

973. **Rorschach Method**  
Winter. 4(4-0) PSY 832.  
History and hypotheses of the method. Review of research. Administration and scoring of the test. Introduction to interpretation.

975. **Advanced Practicum: Psychological Clinic**  
Fall, Winter, Spring. Variable credit. PSY 932.  
Clinical experience in assuming responsibility for total case integration and interpretation of findings to parents and agencies.

976. **Psychopathology: Psychoanalytic Theory, Neuroses and Psychosomatics**  
Fall. 3(3-0) PSY 427, PSY 832.  
Kraepelinian, Pavlovian, and Freudian traditions in abnormal psychology and psychiatry. Psychoneuroses and psychosomatics with major emphasis in psychoanalytic approaches. Research and problems. Psychogenic and somatogenic positions in psychopathology.

977. **Psychopathology: Psychoses and Developmental Disorders**  
Winter. 3(3-0) PSY 976.  
Behavioral and development disorders such as psychopathy, delinquency, mental deficiencies; selected functional and organic psychotic syndromes; psychosis as distinguished from psychoneurosis; continuity versus discontinuity of normal to abnormal behavior. Research considerations.

979. **Counseling and Psychotherapy**  
Fall. 3(2-2) Approval of department.  
Psychotherapy with late adolescents and adults. Various points of view with emphasis on interpersonal relationship and client-centered approaches. Techniques for introducing therapeutic movement. Study of tape recordings and research findings.

980. **Practicum: Individual Counseling and Psychotherapy**  
Winter. 3(2-2) PSY 979 and approval of department.  
Detailed study of psychotherapeutic interviews aimed at developing skill as a psychotherapist. Therapeutic and assessment techniques, interview dynamics and psychotherapeutic movement studied by means of verbatim transcriptions, tape recordings, films, role playing, and observation.

981. **Practicum: Counseling and Psychotherapy**  
Spring. 3(2-2) PSY 980 and approval of department.  
Counseling with a variety of clients at the University Counseling Center. Group and individual discussions of problems, processes, counselor-client interaction, and professional ethics.

982. **Advanced Practicum: Counseling and Psychotherapy**  
Fall, Winter, Spring. 1 to 4 credits. May reenroll for a maximum of 12 credits. PSY 981 and approval of department.  
Counseling and psychotherapy with a variety of clients of the University Counseling Center.

985. **Seminar in Clinical Psychology**  
Fall, Winter, Spring. 1 to 4 credits. May reenroll in different areas for a maximum of 16 credits. Forty-five graduate credits in psychology.  
Critical study of a selected area such as theories, diagnosis, projective techniques, psychotherapies, hypnosis, psychopathologies.

999. **Doctoral Dissertation Research**  
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

## PUBLIC AFFAIRS MANAGEMENT

See Agricultural Economics.

## RADIOLOGY RAD

### College of Human Medicine College of Osteopathic Medicine

480. **Nuclear Medicine for Medical Technologists**  
Winter. 3(2-2) PHY 237, PHY 257; MTH 109; Junior or Senior Medical Technology majors.  
Terminology and fundamentals of radionuclides. Application to nuclear medicine. Radiation measurement, protection, biologic effects with discussion of instruments and imaging systems. Principles of radioimmunoassay. Radiopharmaceutical techniques and clinical interpretation.

501. **Radiologic Anatomy**  
Fall, Summer. 2(2-0) Approval of department.  
Principles and techniques of X-ray use. Identification of anatomical structures depicted on X-ray films.

525. **Fundamentals of X-ray Interpretation**  
Fall, Winter, Spring, Summer. 2(2-0) Admission to College of Human Medicine or College of Osteopathic Medicine. Others: approval of department.  
Beginning laboratory course in recognition and interpretation of the normal and abnormal X-ray image. Use of X-ray as alternative diagnostic approach in efficient management of patients.

526. **Chest Radiology**  
Fall. 2(2-0) RAD 525.  
Principles of chest radiography. Normal chest radiogram and radiographic study of chest diseases, with emphasis on pathophysiologic and anatomic correlation.

527. **Traumatology**  
Winter. 2(2-0) RAD 525.  
Clinical and radiographic evaluation of injured patients. Emphasis on efficacy of radiologic procedures.

