PHYSICS • PHYS

General education courses are marked with stars (★).

★ 1001 Physical Science (3) Prereq.: MATH 1021. Credit will not be given for both this course and any other college-level physics course. Second half of a two-semester survey course in the physical sciences; topics in the first semester are taken primarily from the field of physics.

★ 1002 Physical Science Laboratory (1) F, S Prereq.: PHYS 1001. Credit will not be given for both this course and any other college-level astronomy course. Second half of a two-semester survey course in the physical sciences; topics in the second semester are taken primarily from the fields of astronomy, chemistry and geology.

1021 Technical Science with Laboratory (3) F, S Prereq.: MATH 1021 or 1029. Credit will not be given for this course and PHSC 1001. 2 hrs. lecture; 2 hrs. lab. Exposition of fundamental concepts through laboratory investigations; topics such as nature of matter, forces and motion, electricity and magnetism, and sound.

1022 Physical Science with Laboratory (3) F, S Prereq.: MATH 1021 or 1029. Credit will not be given for this course and PHYS 1001. 2 hrs. lecture; 2 hrs. lab. Exposition of fundamental concepts through laboratory investigations; topics such as nature of matter, forces and motion, electricity and magnetism, and sound.

PHYSICS • PHYS

Prerequisites • All prerequisites in physics courses should be rigidly observed. Corequisites • A student may not continue in a course after dropping a corequisite course prior to the last day of the midsemester examination period.

Of the 7000-level courses, those numbered in the 7200s, as well as 7135, 7136, 7137, 7138, 7211, 7212, 7213, 7231, and 7411 are offered every year. 7135 and 7137 every other year. All other courses are offered sporadically as interest demands and in order to provide a varied curriculum.

General education courses are marked with stars (★).

1100 Introduction to Physics (3) Prereq.: credit or registration in MATH 1550. Measurement, vectors, kinematics, Newton’s laws of motion, wave motion, temperature, the electric field, DC circuits, and geometrical optics.

★ 1201, ★ 1202 General Physics for Physics Majors (4,4) F, S Prereq.: for 1201, Grade of C or better in PHYS 1100 or placement by examination; credit or registration in MATH 1550. Prereq. for 1202: PHYS 1201 and credit or registration in MATH 2001, 2002, 2011, 2102. Fundamentals of classical physics and some concepts of modern physics; calculus and vector analysis introduced and used in development of subject matter.

1208, 1209 General Physics Laboratory for Physics Majors (1) F, S Prereq.: PHYS 1201 and credit or registration in PHYS 1201. Credit will not be given for these courses and PHYS 2108, 2109. Laboratory to accompany PHYS 1201, 1202.

★ 2001, ★ 3002 General Physics for Teachers (3,3) Prereq. for PHYS 2001: MATH 1022 or 1023; grade of C or better in PHYS 2002, PHYS 2001, 3 hrs. lecture/demonstration. Credit will not be given for these courses and PHYS 2120, 2101, 2102. Mechanics, heat, sound, light, electricity, and magnetism; topics in modern physics.

★ 2101 General Physics for Technical Students (3) Prereq.: Grade of C or better in PHYS 1100 or placement by examination; credit or registration in MATH 1552. Credit will not be given for both this course and PHYS 2101, 2001. Mechanics, wave motion, thermodynamics, and kinetic theory.

★ 2102 General Physics for Technical Students (3) Prereq.: Grade of C or better in PHYS 1100 or placement by examination; credit or registration in MATH 1552. Credit will not be given for both this course and PHYS 2102, 2002. Electricity, magnetism, physical optics, and topics from modern physics.

2108 General Physics Laboratory (1) F, S Prereq.: credit or registration in PHYS 2001 or 2002. Laboratory to accompany PHYS 2001 or 2101.

2109 General Physics Laboratory (1) Prereq.: PHYS 2108 and credit or registration in PHYS 2002 or 2011, 2101. Laboratory to accompany PHYS 2002 and 2101.

1100 Introduction to Physics (3) Prereq.: credit or registration in MATH 1550. Measurement, vectors, kinematics, Newton’s laws of motion, wave motion, temperature, the electric field, DC circuits, and geometrical optics.

