7725 Survey of Symphonic Literature I (2) A survey of orchestral works beginning with the Baroque period of music and ending with the early Romantic; emphasis on preparation for performance.

7726 Survey of Symphonic Literature II (2) A survey of orchestral works by Romantic composers and ending with 20th century music; orchestra, with emphasis on preparation for performance.

7141 History of the Orchestra (3) Prereq.: MUS 3703, 3704, and 3710 or successful passing of the Music Theory and Music History Diagnostic Examinations. History of technical development and conducting (3) Prereq.: previous study of conducting. Each course may be taken once for the MM and once for the DMA or PhD. Independent study of the technique and styles of music with emphasis on score analysis and performance practices.

7771, 7774 Advanced Band Conducting (3) Prereq.: previous study of conducting. Each course may be taken once for the MM and once for the DMA or PhD. Independent study of the techniques required to conduct all styles of symphonic music, with emphasis on score analysis and performance practices.

7777, 7778 Advanced Keyboard Literature I, II (3) Prereq.: MUS 4737, 4758, or equivalent. Each course may be taken twice; once for the MM and once for the DMA. Genres and styles from earliest examples of keyboard literature through the most recent trends.

7779 Master’s Pedagogy Project (2) Pass-fail grading. Completion of a 45-minute oral presentation and short supporting paper on a pedagogical topic. May be repeated for a maximum of credit applicable to a degree limited by student’s advisory committee. Works of certain composers for the keyboard, such as selected concertos.

7781 Advanced Music and Medieval Music (3) Prereq.: MUS 3710 or successful passing of the Music History Diagnostic Examination. History of music from ancient Greeks and Hebrews through the 14th century.

7782 Music of the Renaissance (3) Prereq.: MUS 3703, 3704, and 3710 or successful passing of the Music History Diagnostic Examination. Survey of music from the Renaissance, including madrigal, motet, madrigal, and figured bass theory. The history of harmonic theory and rhythm/phase analysis; 19th century expansions of harmonic theory and formal analysis.

7745 Advanced Computer Music (3) Prereq.: MUS 4745, or consent of instructor. Advanced techniques in digital sound synthesis and composition; analysis/test/recomposition techniques, granular synthesis, physical modeling, interactive computer music performance, and algorithmic composition using computer programs or real-time systems on the computer.

7746 Graduate Seminar in Experimental Music and Digital Media (3) Prereq.: MUS 7745 or consent of instructor. May be taken for a max. of 6 hrs. of credit when topic varies. Emphasis on the use of computers in music composition, interactive computer music, multimedia composition, alternative computer interfaces for musical performance, sound installation, and advanced analysis of computer music.

7747 History of Electroacoustic Music (3) The history of electronic music; developments in technology, aesthetics, and style since ca. 1900; survey and analysis of representative music from the genre.

7748, 7750 Special Studies in Piano Literature (3,3) Each course may be taken for a max. of 9 hrs. of credit when topics vary. Total credit is limited to a degree limited by student’s advisory committee. Works of certain composers for the keyboard, such as selected concertos.

7751 Ancient and Medieval Music (3) Prereq.: MUS 3710 or successful passing of the Music History Diagnostic Examination. Music of the 15th and 16th centuries.

7752 Music in the Baroque Era (3) Prereq.: MUS 3703, 3704, and 3710 or successful passing of the Music History Diagnostic Examination. Music of the Baroque period, including the development of new computer music systems, interactive computer music, multimedia composition, alternative computer interfaces for musical performance, sound installation, and advanced analysis of computer music.

7753 History of Electroacoustic Music (3) The history of electronic music; developments in technology, aesthetics, and style since ca. 1900; survey and analysis of representative music from the genre.

7754 Music in the Classical Era (3) Prereq.: MUS 3710 or successful passing of the Music History Diagnostic Examination. Music of the 18th century.

7755 Music in the Romantic Era (3) Prereq.: MUS 3710 or successful passing of the Music History Diagnostic Examination. Music of the 19th century.

