

NURS 415 Community Health Nursing (7). Integrated theory and practicum: Community-as-client; vulnerable aggregates; public health; epidemiology; community health assessment project; community service project. Prerequisite: NURS 412 (may be taken concurrently). (F)

NURS 425 Nursing Leadership (6). Integrated theory and practicum. Ethical and effective nurse leadership and management including issues and functions of planning, organizing, staffing, and controlling; role of nurse in health policy. Prerequisite: NURS 415. (S)

NURS 491 Directed Study (1–3). Independent study. (May be repeated for a maximum of 4 hours.) Prerequisite: consent of instructor. (F, S)

NURS 493 Topics in Nursing (1–3). As announced. (May be repeated for credit if topics are different.)

Philosophy (PHIL)

PHIL 201 Introduction to Philosophy (3). Elementary problems and history of philosophy and the major philosophical systems.

PHIL 202 Introduction to Logic (3). Nature and structure of logical thinking with concrete applications.

PHIL 211 Ethics (3). Morality and principles of individual and social behavior; contemporary ethical issues. (F)

PHIL 268 Workshop in Philosophy (1–3). As announced. (May be repeated for credit.)

PHIL 293 Topics in Philosophy (1–3). As announced. (May be repeated for credit.)

PHIL/REL 312 Philosophy of Religion (3).

PHIL 321 Greek Philosophy (3). Concepts of Greek philosophers and selected readings from their works. (F)

PHIL 322 Medieval Philosophy (3). European philosophers through the 13th century. (F)

PHIL 331 Modern Philosophy (3). Western philosophical thinkers from the 14th century to the present. (S)

PHIL 332 American Philosophy (3). American philosophical thinkers with selected readings from their works. (S)

PHIL 404 Contemporary Problems of Philosophy (3). The areas of philosophy which relate to science, politics and religion. (S)

PHIL 468 Workshop in Philosophy (1–3). As announced. (May be repeated for a maximum of 6 hours.)

PHIL 491 Directed Study (1–3). Independent study. (May be repeated for a maximum of 4 hours.)

PHIL 493 Topics in Philosophy (1–3). As announced. (May be repeated for a maximum of 6 hours.)

Physical Science (PHSC)

PHSC 293 Topics in Physical Science (1–3). As announced. (May be repeated with permission of advisor.)

PHSC 493 Topics in Physical Science (1–3). As announced. (May be repeated with permission of advisor.)

Physics (PHYS)

PHYS 113 Survey of Physics (3). Important concepts in physics and their application to the everyday world. A course designed for non-scientists with an emphasis on conceptual understanding. (F, S)

PHYS 113L Survey of Physics Laboratory (1). A two-hour optional laboratory designed to give a hands-on exploration of the basic concepts of physics introduced in the accompanying class. Concurrent enrollment: PHYS 113. (F, S)

PHYS 123 Physics of Music (3). Application of physical principles to understanding musical instruments as well as the human voice and auditory system. PHYS 123L optional. (Alt F)

PHYS 123L Physics of Music Laboratory (1). Experiments and activities to accompany PHYS 123. Concurrent enrollment: PHYS 123. (Alt F)

PHYS 141 Astronomy (3). An introduction to the sky and a survey of the objects in the violent universe from our own solar system to globular clusters, nebulae, galaxies and quasars. (S)

PHYS 141L Astronomy Laboratory (1). An optional laboratory investigation of physical principles relevant to understanding astronomical objects and the techniques of observational astronomy. Some lab sessions will meet at night. Concurrent enrollment: PHYS 141 or consent of instructor. (S)

PHYS 151 General Physics (3). The first semester of a two-semester non-calculus treatment of principles of mechanics, thermodynamics, electricity and magnetism, and optics. Primarily for pre-medical and pre-dental students and others requiring basic knowledge of physics. Prerequisite: knowledge of algebra including familiarity with trigonometry. Concurrent enrollment: PHYS 151L. (F)

PHYS 151L General Physics Laboratory (1). Laboratory investigations related to lecture material. Meets three hours per week. Concurrent enrollment: PHYS 151. (F)