★ 1201, ★ 1202 General Physics for Physics Majors (4,4) F, S Prereq.: for 1201, Grade of C or better in PHYS 1100 or placement by examination; credit or registration in MATH 1550. Prereq. for 1202: PHYS 1201 and credit or registration in MATH 2001, 2002, 2011, 2102. Fundamentals of classical physics and some concepts of modern physics; calculus and vector analysis introduced and used in development of subject matter.

Of the 7000-level courses, those numbered in the 7200s, as well as 7135, 7136, 7137, 7138, 7211, 7212, 7213, 7231, and 7411 are offered every year. 7135 and 7137 every other year. All other courses are offered sporadically as interest demands and in order to provide a varied curriculum.

General education courses are marked with stars (★).

1100 Introduction to Physics (3) Prereq.: credit or registration in MATH 1550. Measurement, vectors, kinematics, Newton’s laws of motion, wave motion, temperature, the electric field, DC circuits, and geometrical optics.

★ 1201, ★ 1202 General Physics for Physics Majors (4,4) F, S Prereq.: for 1201, Grade of C or better in PHYS 1100 or placement by examination; credit or registration in MATH 1550. Prereq. for 1202: PHYS 1201 and credit or registration in MATH 2001, 2002, 2011, 2102. Fundamentals of classical physics and some concepts of modern physics; calculus and vector analysis introduced and used in development of subject matter.

1208, 1209 General Physics Laboratory for Physics Majors (1) F, S Prereq.: PHYS 1201 and credit or registration in PHYS 1201. Credit will not be given for these courses and PHYS 2108, 2109. Laboratory to accompany PHYS 1201, 1202.

★ 2001, ★ 3002 General Physics for Teachers (3,3) Prereq. for PHYS 2001: MATH 1022 or 1023; grade of C or better in PHYS 2002, PHYS 2001, 3 hrs. lecture/demonstration. Credit will not be given for these courses and PHYS 2101, 2102 or 2101, 2102. Mechanics, heat, sound, light, electricity, and magnetism; topics in modern physics.
POLITICAL SCIENCE • POLI

General education courses are marked with stars (★).

★ 1001 Fundamental Issues of Politics (3) F.S
Su Credit will not be given for this course and POLI 1002. Central questions at issue in politics; their significance.

★ 1002 Honors Fundamental Issues of Politics (3) S
Same as POLI 1001, with special honors emphasis for qualified students. Credit will not be given for this course and POLI 1002.

★ 2030 Civic Engagement, Youth, and Media (3) See MC 2030.

★ 2051 American Government (3) F.S
An honors course. POLI 2052, is also available. Credit will be given for this course and POLI 2052. Principles, structures, processes, and functions; emphasis on national government.

★ 2052 HONORS: American Government (3) S
Same as POLI 2051, with special honors emphasis for qualified students. Credit will not be given for this course and POLI 2051.

★ 2053 Introduction to Comparative Politics (3) F.S
Survey of politics in democratic, post-communist, and developing societies; emphasis on major actors and institutions.

★ 2054 Government of Louisiana (3) F.S
Poli 2051 or equivalent. State and local government and politics in Louisiana.

★ 2057 Introduction to International Politics (3) F.S
Basic principles, problems, and concepts of international politics; evolution and nature of the nation-state; concepts of sovereignty, power, and national interest; patterns of conflict and cooperation; foreign policies of the major powers.

★ 2060 Introduction to Political Theory (3) F.S
Basic concepts of analysis of normative and empirical political thought.

★ 2061 Public Policy Making: An Introduction (3) F
Sequential process of policy making from problem identification through policy formulation, adoption, implementation, and evaluation of impact; application to such areas as civil rights, welfare, urban affairs, taxation, and government spending.

★ 3809 HONORS: Thesis (3) Culmination of political science honors program; details available from department.

★ 3909 HONORS: Seminar (3) Students not enrolled in the honors program may be admitted with consent of the instructor. Subject matter and instructor vary. Details available from the department during registration.

★ 4995, 4996, 4997 HONORS: Independent study and dissertation research area culminating in acceptable written research. Not for academic credit. Pass-credit/credit grading only. Open only by special permission of the instructor.

