 hours earned as a non-degree student may be transferred toward a Graduate degree upon approval of the Graduate Program. Applicants for non-probational admission to a Graduate Program should have at least a 2.5 undergraduate average, a 3.0 average in any graduate work taken, and satisfactory test scores. Individual programs may have additional requirements.

Applicants for undergraduate admission who wish to earn a degree must meet UNO undergraduate admission requirements. Students not seeking a degree may apply to be a special student.

All students must satisfy prerequisite requirements for UNO courses or receive consent of the department offering the course.

Tuition

Tuition is \$1,035.00 per 3-hour course for graduate students and \$929 per 3-hour course for undergraduate students. Please call Ms. Zella Huaracha at (504)-280-5590 for any additional information. *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.*

Registration

Registration for Spring 2012 will be held on Wednesday, Jan. 11, 2012 in Building 1103, Room 103, from 10:00am – 1:00pm; students may also register anytime with Keith Long at (228) 688-7662.

Important Dates

Jan. 11	Registration at Stennis Space Center, 10:00a to 1:00p (Bldg. 1103, Room 109)
Jan. 17	Classes begin
May 4	Last day of classes
May 5 - 11	Final Exams

Payment

Payment can be made with a personal check, credit card, cash, or by an employee training form.

Student Advisement

Dr. George Ioup (Stennis, x-7213, x-5579; UNO (504) 280-5590) will be available at Stennis one day a week to counsel students who are interested in the UNO Ph.D. Program in Engineering and Applied Science, the Masters Program in Applied Physics, and any other UNO degree program. Make appointments by calling Ms. Zella Huaracha at 504 280-5590.

University of Southern Mississippi
Department of Marine Science
Spring 2012
Course List

COA 610	Coastal and Marine Pollution	Tues – Thurs	9:00 – 10:30a
MAR 401 / 501	Biological Oceanography	Tuesday	12:30 – 3:20p
MAR 401L / 501L	Biological Oceanography Lab	Tuesday	3:30 – 6:20p
MAR 481 / 581	Geological Oceanography	Mon – Wed	9:00 – 10:15a
MAR 481L / 581L	Geological Oceanography Lab	Wednesday	1:00 – 4:00p
MAR 481L / 581L	Geological Oceanography Lab	Thursday	1:00 – 4:00p
MAR 655	Estuaries	Mon – Wed	10:40a – 12:00p
MAR 663	Ocean Dynamics	Mon – Wed	9:00 – 10:15a
MAR 665	Oceanographic Data Analysis	Tues – Thurs	11:00a – 12:15p
MAR 684	Systematics of the Foraminiferida	TBD	TBD
MAR 685	Data Assimilation into Ocean Models	Mon – Wed	9:00 – 10:20a
MAR 689	Seminar in Marine Science	Friday	2:30 – 4:00p
MAR 702	Advanced Biological Oceanography	Tues – Thurs	1:00 – 2:15p
MAR 761	Numerical Modeling of Ocean Currents	Mon – Wed	11:00a – 12:30p
HYD 601	Hydrographic Data Management	Mon – Wed	9:00 – 10:15a
HYD 604	Kinematic Positioning	Tues – Thurs	9:00 – 10:15a
HYD 605	Applied Bathymetry	Mon – Wed	10:30 – 11:45a
HYD 611	Remote Sensing for Hydrographers	Tues – Thurs	10:30 – 11:45a
HYD 612	Water Levels	Mon – Wed	12:30 – 1:45p

Course Descriptions

COA 610	Coastal and Marine Pollution Instructor: Jay Grimes	Tues – Thurs	9:00 – 10:30a
	3 hrs. Prerequisites: Organic chemistry or consent of instructor. An exploration of marine, estuarine and watershed pollution emphasizing the sources, transport, and fates of pollutants.		
MAR 401 / 501	Biological Oceanography Instructor: Don Redalje	Tuesday	12:30 – 3:20p
	3 hrs. Marine biological regimes and the influence of geological, physical, and chemical oceanographic features.		
MAR 401L / 501L	Biological Oceanography Lab Instructor: Donald Redalje	Tuesday	3:30 – 6:20p
	1 hr. A laboratory for MAR 401 / 501.		
MAR 481 / 581	Geological Oceanography Instructor: Charlotte Brunner	Mon – Wed	9:00 – 10:15a
	3 hrs. Prerequisite: GLY 101, 103 or permission of instructor. Study of the formation and deformation of the oceanic crust and the distribution and character of marine sediments.		
MAR 481L / 581L	Geological Oceanography Lab Instructor: Charlotte Brunner	Wednesday	1:00 – 4:00p
	1 hr. Pre- or corequisite: MAR 481 / 581. Examination and interpretation of marine geological samples and data.		

