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.  

977. **Psychopathology: Psychoses and Developmental Disorders**  
Winter. 3(3-0) PSY 979.  
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(3-0) PSY 979.  
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 recordcings and search findings.

980. **Practicum: Individual Counseling and Psychotherapy**  
Winter. 3(3-0) PSY 980.  
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 transcription, tape recordings, films, role playing, and observation.

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

982. **Advanced Practicum: Counseling and Psychotherapy**  
Fall, Winter, Spring. 1 to 4 credits. PSY 982.  
May reenroll for a maximum of 13 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. PSY 985.  
May reenroll in different areas for a maximum of 13 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.

### RADIOLOGY RAD

**College of Human Medicine**  
**College of Osteopathic Medicine**

**490. Nuclear Medicine for Medical Technologies**  
*Winter.* 3(3-0) PHY 237, PHY 557; MTH 106, junior or senior Medical Technology majors.  

**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.* 2(2-0) Approval of department. Beginning laboratory course in recognition and interpretation of the normal and abnormal X-ray image. Use of X-ray as an 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 pathophysiological and anatomical 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.* 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, 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.* 4 credits. PH 602 and PHD 608 or SUR 608.  
Basic instruction in radiation therapy procedures and materials.

### 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 afterlife.

**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, ultimate reality, nature and destiny of man, death and beyond.
210. **Denominations in America**  
*Winter, 3(3-0)*  
Religious denominations in America, their origins, history, beliefs, sociology, influence, strengths, tensions, distinctions among sects, cults, and denomination; analysis of trends pointing to alternative 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, 3.0 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.

300. **Life of Christ**  
*Fall, 3(3-0)*  
The life of Christ as recorded in the Gospels in the 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, 3(3-0)*  
Biblical and theological bases for social action. Areas of contemporary discussion (including the relation of love to justice, individual ethics 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 Uniat movement.

320. **History of Christian Thought: Early and Eastern**  
*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**  
*Winter, 3(3-0); Juniors*  

322. **History of Christian Thought: Erasmus to the Present**  
*Spring, 3(3-0); Juniors*  
Study of key philosophers, theologians, movements, events of these centuries, including reformation, Trent, enlightenment, biblical criticism, modernism, Vatican councils, neo-orthodoxy, neologism; Kant, Hegel, Marx, Toeluchi, 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 a comparative study of Quranic and Biblical stories, characters, and themes.

350. **Hinduism**  
*Fall, 3(3-0)*  

353. **Confucianism and Taoism**  
*Winter of odd-numbered years, 3(3-0)*  
Confucianism, especially Mencius, Taoism, especially the Lao-Tzu and Chuang-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)*  
Siddhaththa Gautama 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.

301. Conservation of Natural Resources
Fall, Winter, Spring, Summer. 3(3-0)
A course of intensive coursework, not open to forest majors. Designed to introduce graduate students to the 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.
Topics or problems in several areas. They will vary from term to term.

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. 3(3-0) Junior majors.
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
Fall. 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 precedents and solutions. Focus on natural resource development. Student involvement in discussions, analyses, and presentations on resource problems and possible solutions.

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, and Parks 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 440 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.

490. Individual Study
Fall, Winter, Spring. 1 to 6 credits. May reenroll for a maximum of 10 credits. Approval of department. Supervised readings. Individual study of selected topics.

491. Selected Topics
Fall, Winter, Spring. 1 to 6 credits. May reenroll for a maximum of 10 credits. Approval of department.

845. Senior Preseminar
Winter, Spring. 2(2-0) Senior majors.
Current issues, literature, and professional approaches in resource development.

849. 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 course in the social and economic significance of natural resources in modern industrial and urban society. Current problems of natural resource management and use are examined in terms of the society in which they exist.

851. 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.

852. 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.

855. 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, ABC, and DRBC are studied.