PLANT HEALTH • PLHL

2050 Introduction to Pest Management (4) Prereq.: BIOL 1201. Introduction to principles and practices of pest management. 3 hrs. lab, 3 hrs. alt. lab, and ENTM 2050. Recognition and development, and herbicides. 7608 Current Literature in Plant Physiology (1) F.S
Taught twice for credit and twice in a doctoral program. Also offered as BIOL 7068. Critical analysis of recent and classical papers in the field. 7802 Soilborne Plant Pathogens (3) S
Prereq.: PLHL 4000 and PLHL 7063; or equivalent, 2 hrs. lecture, 2 hrs. lab. Genetics, physiology, and biochemistry of pathogenic fungi, bacteria, and nematodes.

7802 Soilborne Plant Pathogens (3) F
Prereq.: PLHL 4000 or equivalent. Physiology, ecology, and pathology of many plant pathogens; effects of cultural, biological, and genetic; disease suppressive soils.

7803 Epidemiology and Crop Loss Assessment (3) S
Prereq.: PLHL 4000 and/or equivalent. Interactions between pathogen and host populations, and the environment; measurement and prediction of disease spread and increase; disease management strategies; techniques to assess losses due to plant disease.

8000 Thesis Research (1-12 per sem.) $57/4" grading.

8800 Practicum in Plant Pathology (2) Prereq.: consent of instructor. May be taken for a max. of 9 sem. hrs. credit. Faculty-supervised experiences in plant pathology research, disease diagnosis, and control.

8900 Special Research Problems (1-5) Prereq.: consent of instructor. May be taken for a max. of 9 sem. hrs. credit. Faculty-supervised, independent research other than thesis or dissertation.

9000 Dissertation Research (1-12 per sem.) $57/2" grading.

7343 Advanced Quantum Mechanics (3) V Prereq.: PHYS 7242, The Lorentz group, relativistic wave equations, introduction to quantum field theory.

7353, 7354 Atomic and Optical Physics I, II (1-3) V Prereq.: PHYS 7242; PHYS 7353 is prerequisite for 7354. Application of quantum mechanics and statistical mechanics to atomic and molecular physics; introduction to atomic and nuclear physics and their interaction with radiation; spectral levels, photoabsorption and collisions with charged particles.

7360 Low Temperature Physics (3) V Prereq.: introductory courses of matter at temperatures near absolute zero; methods of producing low temperatures; superfluidity of liquid helium, superconductivity, magnetic effects, and adiabatic demagnetization.

7363, 7364 Condensed Matter Physics I, II (3) V Prereq.: PHYS 7225 and 7242. Introduction to metals, semiconductors, and superconductors; magneto-optical properties of materials; theory of Fermi and Bose quantum fluids, phase transitions, and critical phenomena.

7375, 7374 Nuclear Physics (3,3) V Prereq.: PHYS 4271 and 7241. PHYS 7375 is prerequisite for 7374. Application of quantum mechanics to the two-nucleon system, to a system of many nucleons, and to nuclear reactions, with comparisons between theory and experimental results.

7383, 7384 High Energy Particle Physics (3,3) V Prereq.: PHYS 7231 and 7242. Strong electromagnetic and weak interaction; Fermi and leptons; complex excitations, subatomic mechanics and superconductivity; theory of Fermi and Bose quantum fluids, phase transitions, and critical phenomena.

7398 Graduate Laboratory (3) SSu 1 hr. lecture; 6 hrs. lab. Practical experience in modern experimental physics laboratory, including use of precision measuring instruments.

7411, 7412 Computational Physics (3,3) V Prereq.: PHYS 7211. PHYS 7411 is prerequisite for PHYS 7412. Basic numerical methods of solving mathematical equations, including coupled linear algebraic and differential equations, and numerical simulation techniques; emphasis on applications of computational problems.

7463, 7464 Theoretical Condensed Matter Physics (3,3) F.S Prereq.: PHYS 7242. PHYS 7463 is prerequisite for PHYS 7464. Introduction to functional theory of electronic structure, mean field, and renormalization group theory of phase transitions; linear response theory, quantum transport.

7577 Radiation Interactions and Transport (3) F.S Prereq.: PHYS 2201 or equivalent, CSCI 2292, or equivalent. Same as MED 7537.