7756 Music in the Modern Era (3) Prereq.: MUS 3710 or successful passing of the Music History Diagnostic Examination.

7871 American Music (3) Prereq.: MUS 3710 or successful passing of the Music History Diagnostic Examination. The most important phases in development of music in the U.S. and for music learning; collection, quantification, and treatment of data; current research.

7771, 7772, 7773 Advanced Computer Music (3) Prereq.: MUS 4746 and 4754. Designed for doctoral students in music. Systematic investigation of musical behavior and music learning; collection, quantification, and treatment of data; current research.

7771, 7772, 7773 Advanced Computer Music (3) Prereq.: MUS 4746 and 4754. Designed for doctoral students in music. Systematic investigation of musical behavior and music learning; collection, quantification, and treatment of data; current research.

0007 Doctor of Musical Arts Role in Opera (1-3) May not be taken concurrently with MUS 4241. May be repeated for a max. of 4 hrs. of credit may be applied toward the DMA degree.

0008 Doctor of Musical Arts Chamber Music Recital (2) May be repeated for credit; max. amount of credit applicable to a degree is determined by student’s advisory committee.

0099 Research and Monograph (1-12) S/U grading. For DMA candidates in performance only. May be repeated until 12 credit hours are completed.


0201 Doctoral Seminar in Music Composition (1-3) May be repeated for credit; max. amount of credit applicable to a degree is 12 sem. hrs. Participation in the Composer’s Forum is part of course work.

9925 to 9937 (Series) Seminar in Literature and Style in Performance (3 each) Each historical developments of the various performance areas with concentration on their literature, important pedagogical principles, and stylistic problems related to each medium. To be given as follows: 9925, 9926 Voice 9927 Organ 9931, 9932 Strings 9935, 9936 Brass 9937 Percussion

MUSIC EDUCATION • MUED

1000 Foundations of Music Education (3) Credit will not be given for both this course and EDCT 1000. 2 hrs. lecture; 1 hr. lab. Course is for music majors only. Field observations in music at the elementary and secondary levels; historical and philosophical foundations, introduction to instructional strategies, professional organizations, legal aspects, and national standards of music education.

1700 Orientation to Music Education (1) Course may be repeated for a max. of 2 sem. hrs. of credit when topic varies. Emphasis on the music education profession; orientation to collegiate music study; and initial field experiences in the schools.

2041 Teaching Music in Diverse Settings (3) Prereq.: MUED 1000. Credit will not be given for both this course and EDCT 2045. Site-based teaching practica. 2 hrs. lecture; 2 hr. teaching practicum each week. Managerial aspects of instruction; application of research in music teaching and learning principles to the classroom and rehearsal setting.

3170 Principles of Teaching Elementary School Music (3) Prereq.: MUED 1000 and MUED 2045. Materials, methods, and current trends in music teaching at the elementary level; curriculum development.


3630 Student Teaching in Music (9) Prereq.: see ‘Requirements for Student Teaching’ in the School of Music section of this catalog. 1 hr. lecture; 30 hrs. lab. Pass-fail grading.

NUCLEAR SCIENCE • NS

3411 Fundamentals of Nuclear Radiation Science (3) F-S Prereq.: one sem. of MATH 1021 or equivalent and one sem. of chemistry or physics; 2 hrs. lecture; 3 hrs. lab. Nuclear structure, transmutation and decay, interatomic and nuclear forces, atomic collisions; interaction of radiation with matter; radiation detection and measurement. 4141 Radiobiology (3) F Prereq.: NS 4101 or equivalent. 2 hrs. lecture; 1 hr. lab. Atomic and molecular biology of radiation, biological effects, survival curves, radiation stability, stable tracers, and radiation effects in both natural and laboratory-contained communities of organisms.

4353 Environmental Radiological Environmental Monitoring and Remediation (2) S Prereq.: NS 4341 or permission of instructor. Methods of sampling and sampling to determine radiation concentrations; federal and state regulations governing remediation criteria; models and computer codes used to estimate dose; remediation planning and implementation.