528. **Abdominal Radiology**  
Spring. 2(2-0) RAD 525 or approval of department.  
Principles and analysis of abdominal imaging systems.

550. **Decision Analysis in Medicine**  
Fall, Spring. 2(2-0) Graduate/Professional students or approval of department.  
Terminology and fundamentals of objective decision analysis; application to problems in diagnosis and treatment. Diagnostic test performance, patient management strategies, utility analysis, cost-effectiveness, patient's role in medical decisions.

590. **Special Problems in Radiology**  
Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 15 credits. Approval of department.  
Special aspects of radiology and the use of X-rays in the efficient management of patients.

609. **Radiology Clerkship**  
Fall, Winter, Spring, Summer. 4 to 17 credits. May reenroll for a maximum of 17 credits. H M 602.  
Office and hospital based experience to acquaint the student with basic radiological information and develop X-ray interpretation skills.

610. **Radiation Therapy Clerkship**  
Fall, Winter, Spring, Summer. 4 credits. H M 602; MED 608 and PHD 608 or SUR 608.  
Basic instruction in radiation therapy procedures and materials.

611. **Nuclear Medicine Clerkship**  
Fall, Winter, Spring, Summer. 4 credits. H M 602; MED 608 and PHD 608 or SUR 608.  
Diagnostic and therapeutic procedures in nuclear medicine.

## RELIGIOUS STUDIES REL

### College of Arts and Letters

101. **Elementary Hebrew**  
Fall. 4(4-1) Interdepartmental with and administered by Hebrew.  
Introduction to the Hebrew language, with pronunciation and conversation practice, reading and writing, and basic grammatical analysis of biblical and modern Hebrew.

102. **Elementary Hebrew**  
Winter. 4(4-1) HEB 101. Interdepartmental with and administered by Hebrew.  
Continuation of HEB 101.

103. **Elementary Hebrew**  
Spring. 4(4-1) HEB 102. Interdepartmental with and administered by Hebrew.  
Continuation of HEB 102.

150. **Exploring Religion (A)**  
Fall, Winter, Spring. 3(3-0)  
The nature of religious language and belief; sacred time, space, and literature; religious myths, rituals, and symbols; varieties of religious experience; the question of religious knowledge and truth.

151. **Western Religions (A)**  
Fall, Winter, Spring. 3(3-0)  
Historical-comparative approach to Jewish, Christian, and Muslim beliefs, practices, and world-views, including views of God and other supernatural beings, nature and destiny of man, paths for spiritual achievement, death and after-life.

152. **Eastern Religions (A)**  
Fall, Winter, Spring. 3(3-0)  
Historical-comparative approach to Hindu, Buddhist, Confucian, Taoist, and Shinto beliefs, practices, and world-views, including views of nature of ultimate reality, nature and destiny of man, death and beyond.

## Descriptions – Religious Studies

### of Courses

#### 210. *Denominations in America*

Winter. 3(3-0)

Religious denominations in America, their origin, history, beliefs, sociology, influence, strengths, tensions; distinctions among sect, cult, and denomination; analysis of trends pointing to alternate futures; ecumenical movement.

#### 220. *Old Testament (A)*

Fall. 3(3-0)

A study of the history, literature and religion of Israel based on a critical examination of the Biblical texts.

#### 221. *Old Testament (A)*

Winter. 3(3-0)

A continuation of REL 220.

#### 222. *New Testament (A)*

Spring. 3(3-0)

A study and analysis of the texts of the New Testament in light of their historical setting.

#### 295. *Individual Readings*

Fall, Winter, Spring. 1 to 5 credits.

May reenroll for a maximum of 10 credits if a different topic is taken. Approval of department.

Supervised independent study of a particular topic in religious studies not covered in the regular courses.

#### 299. *Special Topics*

Fall, Winter, Spring. 3(3-0) May reenroll for a maximum of 6 credits.

Selected topics not available on regular basis as part of standard curriculum. Offered as faculty interest and availability permit.

#### 300. *Life of Christ*

Fall. 3(3-0)

The life of Christ as recorded in the Gospels in light of Christian tradition and ancient and modern scholarship.

