

490. Independent and Supervised Study
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 7 credits in all enrollments for this course.
P: PRM 201, PRM 320. R: Open only to Public Resource Management majors. Approval of department; application required.
In-depth independent study of topics affecting public resource management. Complimentary with previous coursework, adapted to career aspirations.

RADIOLOGY

RAD

Department of Radiology
College of Human Medicine
College of Osteopathic Medicine

552. Medical Neuroscience
Spring. 4(3-2) Interdepartmental with Anatomy and Physiology. Administered by Anatomy.
R: Graduate-professional students in colleges of Human and Osteopathic Medicine.
Correlation of normal structure and function of the human nervous system with clinical testing, classical lesions, and common diseases.

553. Introduction to Radiology
Summer. 1(1-0)
R: Graduate-professional students in colleges of Human and Osteopathic Medicine or approval of department.
Principles of medical diagnostic radiology: means of generating diagnostic images, and anatomical and physiological changes that result in such images.

590. Independent Study
Fall, Spring, Summer. 1 to 3 credits.
R: Approval of department.
Special aspects of radiology. Imaging as a diagnostic tool in patient management.

609. Radiology Clerkship
Fall, Spring, Summer. 4 to 8 credits. A student may earn a maximum of 32 credits in all enrollments for this course.
R: Completion of two years of graduate-professional program in College of Human Medicine or College of Osteopathic Medicine.
Diagnostic imaging consultation. Participation in image interpretation and observation in hospital or outpatient radiology setting.

RELIGIOUS STUDIES

REL

Department of Religious Studies
College of Arts and Letters

205. Myth, Self, and Religion
Fall, Spring. 3(3-0)
The mythic quest for meaning, identity, value, and transcendence as seen through religious biography and literary narrative. Myth in relation to religious symbols and life-cycle rituals. Cross-cultural perspective on religious world views and the interpretation of myth as sacred narrative.

290. Independent Study
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course.
R: Approval of department.
Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.

306. Native American Religions
Spring. 3(3-0)
R: Not open to Freshmen
Indigenous forms of spirituality among the Native American peoples. Materials from myth, ritual, ceremonial life, and art as ways of obtaining and sharing religious knowledge. Pervasive spiritual and cosmological themes.

310. Judaism
Fall. 4(4-0)
R: Not open to freshmen.
Jewish life, thought, and institutions. Jewish calendar. Second Temple and Rabbinic periods. Talmud and Midrash. Jewish life in Europe and America. Hasidic, Reform, Orthodox, and Conservative movements. Anti-Semitism, Zionism, and the Holocaust. Current issues.

320. Christianity
Spring of even-numbered years. 3(3-0)
R: Not open to freshmen.
Origins and historical development of Christianity. Rituals, institutional forms (Eastern Orthodox, Catholic, Protestant). Monastic and mendicant movements. Major doctrines and their development. Contemporary status and role.

330. Islam
Spring. 4(4-0)
R: Not open to freshmen.
Islam from the time of Muhammad to the present. Pre-modern developments: life of Muhammad. Qur'an, Hadith, Islamic law. Sunnis, Shiites, sects and their rituals. Unity and diversity. Modern movements and trends.

340. Hinduism
Fall. 4(4-0)
R: Not open to freshmen.
Historical, philosophical and doctrinal development. Vedic Sacrifice, Upanishads, devotional Vashnavism, Yoga and meditation, Tantric and medieval forms, ritual and temple forms. Modern syncretism and interaction with Western world views.

350. Buddhism in South Asia
Spring. 3(3-0)
R: Not open to freshmen.
Early origins of Buddhism. Life of the Buddha. Formulation of the Samgha. Pali canon. Three turnings of the Wheel of the Law. Monastic developments vs lay Buddhism. Buddhist meditation practices.