4353 Environmental Radiological Monitoring and Remediation Laboratory (1) S Prereq.: credit for or concurrent enrollment in NS 4353 or equivalent and state regulations to NS 4352. Sampling and analytical techniques used to measure radionuclides in the environment.
OCEANOGRAPHY AND COASTAL SCIENCES

General education courses are marked with stars (★). ★ 1005 Introduction to Oceanography (3) Prereq.: PHYS 2102 or equivalent. Safety analysis of facilities that utilize radiation sources, including industrial sites, industrial radiation applications, and industrial sites; sequences; dispersal of radiomelicules; estimation of dose and dose commitments; and engineered safeguards.

7115 N-1 Stable Trace Elements for Biogeochemical Sciences (2) S-E Predev: consent of instructor. 1 hr. lecture; 3 hrs. lab. Quantitative N-15 tracer applications and methodology in biological nitrogen systems, combining N-15 procedures with mass spectrometer techniques.

7520 Nuclear Reactor Materials (3) V Principles governing structure and properties of materials used in nuclear reactors; radiation effects, problems in selection, fabrication, and use of these materials.

7525 Biocorrosion Engineering Laboratory (2) S Predev.: credit or registration in NS 7527. 6 hrs. lab. Operation of nuclear counting and spectroscopy systems; measurements of neutron behavior in multiplying and non-multiplying media; development of design parameters from empirical data.

7527, 7528 Reactor Engineering (3.3, F,S) Predev.: consent of department. NS 7527 is prerequisite for 7528. Basic concepts of reactor physics; slowing-down theory, homogeneous and heterogeneous reactors; diffusion and transport theories for neutron flux calculations; calculational calculations; one-group, two-group, and multigroup methods; core burn up analysis.

7529 Nuclear Dynamic (3) S Prereq.: NS 7527 and credit for or registration in NS 7525. Transient reactor analysis; analytical and numerical point kinetics calculations; perturbation theory expressions for reactivity; feedback effects; reactor startup; and stabilization; coolant; neutrons and thermal hydraulic transients; space-time kinetics.

7555 Nuclear Reactor Analysis (3) S Prerev.: MATH 4038 or 4340 and NS 7527; or equivalent. Numerical methods and solutions to multigroup neutron diffusion and transport equation systems; lattice code methods; nodal techniques; applications to fuel management and light water reactor core physics analysis; calculation of temperature coefficients; advanced reactor systems.

7566, 7567 Advanced Nuclear Reactor Systems (3.3, F,S) Prerev.: NS 4527 or equivalent. Engineering aspects of fission reactor systems, including fuel behavior, energy removal, materials selection, and core interface with the balance of the plant.

7575 Fluid Dynamics in Flow and Heat Transfer (3) Predev.: ME 4433 or equivalent. Modeling and analysis of liquid-vapor flow systems and applications in nuclear reactor design and safety; nuclear phenomena; boiling heat transfer; burnout; condensation; flow instabilities, critical flow, loss of coolant accidents.

OCEANOGRAPHY AND COASTAL SCIENCES

★ OCS

★ 1005 Introduction to Oceanography (3) An honors course, OCS 1006, is also available. Credit will not be given for both. OCS 1005 and OCS 1006. The worlds oceans, oceanic origin and evolution; interactions between physical, geological, chemical, and biological processes in the marine environment; and the study of the ocean.

★ 1006 HONORS: Introduction to Oceanography (3) Similar to OCS 1005 with special honors emphasis for qualified students. Credit will not be given for this course and OCS 1005. Integration of physical, geological, chemical, and biological processes of the ocean; effect of human activity on the ocean; and the study of the ocean.

2008 Introduction to Marine Sciences: Geographical and Physical (4) 3 hrs. lecture; 3 hrs. lab. Lab fee and fieldtrip required. Geographical and physical processes in marine and aquatic environments; their influence on coastal Louisiana.

2009 Introduction to Waves and Beaches (3) Introduction to the physical and geologic coastal oceanic processes that shape the coastal zone; various coastal environment types; and coastal processes and human interaction with these environments.