7578 Monte Carlo Simulation of Radiation Transport (3) S Prereq.: MEDP 7537 or consent of instructor, CSCI 2292 or equivalent experience in computer programming. Same as MED 7538.

7741, 7742 Stellar Astrophysics (3,3) F.S PHYS 7741 is prerequisite for PHYS 7742. See ASTR 7741, 7742.

7745 Advanced Quantum Theory of Particles and Fields (3) V Prereq.: PHYS 7225 or equivalent. Introduction to quantum field theory and applications to various fields of theoretical physics, including atomic and nuclear physics.

7751, 7752 Galactic Astrophysics (3,3) F.S PHYS 7751 is prerequisite for PHYS 7752. See ASTR 7751, 7752.

7777 Seminar in Astronomy and Astrophysics (1-6) V Prereq.: PHYS 7752 or equivalent. May be taken for a max. of 6 sem. hrs. of credit. See ASTR 7777.

7783 Topics in Astronomy and Astrophysics (3) V Prereq.: PHYS 7752 or equivalent. May be taken for a max. of 6 hrs. of credit when topics vary. See ASTR 7785.

7875 Graduate Student Seminar (1) Pass-fail grading. May be repeated for credit. Introduction to research areas in the department; training for presentation of scientific talks; preparation of research proposals.

7893 Many-Body Theory (3) V Prereq.: PHYS 7242. Pass-fail grading. May be taken for a max. of 6 hrs. of credit. Diagrammatic techniques, thermal Green's functions, transport theory. Fermi and leptons, including symmetries, phase transitions.

7895 Selected Topics in Advanced Physics (3) V Prereq.: PHYS 7893 or equivalent. May be repeated for credit; Pass-fail grading.

7896 Current Developments (3) V Prereq.: PHYS 7893 or equivalent. May be repeated for credit; Pass-fail grading.

7996 Independent Research in Physics (3) V Prereq.: permission of department. An approved independent research project in experimental or theoretical physics; final written report and oral and written examinations; credit may be used toward a degree. Topics assigned prior to registration.

8000 Thesis Research (1-12 per sem.) $57/4" grading.

8000 Dissertation Research (1-12 per sem.) $57/2" grading.

PLANT HEALTH • PLHL

2050 Introduction to Pest Management (4) Prereq.: BIOL 1201, 1204, consent of instructor, 3 hrs. lab, 3 hrs. alt. lab as ENTM 2050. Recognition and classification of major pests; insects, pathogens, weeds, vertebrates; anatomy and morphology, life cycles, economic importance; introduction to toxicology, disease, and application of fungicides, bactericides, and nematodes. May be repeated for credit. Same as BIOL 7067. Mineral nutrition, metabolism, growth and development, and herbicides. 7608 Current Literature in Plant Physiology (1) F.S
Taught twice for credit and twice in a doctoral program. Also offered as BIOL 7068. Critical analysis of recent and classical papers in the field. 7802 Soilborne Plant Pathogens (3) F
Prereq.: PLHL 4000 and PLHL 7063; or equivalent, 2 hrs. lecture, 2 hrs. lab. Genetics, physiology, and biochemistry of pathogenic fungi, bacteria, and nematodes.

7802 Soilborne Plant Pathogens (3) F
Prereq.: PLHL 4000 or equivalent. Physiology, ecology, and pathology of many plant pathogens; effects of cultural, biological, and genetic; disease suppressive soils.

7803 Epidemiology and Crop Loss Assessment (3) S
Prereq.: PLHL 4000 and/or equivalent. Interactions between pathogen and host populations, and the environment; measurement and prediction of disease spread and increase; disease management strategies; techniques to assess losses due to plant disease.

8000 Thesis Research (1-12 per sem.) $57/4" grading.

8800 Practicum in Plant Pathology (2) Prereq.: consent of instructor. May be taken for a max. of 6 sem. hrs. credit. Research experience for students contemplating graduate study in plant pathology.

8900 Special Research Problems (1-5) Prereq.: consent of instructor. May be taken for a max. of 9 sem. hrs. credit. Faculty-supervised, independent research other than thesis or dissertation.

9000 Dissertation Research (1-12 per sem.) $57/2" grading.