355. Southeast Asian Religions
Fall. 3(3-0)
R: Not open to freshmen.
Southeast Asia as a religious and cultural crossroads. The historic mix of Hinduism, Buddhism, Islam, Christianity, and Chinese religions. Diversity of indigenous animistic religions. Past and present relations between religions and the state.

404. Religion and Society in Ancient Near Eastern Civilization
Spring of even-numbered years. 3(3-0)
R: Not open to freshmen and sophomores.
Role of religious phenomena in the conceptual and practical function of ancient Near Eastern societies. Art, philosophy, government, technology and values.

410. Hebrew Bible
Fall. 3(3-0)
R: Not open to freshmen and sophomores.
The historical setting and types and meaning of the text of the Hebrew Bible (Christian Old Testament) explored through various techniques of historical, literary, and textual analysis.

411. Modern Jewish Thought
Spring of even-numbered years. 3(3-0)
P: REL 310 or approval of department. R: Not open to freshmen and sophomores.
Representative Jewish thought from the Enlightenment to the present. Authors such as Moses Mendelssohn, Abraham Geiger, Leo Pinsker, Hermann Cohen, Franz Rosenzweig, Ahad Ha-Am, Martin Buber, Mordecai Kaplan, A. I. Heschel, and Emil Fackenheim.

418. Studies in Ancient Near Eastern Religions (MTC)
Fall, Spring. 3(3-0) A student may earn a maximum of 12 credits in all enrollments for this course.
R: Not open to freshmen and sophomores.
Interdisciplinary study of specific topics in the religious thought of the Near East and Mediterranean between 3000 BCE and 700 CE.

420. New Testament
Spring. 3(3-0)
R: Not open to freshmen and sophomores.
The historical setting and types and meaning of the text of the New Testament explored through various techniques of historical, literary, and textual analysis.

431. Muhammad and the Qur'an
Spring of odd-numbered years. 3(3-0)
P: REL 330 or approval of department. R: Not open to freshmen and sophomores.
Life and contributions of the Prophet Muhammad. The Qur'an as a historical source. Origin, compilation, contents, and arrangements of the Qur'an. Forms of the Qur'an: recitation, scripture, calligraphy, theological concept.

440. Topics in South Asian Religions (MTC)
Spring. 3(3-0) A student may earn a maximum of 6 credits in all enrollments for this course.
R: Not open to freshmen and sophomores.
Topics such as Hindu tantric mysticism or Buddhist philosophical schools.

470. Religious and Secular Cosmologies
Fall. 3(3-0)
R: Not open to freshmen or sophomores.
Cosmological contents of religions. Religious questions raised by secular cosmologies. Perspectives from phenomenology and anthropology of religion.

471. The Ritual Process
Spring. 3(3-0)
R: Not open to freshmen and Sophomores
Definitions of ritual. Aspects of ritual, such as repetitiveness and drama. Generic forms of ritual including passage rites, renewal rites, liminality, sacrifice, taboo, and divination. Experience of ritual and its power to inform and transform the participant.

475. Anthropological Approaches to Religion
Fall. 3(3-0)
R: Not open to freshmen and sophomores.
Religion and language as distinguishing human traits. The capacity to create symbols and the power of symbols. Early explanations of the origins of religion. Later functional appreciations of religion based on field studies. Leading theorists from different schools of religious studies.

480. Comparative Studies in Religion (MTC)
Fall, Spring. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course.
R: Not open to freshmen and sophomores.
Multidisciplinary topics such as patterns in comparative religion, comparative mysticism, or comparative mythology.

**Descriptions — Religious Studies
of
Courses**

490. Independent Study
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course.

R: Approval of department.

Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.

491. Special Topics in Religious Studies
Fall, Spring. 3(3-0) A student may earn a maximum of 12 credits in all enrollments for this course.

R: Approval of department.

Special topics supplementing regular course offerings, proposed by faculty on a group study basis.

499. Senior Thesis Research
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course.

R: Approval of department.

Individual research project supervised by a faculty member that demonstrates the student's ability to do independent research and submit or present a major paper.