2011 Introduction to MATLAB for Coastal Sciences (3) Predev.: OCS 2007 and OCS 2008, 3 hrs. lecture. Credit will not be given for both MATLAB and CSE 251 or CSE 252. Course includes the use of MATLAB to perform computational tasks and develop algorithms for solving problems in coastal science.

4570 Nuclear Facility Safety (3) S Predev.: PHYS 2102 or equivalent. Safety analysis of facilities that utilize radiation sources, including industrial sites, industrial radiation applications, and industrial sites; sequences; dispersal of radionuclides; estimation of dose and dose commitments; and engineered safeguards.

4710 Physical Oceanography and Coastal Sciences (1-6) Prereq.: permission of Department. May be taken for a max. of 9 sem. hrs. of credit when topics vary.

4003 Special Topics in Oceanography and Coastal Sciences (1-6) V May be taken for a max. of 9 sem. hrs. of credit when topics vary.

4005 Special Field Topics in Oceanography and Coastal Sciences (1-6) S Only may be taken for a max. of 9 sem. hrs. of credit when topics vary.

4015 Marine Micrometeorology (3) S Predev.: one semester course in soils, biology or ecology; consent of instructor. 3 hrs. lecture; 2 hrs. lab. Application of micrometeorological principles to coastal environments.

4164 Deltaic Processes and Products (3) Prereq.: consent of instructor. River delta formation and associated sedimentary processes with special emphasis on the Mississippi River delta and adjoining coastal, shelf-edge, and slope regions; comparisons of the Mississippi delta with other modern deltas.

4165 Environmental Chemistry of Wetlands (3) F,O Predev.: CHEM 2060 or equivalent. Transformations of pollutants and toxic substances that affect the solubility, mobility, and bioavailability of organic and inorganic substances in wetlands; emphasis on biological and physico-chemical properties of wetlands that enhance the removal of contaminants and pollutants.

4170 Physical Oceanography (3) S Predev.: CE 2200 and graduate standing or consent of instructor. 3 hrs. lecture; 2 hrs. lab. Dynamics of the earth's rotating coordinate system, water waves, general circulation.

4210 Geological Oceanography (3) F Predev.: Principles of marine geology; sedimentary and sedimentation in the marine environment from the near shore zone to the abyssal plain; geological effects of bottom currents; sea-level history; geophysical techniques; continental drift and sea-floor spreading; tectonic history of the ocean crust.

4308 Plants in Coastal Environments (3) V Prereq.: BIOL 1202 and 1209. 2 hrs. lecture; 4 hrs. lab. An introduction to the plant species found in coastal environments.


4410 Salt Marsh Ecology (4) S Predev.: general biology and 10 semester hours of biology. Four weeks at Gulf Research Laboratory, Ocean Springs, Mississippi. Botanical aspects of local marshes; plant identification, wind direction, storm development, and air quality.

4411 Deltaic Processes and Products (3) Prereq.: consent of instructor. River delta formation and associated sedimentary processes with special emphasis on the Mississippi River delta and adjoining coastal, shelf-edge, and slope regions; comparisons of the Mississippi delta with other modern deltas.

4412 Environmental Chemistry of Wetlands (3) F,O Predev.: CHEM 2060 or equivalent. Transformations of pollutants and toxic substances that affect the solubility, mobility, and bioavailability of organic and inorganic substances in wetlands; emphasis on biological and physico-chemical properties of wetlands that enhance the removal of contaminants and pollutants.

4416 Deltaic Processes and Products (3) Prereq.: one semester course in soils, biology or ecology; consent of instructor. 3 hrs. lecture; 2 hrs. lab. Application of micrometeorological principles to coastal environments.

4570 Nuclear Facility Safety (3) S Predev.: PHYS 2102 or equivalent. Safety analysis of facilities that utilize radiation sources, including industrial sites, industrial radiation applications, and industrial sites; sequences; dispersal of radionuclides; estimation of dose and dose commitments; and engineered safeguards.