PHYS 152 General Physics (3). Continuation of PHYS 151. Prerequisites: PHYS 151/151L. Concurrent enrollment: PHYS 152L. (S)

PHYS 152L General Physics Laboratory (1). Continuation of PHYS 151L. Meets three hours per week. Concurrent enrollment: PHYS 152. (S)

PHYS 201 Physics I (4). Calculus-based principles and technical applications in mechanics and heat. For the science and pre-engineering major. Concurrent enrollment: MATH 124; PHYS 201L. (F)

PHYS 201L Physics I Laboratory (1). Laboratory investigations related to lecture material. Meets three hours per week. Concurrent enrollment: PHYS 201. (F)

PHYS 202 Physics II (4). Calculus-based principles and technical applications in fluid mechanics, electricity, magnetism, wave motion and light. Prerequisites: PHYS 201/201L. Concurrent enrollment: PHYS 202L; MATH 132. (S)

PHYS 202L Physics II Laboratory (1). Continuation of PHYS 201L. Meets three hours per week. Concurrent enrollment: PHYS 202. (S)

PHYS 268 Workshop in Physics (1–3). As announced. (May be repeated for a maximum of 4 hours.)

PHYS 293 Topics in Physics (1–3). As announced. (May be repeated for credit.)

PHYS 301 Modern Physics (3). Empirical foundations of quantum mechanics including photoelectric effect, black body radiation, Bohr atom, wave-particle duality, Schrodinger's equation for simple models. Prerequisites: 1 year of introductory physics; 1 year of calculus. (Alt S)

PHYS 303 Mechanics I (3). Kinematics and dynamics of particles using Newtonian and Lagrangian methods. Driven harmonic motion, normal modes of vibration and wave motion, Keplerian orbits, Rutherford scattering and cross sections. Prerequisites: one year of college physics; at least two semesters of calculus. Recommended prerequisite: MATH 351. (Alt F)

PHYS 304 Mechanics II (3). This continuation of PHYS 303 covers relativity, non-linear dynamics, non-inertial frames and introduction of the more powerful abstract methods of Lagrange, Hamilton and Hamilton-Jacobi theory. Prerequisite: PHYS 303. (Alt S)

- PHYS 305L Advanced Physics Laboratory (2).** Practical experience in the design of experiments. Considerations of apparatus design and construction, error analysis and technical feasibility. Prerequisites: PHYS 151/151L and 152/152L or PHYS 201/201L and 202/202L. (Alt F)
- PHYS 331 Optics (3).** Concentration on physical optics, including the wave equation, special relativity, dispersion, interference and polarization. Prerequisites: one year of college physics; one semester of calculus. (Alt S)
- PHYS 331L Optics Laboratory (1).** Investigations employing lenses, mirrors, diffraction gratings, interferometers and photodetectors. Concurrent enrollment: PHYS 331. (Alt S)
- PHYS 401 Nuclear Physics (3).** Experimental evidence and theories of nuclear physics; radioactivity, natural and artificial; nuclear reactions. Prerequisites: one year of college physics; one semester of calculus. (Alt S)
- PHYS/CHEM 406 Scientific Equipment Design (1).** (Alt F)
- PHYS/CHEM 406L Scientific Equipment Design Laboratory (1).** Concurrent enrollment with PHYS 406. (Alt F)
- PHYS/CHEM 411 Physical Chemistry I/Thermodynamics (3).**
- PHYS 421 Electricity and Magnetism (3).** Vector calculus treatment of electrostatics, magnetostatics, properties of dielectrics and magnetic materials, Maxwell's equations, and electromagnetic radiation. Prerequisites: MATH 202; PHYS 152/152L or 202/202L. (Alt F)
- PHYS 435 Quantum Physics (3).** Applications of quantum theory to atomic physics, spin and other topics. Prerequisite: PHYS 301. (Alt S)
- PHYS 439 Teaching in Physics (1).** Methods, resources, safety and lesson plans in teaching physics lecture and laboratory. Prerequisites: PHYS 151/151L, 152/152L; senior standing with major or minor in science; consent of instructor. Open only to students working toward teaching licensure. Concurrent enrollment: CHEM 439 and GEOL 439. (F)
- PHYS/GEOL 450 Principles of Geophysics (3).**
- PHYS/GEOL 450L Geophysics Laboratory (1).**
- PHYS 465 Senior Research Report (2).** Involves the writing and oral presentation of the results of designing, conducting and reporting an original experimental or theoretical project. (F, S)
- PHYS 468 Workshop in Physics (1–3).** As announced. (May be repeated for a maximum of 6 hours.)
- PHYS/ANTH/BIO/CHEM/GEOL 475 Scanning Electron Microscopy (2).**
- PHYS 481 Reading in Current Literature of Physics and Associated Fields (1).** Methods for locating library materials; reading and reporting on topics selected by the student in current literature. Prerequisite: senior standing or consent of instructor.
- PHYS 491 Directed Study (1–3).** Independent study. (May be repeated for a maximum of 4 hours.)
- PHYS 493 Topics in Physics (1–3).** As announced. (May be repeated for credit.)