#### 302. *Writings of St. Paul*

Winter. 3(3-0)

Analysis of the major Pauline letters together with the Book of Acts in the light of their significance for the early Church and for contemporary Christianity.

#### 305. *Christian Ethics and Society*

Spring. 4(3-0)

Biblical and theological bases for social action. Areas of contemporary discussion including the relation of love to justice, individual ethic to social ethic, situation to principle, and the social order.

#### 310. *Christianity*

Winter. 3(3-0)

Origins and historical development of Christianity, major doctrines and liturgical practices, ethical stance, institutional forms (Eastern Orthodox, Roman Catholic, Protestant), social and cultural contributions, contemporary status and role.

#### 315. *Eastern Christianity*

Spring. 3(3-0)

Origins, faith and practice of the Orthodox Church in Russia and Eastern Europe, with attention to the history, beliefs and rites of the Coptic, Armenian, Ethiopian, and other Monophysite and Nestorian Churches and Uniate movement.

#### 320. *History of Christian Thought: Early and Eastern*

(230.) Fall. 3(3-0) Juniors.

Development of Christology and the institutional Church, especially in the east from the first to the eleventh century. Gnosticism, Docetism, the Ecumenical Councils and major theologians studied from primary and secondary sources.

#### 321. *History of Christian Thought: Tertullian to Erasmus*

(231.) Winter. 3(3-0) Juniors.

A study of representative western theologians from the North African to pre-reformation figures. Development of the papacy, scholasticism, medieval symbolism, and ecclesiastical movements in the western church. Historical roots of modern Christian doctrines.

#### 322. *History of Christian Thought: Erasmus to the Present*

(232.) Spring. 3(3-0) Juniors.

Study of key philosophers, theologians, movements, events of these centuries, including reformation, Trent, enlightenment, biblical criticism, modernism, Vatican councils, neoorthodoxy, neoorthodoxy; Kant, Hegel, Marx, Troeltsch, Kierkegaard, Newman, Bonhoeffer.

#### 331. *Classical Judaism*

Fall. 3(3-0)

Major developments in Jewish life and thought from Ezra to Maimonides, including the rise of the synagogue, Sabbath, rabbinate, Talmud, and Midrash. Representative Jewish thought during the Golden Age of Jewish-Arabic culture.

#### 332. *Modern Judaism*

Winter. 3(3-0)

Major developments in Jewish life and thought in modern times, emphasizing the Hasidic, Reform, Zionist, Conservative, and Reconstructionist movements and reactions against them, and contemporary issues in Jewish thought.

#### 335. *Islam*

Winter. 3(3-0)

Life of Muhammad and rise of the Muslim community, spread of Islam, the Koran, basic beliefs and practices, schools of thought, mysticism, unity and diversity within Islam.

#### 337. *Modern Islam*

Spring of even-numbered years. 3(3-0)

Major developments in Muslim thought and practice in modern times, with emphasis on reform and revivalist movements and contributions of key Muslim spokesmen in Arabia, Egypt, India/Pakistan, and Turkey.

#### 338. *The Koran and the Bible*

Spring of odd-numbered years. 3(3-0)

An introduction to the Islamic scripture, including its historical setting, development, literary forms, and teachings, followed by comparative study of Qur'anic and Biblical stories, characters, and themes.

#### 350. *Hinduism*

Fall. 3(3-0)

The roots of Hinduism in Vedic tradition and Dravidian religion and the historical development of Hinduism. Hindu beliefs, rituals, practices, philosophical systems, spiritual paths, sects, and caste system. Role of Hinduism in Indian society.

#### 353. *Confucianism and Taoism*

Winter of odd-numbered years. 3(3-0)

Confucianism, especially Mencius; Taoism, especially the Lao-Tzu and Chaung-Tzu; Neo-Confucianism. Emphasis on the socio-ethical-political role of Confucianism and the mystical-metaphysical-religious role of Taoism.

#### 354. *Shinto and Japan's New Religions*

Winter of even-numbered years. 3(3-0)

Shinto as basis of traditional Japanese society; current status and role. The new religions of Japan, including their roots, character, current status and role; special attention to Soka Gakkai.