MAR 481L / 581L	Geological Oceanography Lab Instructor: Charlotte Brunner	Thursday	1:00 – 4:00p
	1 hr. Pre- or corequisite: MAR 481 / 581. Examination and interpretation of marine geological samples and data.		
MAR 655	Estuaries Instructor: Alan Shiller	Mon – Wed	10:40a – 12:00p
	3 hrs. Prerequisite: MAR core courses or permission of instructor. An introduction to estuary processes and ecology, with discussion of the impact of human activities.		
MAR 663	Ocean Dynamics Instructor: Vladimir Kamenkovich	Mon – Wed	9:00 – 10:15a
	3 hrs. Prerequisite: PHY 351, MAT 285 or permission of instructor. Intended to develop the first level understanding of the basic physical mechanisms controlling the ocean circulation.		
MAR 665	Oceanographic Data Analysis Instructor: Jeremy Wiggert	Tues – Thurs	11:00a – 12:15p
	3 hrs. Prerequisite: MAR 561, MAR 562 or permission of instructor. Analysis techniques with applications to physical oceanographic time series data. Topics will include correlation, spectral, and principal component analysis.		
MAR 684	Systematics of the Foraminiferida Instructor: Charlotte Brunner		
	A survey of the systematics of the Foraminiferida, based on Loeblich and Tappan (1987) and as amended by subsequent work [i.e., Sen Gupta (1999)].		
MAR 685	Data Assimilation into Ocean Models Instructor: Dmitri Netchaev	Mon – Wed	9:00 – 10:20a
	The topic of data assimilation becomes increasingly popular in oceanographic literature. In present the term "data assimilation" combines a variety of different approaches ranging from purely statistical optimal interpolation technique to deterministic Least Squares methods. To provide a guide for the students through the growing number of publications the course will review data assimilation methods utilized for the analysis of oceanographic data with the emphasis on the variational data assimilation technique. The course requires a basic knowledge of linear algebra and moderate computer programming skills.		
MAR 702	Advanced Biological Oceanography Instructor: Karen Orcutt	Tues – Thurs	1:00 – 2:15p
	3 hrs. Prerequisite: BSC 441 or 541 or MAR 501 or permission of the instructor. The sea as a biological environment. May also be taken as BSC 742.		
MAR 761	Numerical Modeling of Ocean Currents Instructor: Vladimir Kamenkovich	Mon – Wed	11:00a – 12:30p
	4 hrs. Basic knowledge of calculus and FORTRAN is required. General aspects of ocean modeling and numerical algorithms are discussed based on the Princeton Ocean Model.		
HYD 601	Hydrographic Data Management Instructor: David Dodd	Mon – Wed	9:00 – 10:15a
	3 hrs. Prerequisite: Permission of instructor. The methods of data acquisition and control, capture, processing, and analysis applied to construction of navigational charts.		

HYD 604	Kinematic Positioning Instructor: David Wells	Tues – Thurs	9:00 – 10:15a
	3 hrs. Prerequisite: Permission of instructor. The use of satellites in geodesy, positioning, navigation, and altimetry demonstrated through classroom lectures and practical exercises.		
HYD 605	Applied Bathymetry Instructor: David Wells	Mon – Wed	10:30 – 11:45a
	3 hrs. Prerequisite: MAR 581 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 Instructor: Maxim Van Norden	Tues – Thurs	10:30 – 11:45a
	3 hrs. Prerequisite: Permission of instructor. Remote sensing principles and photogrammetry for coastline delineation, ice mapping, bathymetry, and water column and surface properties.		
HYD 612	Water Levels Instructor: Stephen Howden	Mon – Wed	12:30 – 1:45p
	2 hrs. Prerequisite: MAR 561 or permission of instructor. Theory and measurements of tidal and non-tidal water levels for hydrographic applications.		