Political Science (PSCI)

- PSCI 200 Political Science Research Methods (3).** Political science research techniques. Emphasis will be on critical thinking and empirical methodology. (F)
- PSCI 207 Introduction to Comparative Politics (3).** The comparative study of contemporary political systems from all regions of the world. Comparative case study approaches are introduced. Various political systems are examined. (S)
- PSCI 210 Legal Reasoning and Judicial Process (3).** Introduction to legal reasoning, legal writing and judicial process. Prerequisite: PSCI 102.
- PSCI 268 Workshop in Political Science (1–3).** As announced. (May be repeated for a maximum of 6 hours.)
- PSCI 293 Topics in Political Science (1–3).** As announced. (May be repeated for credit.)
- PSCI 302 Constitutional Law (3).** A study of American constitutional law dealing with presidential and congressional powers, individual rights and civil liberties. Prerequisites: PSCI 101, 102, 211; PSCI 200 is recommended. (S)
- PSCI 303 Comparative Foreign Policy (3).** An examination of foreign policy analysis and theories. The foreign policies of several states are studied. Prerequisites: PSCI 101, 102, 207. (Alt S)
- PSCI 304 International Relations (3).** An examination of the field of international relations including, but not limited to, theories of state and non-state relations, conflict and cooperation, conflict resolution, international organizations and international crises. Prerequisites: PSCI 101, 102, 207. (Alt F)
- PSCI 306 Contemporary Political Ideologies (3).** The study of both Western and non-Western modern political ideologies as expressed by primary source authors. Communism, socialism, fascism, pan-Arabism, pan-Africanism, and liberal democracy are examined. Particular ideologically based regimes are studied. Prerequisites: PSCI 101, 102. (S)
- PSCI 311 Democracy: Theory and Practice (3).** Development of democracy as a theory and its application into United States representative democracy with comparisons to other democratic government systems. Prerequisite: PSCI 102. (Su)
- PSCI 314 Legislative Behavior (3).** A comparative study of the development of legislatures and legislative behavior in the United States and other countries. Prerequisites: PSCI 101, 102; PSCI 200 is recommended. (Alt F)
- PSCI 315 The Presidency (3).** Development of the power of the United States presidency and its place in the national government. Prerequisites: PSCI 101, 102; PSCI 200 is recommended. (Alt S)
- PSCI 321 Public Policy Process (3).** A study of the process in which public needs are converted into actual programs, and the principles that govern this process. Prerequisites: PSCI 101, 102; PSCI 200 is recommended. (Alt F)
- PSCI/COMM 330 Power Games: Politics and Media (3).** Focus on political uses of the mass media to shape social values. Case studies and discussions of contemporary global issues will investigate the interplay of influence among politics/media/government. (Su)
- PSCI 332 Public Administration (3).** Public sector administration and management; topics include budgeting, program planning, personnel relations, program evaluation, inter-governmental relations and ethics. Prerequisites: PSCI 101, 102; PSCI 200 is recommended. (Alt F)
- PSCI 401 Classical Political Thought (3).** Ancient political thought of both the non-Western and Western worlds. Political thought from early civilizations and the Classical Age is covered. Prerequisites: PSCI 101, 102. (TBA once every four semesters)