#### 355. *Hinayana Buddhism*

Fall. 3(3-0)

Siddhattha Gotama and the origins of Buddhism. Theravada in historical development; the Tipitaka and its teachings; epistemology, psychology, logic, science, and world-view; the Sangha and socio-political relations. Current status.

#### 358. *Mahayana Buddhism*

Spring. 3(3-0)

The various schools of Mahayana, Tantric Buddhism, Lamaism (Tibetan Buddhism), and Zen. Geographical areas of India, China and Japan. Interactions with other religions; social, cultural and political impacts.

#### 360. *Contemporary Theology*

Fall. 3(3-0)

What theology is; current Christian theology through a study of selected theologians; relationship of personal faith, political and social issues to theology today; future directions and trends in theology.

#### 370. *Religion in American Culture (A)*

Fall. 3(3-0)

Historical and interpretative study of religion in American culture from Spanish and French explorations to 1860. Puritanism, deism, revivalism, communal movements, cults, pietism, development of the civil religion of 'Americanism'.

#### 371. *Religion in American Culture (A)*

Winter. 3(3-0)

Historical and interpretative study of religion in American culture from 1860 to the present. Theological interpretations of the Civil War, industrialism, imperialism, social gospel, black religion, communal movements, cults, 'Americanism'.

#### 372. *American Civil Religion (A)*

Spring. 3(3-0)

Theological, historical and sociological factors in the development and diversification of American civil religion; sense of identity, mission, and destiny; investigation of the theories of Bellah, Marty, Mead, Herberg, Novak.

#### 380. *Issues in Science and Religion*

Winter. 4(4-0) Juniors or approval of department. Interdepartmental with the Department of Natural Science.

History of relationships between science and religion. Methods of science and religion. Attempts at resolution of conflicts and formation of new syntheses.

#### 400H. *Honors Seminar*

Fall, Winter, Spring. 3(3-0) Approval of department.

- 430. Religious Dimensions in Literature**  
Spring. 3(3-0) Juniors.  
Theological criticism in literature and literary works as reflections of Christian thought from ancient to modern times. Specific works studied will vary from term to term.
- 452. The Protestant Reformation**  
Fall. 4(3-0) Juniors.  
The theological background of the Continental Reformation. Varied patterns of the twentieth century theological currents and their offshoots: Lutheranism, Calvinism, Anabaptists and other radical schools of thought.

The following 'Studies' courses offer opportunities for inquiry in depth of a variety of themes, topics or problems in several areas. They are planned for advanced students who have some familiarity with the general area in question. The precise content of each course will vary each time it is taught, thus making available a notable richness of content and interpretation. The student should inquire at the Department of Religious Studies Office for information on the particular courses which will be taught each term.

- 470. Studies in Sacred Literatures**  
3(3-0) May reenroll for a maximum of 9 credits. Approval of department.
- 475. Studies in Christianity**  
3(3-0) May reenroll for a maximum of 9 credits. Approval of department.
- 477. Studies in Buddhism**  
3(3-0) May reenroll for a maximum of 9 credits. Approval of department.
- 495. Individual Readings**  
Fall, Winter, Spring. 1 to 5 credits. May reenroll for a maximum of 10 credits if different topics are taken. Approval of department.  
Enrollment limited to upper class students with preference given to majors and to students with at least nine credits in religion or other appropriate preparation.
- 801. Graduate Studies in Religion**  
Fall, Winter, Spring. 3(3-0) May reenroll for a maximum of 12 credits. Approval of department.  
Readings on pre-announced topics, individual and group conferences as scheduled, preparation and presentation of research papers.

**RESOURCE  
DEVELOPMENT**

**R D**

**College of Agriculture and Natural  
Resources**

- IDC. Introduction to Resource Ecology**  
For course description, see Interdisciplinary Courses.

