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 to atomic and molecular systems and their interaction with radiation; spectral levels, photo-absorption and collisions with charged particles.

7360 Low Temperature Physics (3) V Prereq.: Consent of instructor. May be repeated for credit; superfluidity of liquid helium, superconductivity, atomic magnetism, superconductivity, 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 and statistical mechanics to condensed matter; lattice vibrations, energy bands in crystals, transport properties, collective excitations, and magnetic superconductivity; theory of Fermi and Bose quantum fluids, phase transitions, and critical phenomena.

7383, 7384 High Energy Particle Physics (3.3) V Prereq.: PHYS 7231 and 7242. Strong electromagnetic and weak interaction; hadrons, quarks, leptons, and selection rules; quantum chromodynamics and electroweak theory; accelerator and nonaccelerator experiments including high energy astrophysics.

7398 Graduate Laboratory (3) SS 1 hr. lecture; 6 hrs. lab. Practical experience in modern experimental physics laboratory techniques.

7411, 7412 Computational Physics (3.3) V Prereq.: PHYS 7211. PHYS 7411 is prerequisite for PHYS 7412. Basic numerical methods of mathematical physics, including coupled linear algebraic and differential equations, and numerical simulation techniques; emphasis on application of these methods to problems.


7537 Radiation Interactions and Transport (3) F Prereq.: PHYS 2205 or equivalent, CSC 2262, or equivalent. Same as MEDP 7537.

7538 Monte Carlo Simulation of Radiation Transport (3) S Prereq.: MEDP 7537 or consent of instructor, CSC 2262 or equivalent experience in computer programming. Same as MEDP 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 7463. May be repeated for credit. May be taken for a max. of 6 sem. hrs. of credit. Plant disease management and control using cultural practices, disease resistance, biological control, legislation, therapy, pesticides; identity, physiology, chemistry, mode of action, toxicity, and application of fungicides, bactericides, and nematicides; evaluation of chemicals for plant disease control.

4002 Special Topics in Agricultural Pest Management (1-3) V Prereq.: consent of instructor. May be taken for a max. of 6 sem. hrs. of credit when topics vary. Lab/handbook may be taken twice for credit in a master's program and once in a Ph.D. program. May not be repeated for credit.

4001 Plant Disease Management and Control (3) S Prereq.: PLHL 4000 and either CHEM 2060 or 2261. 2 hrs. lecture; 2 hrs. demonstration/lab. Plant disease management and control using cultural practices, disease resistance, biological control, legislation, therapy, pesticides; identity, physiology, chemistry, mode of action, toxicity, and application of fungicides, bactericides, and nematicides; evaluation of chemicals for plant disease control.

4002 Special Topics in Agricultural Pest Management (1-3) V Prereq.: consent of instructor. May be taken for a max. of 6 sem. hrs. of credit when topics vary. Lab/handbook may be taken twice for credit in a master's program and once in a Ph.D. program. May not be repeated for credit.

4018 Forest Insects and Diseases (4) F S Prereq.: ENTM 4018. 4054 Introductory Mycology (4) S Prereq.: BIOL 1202 and 1209. 3 hrs. lecture; 3 hrs. lab. Same as BIOL 4054.

4444 Seed Physiology (3) S Prereq.: BIOL 1201, 1208, and 1402 and either CHEM 2060 or 2261. BIOL 3060 recommended. Also offered as BIOL 4444. Introduction to the life processes of seeds: their development, germination, dormancy, ecology, vigor, and viability.

7000 Phytochemistry (4) S Prereq.: PLHL 4000. 2 hrs. lecture; 4 hrs. lab. Taxonomy, identification, and control of plant parasitic nematodes.

7010 Plant Molecular Biology (3) S Prereq.: BIOL 3060, 4093 and 4094; or equivalent. Also offered as BIOL 7010. Molecular biology and molecular biology of higher plants and plant-associated microorganisms; genome organization and structure in nuclei, chloroplasts, and mitochondria; structure and function of regulatory molecules; gene control of developmental and environmental signals; plant interactions with pathogenic and symbiotic microorganisms.

7011 Plant Pathophysiology (4) S Prereq.: PLHL 4000, BIOL 2051. 3 hrs. lecture; 3 hrs. lab. Taxonomy, biology, mechanics of pathogenesis; control of prokaryotic plant pathogens.

7040 Plant Virology (4) F S Prereq.: PLHL 4000 and PLHL 7067; or equivalent. 2 hrs. lecture; 4 hrs. lab. Viruses as causal agents of plant diseases; biological, chemical, and physiological properties of plant viruses; methods of transmission; host-virus and vector-virus relationship.

7051 Advanced Topics in Plant Pathology 1-4 V Prereq.: consent of instructor. May be taken for a max. of 8 sem. hrs. of credit.

7052 Seminar (1) S Prereq.: May be taken for a max. of 5 hrs. of credit for each yr. Topic announced prior to registration.

7061 Plant Growth and Development (3) F S Prereq.: BIOL 2060 or equivalent. Also offered as BIOL 7061. Effects of naturally occurring growth substances and environmental conditions on plant growth. Plant internal and external factors. Same as BIOL 7061.

7080 Plant Molecular Biology (3) S Prereq.: BIOL 2051. Also offered as BIOL 7080. Major metabolic systems of plants and their control.

7085 Transgenic Plants (3) S Prereq.: BIOL 7060. Same as BIOL 7085.

7086 Selected Topics in Plant Physiology (2) F Prereq.: consent of instructor. May be repeated for credit. Same as BIOL 7067. Mineral nutrition, metabolism, growth and development, and herbicides.

7088 Current Literature in Plant Physiology (1) F S Credit will not be given for this course and POLI 7086. Critical analysis of recent and classical papers in the field. 7092 Research: Fundamentals of Political Science (3) S Prereq.: BIOL 4000 and PLHL 7063; or equivalent. 2 hrs. lecture; 2 hrs. lab. Genetics, physiology, and behavior of plants.

7092 Southern Plant Pathogens (3) F S Prereq.: PLHL 4000 or equivalent. Physiology, ecology, and pathology of crop plant pathogens; resistance in plants; effects of cultural, biological, and genetic; disease suppressive soils.

7083 Epidemiology and Crop Loss Assessment (3) S Prereq.: PLHL 4000 and 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 sem.) S’T’U’ grading. 8800 Practicum in Plant Pathology (2) Prereq.: consent of instructor. May be taken a max. of 6 sem. hrs. credit. 1 hr. lecture; 4 hrs. clinic/practicum. Pass/fail grading. 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 sem.) S’T’U’ grading.

POLITICAL SCIENCE • POLI

General education courses are marked with stars (•).

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

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

2051 Analyzing Politics and Public Policy (3) Techniques of analysis, logic of empirical research, and the use of simulations.

★ 2300 Civic Engagement, Youth, and Media (3) See MC 2303.

★ 2051 American Government (3) F S S, Su An honors course. POLI 2052, is also available. Credit will not be given for this course and POLI 2052. Principles, structures, processes, and functions; emphasis on national government.

★ 2052 HONORS: American Government (3) 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 S An honors course. S, Su, Su, Su, Su See MC 2303. Developing societies; emphasis on major actors and institutions.

2053 Government of Louisiana (3) S S, Su Prereq.: 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.

2060 Public Policy Making: An Introduction (3) S 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.

3809 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.

4899 HONORS: Thesis (3) Culmination of political science honors program; details available from department.