**University of Southern Mississippi
B.S. in Business Administration
Spring 2012
Course List**

MGT 495 International Management Wednesday 4:40 – 7:15pm

Course Descriptions

MGT 495 International Management Wednesday 4:40 – 7:15pm
Instructor: John Lambert

3 hrs. Prerequisite: MGT 300. A course concentrating on the comparison of problems in management in the U.S. with those of multi-national firms.

Note: A list of all USM Online classes can be found at:

http://www.usm.edu/sites/default/files/groups/office-registrar/pdf/spring_2012_online_class_schedule.pdf

University of Southern Mississippi General 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 Keith Long at 688-7662. The deadline for Spring 2012 regular registration is Friday, Jan. 13, 2012. Classes begin Tuesday, Jan. 17, 2012.

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 and rubella.

Students pursuing a Masters 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 Department of Marine Science in Building 1020 (phone number: 228-688-3175). Application forms for the Master of Business Administration (MBA), Computer Science, Geography and other disciplines can be obtained from the Center of Higher Learning.

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.

Students wishing to take Master of Business Administration (MBA) courses on a non-degree basis must be approved by the Director of the USM School of Business. In general, non-degree students will be allowed to take a maximum of one class per semester, and a maximum of two total classes, before they must apply for full admission into the MBA program. For more information on the MBA program, please call Keith Long at (228) 688-7662.

Refund Schedule

100% - \$30	First 10 working days
0%	After 10 working days

Tuition for Spring 2012

Undergraduate

\$228 per semester hour.

Graduate

\$303 per semester hour.

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.

Pearl River Community College

Spring 2012

Course List

ACC 1213	Principles of Accounting I	Tuesday	4:30 – 7:30pm
ACC 1223	Principles of Accounting II	Thursday	4:30 – 7:30pm

Course Descriptions

ACC 1213	Principles of Accounting I Instructor: Judy Hession	Tuesday	4:30 – 7:30pm
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Prerequisite: A score of 16 on the Reading portion of the Enhanced ACT or REA 0123 with a grade of “C” or better. A study of the financial accounting principles that relate to business. The topics to be covered include the accounting cycle, accounting systems and controls for service and merchandising businesses, assets, liabilities, and equity. Three lecture hours per week.

ACC 1223	Principles of Accounting II Instructor: Judy Hession	Thursday	4:30 – 7:30pm
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Prerequisite: ACC 1213. A continuation of the fundamentals of accounting applicable to partnerships, LLCs, and corporations. Special emphasis will be given to preparing the statement of cash flows, financing a corporation through issuing stocks and bonds, analyzing financial statements to evaluate a company’s performance, income taxes, and investments. Three lecture hours per week; three hours credit.

Pearl River Community College Registration Information

Admission

Students wishing to enroll at Pearl River must provide Admissions with GED scores or a high school transcript showing dates of graduation or an official transcript of the last college they attended. Students who have not completed ENG 1113 and MAT 1313 (or their equivalent) must have an ACT score on file prior to registration. Students are responsible for following all admissions and academic policies found in the catalog.

Registration for Spring 2012 will be held for new students on January 2, 2012 at the PRCC Hancock Center in Waveland, MS or any time before January 9, 2012 at the CHL offices in Bldg. 1103 at SSC; registration will continue until the first day of each class. Continuing students may register on-line at <http://www.prcc.edu> or by telephone. The registration assistance number for the PRCC Hancock Center is (228) 467-2761.

Tuition is \$100 per semester hour and an additional \$100 per hour for non-Mississippi residents.

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 college before submitting your final paperwork or payment.

Refund: Written appeals for refunds should be sent to the Dean of Business Services, Pearl River Community College, P.O. Box 5060, Poplarville, MS 39470.

Prior to first class	100%
Week 1	90%
Week 2	80%
Week 3	80%
Week 4	70%
Week 5	70%
Week 6	60%
Week 7	50%
Week 8	50%
Week 9	40%
Week 10	40%
Week 11 and after	0%

Important Dates

January 2	Registration for Spring 2012 classes @ Hancock Center
January 9	Deadline for Admission / Registration at SSC
January 9	Classes Begin
May 4	Last Day of Regular Classes
May 2, 3, 7 & 8	Final Exams