- 301. Conservation of Natural Resources**  
Fall, Winter, Spring, Summer. 3(3-0)  
Development of conservation movement with broad treatment of basic natural resources (minerals, land, waters, forests, wildlife). Conservation practices and facilities, organizations, and agencies involved in their application. General introduction to field.
- 385. Junior-Senior Seminar**  
Fall, Winter. 1(1-0) Junior majors.  
Current issues, problems and opportunities in resource development. Student involvement in discussions, analyses, and presentations on resource problems and possible solutions.
- 417. Land Economics**  
Fall, Spring. 4(4-0) Interdepartmental with Public Affairs Management and Food Systems Economics and Management and the Department of Economics.  
Factors affecting man's economic use of land and space resources. Input-output relationships; development, investment, and enterprise location decisions. Land markets; property rights; area planning; zoning and land use controls.
- 420. Water Resource Development**  
Fall, Winter, Spring, Summer. 4(3-0)  
Significance of water resources in modern society. Introduction to the needs of industry, agriculture and recreation. Concepts of development, use and conservation are critically evaluated in terms of future needs.
- 431. Law and Social Change**  
(450., UMS 431.) Fall, Spring. 3(3-0) BOA 440 or approval of department. Interdepartmental with Public Affairs Management.  
Law as applied to urban and rural context of social change. A review of both formal and informal aspects of system accessibility, institutional formation, government, civil rights, and human service.
- 435. Law and Resources**  
Fall. 3(3-0) R D 417 or BOA 440. Interdepartmental with the Department of Forestry.  
Legal theories, cases, statutes and constitutional considerations are applied to natural resource utilization. Private and public property interests in natural resources are illustrated through case studies of use conflicts.
- 450. Natural Resource Administration**  
Fall. 4(4-0) Seniors; not open to forestry majors. Interdepartmental with Agriculture and Natural Resources and the departments of Fisheries and Wildlife, Forestry, and Parks and Recreation Resources. Administered by the Department of Forestry.  
Concepts and methods of administering wildland properties. The legal, economic and social environment. Benefit-cost analysis of management changes. Unit organization, personnel management and accounting. Presents a systems view of administration.
- 455. Natural Resource Economics**  
Fall. 4(4-0) Approval of department. Interdepartmental with Agriculture and Natural Resources and the departments of Fisheries and Wildlife, Forestry, Park and Recreation Resources. Administered by the Department of Forestry.  
Basic economic and political principles and techniques that govern the production and consumption of forest land products, including basic forest valuation procedures.

- 460. Regional Economics**  
Winter. 4(4-0) R D 417 or EC 324. Interdepartmental with Public Affairs Management and Food Systems Economics and Management and the Department of Economics.  
Forces affecting location decisions of firms, households and governments. Applications to agricultural, industrial, and regional developments.
- 461. Regional Economics Laboratory**  
Spring. 1(0-2) R D 460 and approval of department. Interdepartmental with Public Affairs Management and Food Systems Management and the Department of Economics.  
Evaluation and use of analytical models designed to solve regional economic problems.
- 470. Energy Supply and Policy**  
Spring. 3(3-0) EC 200; EC 201 recommended.  
World and U.S. energy supply, demand, estimation techniques, net energy, payback time, social indicators, growth, social constraints and alternative policies.
- 480. Individual Study**  
Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 10 credits. Approval of department.  
Supervised readings. Individual study of selected topics.
- 481. Selected Topics**  
Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 10 credits. Approval of department.
- 485. Senior Proseminar**  
Winter, Spring. 2(2-0) Senior majors.  
Current issues, literature, and professional approaches in resource development.
- 491. Natural Resources and Modern Society**  
Spring. 3(3-0) Juniors. Interdepartmental with the Department of Forestry and Agriculture and Natural Resources. Administered by the Department of Forestry.  
A survey of the social and economic significance of natural resources in modern industrial and urban society. Current problems of natural resources management and use are examined in terms of the society in which they exist.
- 801. Resource Development Policy**  
Fall. 3(3-0)  
Analysis of past and present public resource development policies and programs in the United States. Emphasis on national policies.
- 802. International Resource Development**  
Winter. 3(3-0)  
Investigation and analysis of major natural resource use patterns and problems emerging on the international scene. Implications of these patterns and problems for the United States. Examination of national and international agencies.
- 805. Regional Resource Development**  
Spring. 3(3-0) Approval of department.  
Multi-state organizational forms for natural resource development. Strengths, weaknesses, and potentials. Historical precedents and proposals for the future. TVA, UGLRC, ARC, and DRBC, are studied.