890. Independent Study
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course.

R: Approval of department.

Special projects, directed reading, and research arranged by an individual graduate student and a faculty member in areas supplementing regular course offerings.

RESOURCE DEVELOPMENT RD

Department of Resource Development College of Agriculture and Natural Resources

201. Environmental and Natural Resources
Fall, Spring. 3(3-0)

Physical, economic, and institutional aspects of natural resource and environmental policy. US doctrines for land, water, mineral, and environmental resource management.

207. Great Lakes: Biology and Management
Spring. 3(3-0) Interdepartmental with Fisheries and Wildlife. Administered by Fisheries and Wildlife.

Living aquatic resources of the Great Lakes: environmental history, biological resources and their management. Policy issues.

310. Environmental Communication
Fall. 3(3-0) Interdepartmental with Agricultural and Extension Education.

P: RD 201, ZOL 250. R: Not open to freshmen and sophomores.

Environmental risk communications. Conflict resolution. Mitigation and public forum management.

320. Resource Management and Planning
Fall. 3(3-0)

P: RD 201; ZOL 250. R: Not open to freshmen and sophomores.

Concepts, principles, and objectives of management and planning. Population dynamics, resource demand, and impact and suitability assessment for sustainable development.

324. Water Resource Development
Spring. 3(3-0)

P: RD 320, GEO 106. R: Not open to freshmen.

Interface between the hydrologic cycle and human factors, and resulting environmental consequences. Economic, administrative, policy, and political factors.

326. Introduction to Waste Management
Fall. 3(3-0) Interdepartmental with Fisheries and Wildlife.

P: RD 201, RD 320. R: Not open to freshmen.

Waste management definitions, techniques, technologies, and strategies. Integrative approach to waste management as an environmental, social, and political subject.

336. State Environmental Law
Spring. 3(3-0)

P: RD 201, RD 320. R: Not open to freshmen and sophomores.

State-level legal and regulatory management of environmental issues. Environmental site assessment and auditing. Regulatory compliance. Permit process. Right-to-know. Land and water use regulation.

**374. Leadership Skills for Resource
Development Practice**
Fall. 3(3-0)

P: RD 201. R: Not open to freshmen and sophomores.

Concepts and techniques for resource development practitioners.

409. Forest Hydrology
Spring of odd-numbered years. 3(2-3) Interdepartmental with Forestry, and Crop and Soil Sciences. Administered by Forestry.

P: CSS 210; MTH 116; CPS 100 or CPS 130 or CPS 131.

R: Not open to freshmen and sophomores.

Science and technology of the hydrologic cycle and water resources in forest, wildland, wetland, and rural watersheds.

415. Introduction to Impact Assessment
Fall. 4(3-2)

P: STT 200, ZOL 250. R: Open only to seniors and graduate students.

Environmental, social, and economic impact assessment. Risk analysis, technology assessment, project management, and data collection and use.

426. Waste Management Planning
Fall. 3(2-2)

P: RD 201, RD 326. R: Not open to freshmen and sophomores.

Assessment of procedures and techniques. Alternative solutions are explored through simulation. Technological and public policy issues explored by using a computer model. Design of implementation strategies.

430. Law and Resources
Fall. 3(3-0) Interdepartmental with Public Resource Management and Forestry.

P: RD 201; EC 201 or GBL 395. R: Not open to freshmen and sophomores.

Legal principles applied to natural resource use. Sovereignty, property rights, land and water use, jurisdiction, public trust doctrine, fish and game law, mineral rights, and eminent domain. Case and statutory law analysis.

433. Law and Social Change
Spring. 3(3-0) Interdepartmental with Sociology and Public Resource Management.

P: GBL 395. R: Not open to freshmen.

Function of law in a modern society. Concepts of power, public regulation, civil rights, and property rights. Limits on freedom.

**440. The Resource Development Policy
Process in Michigan**
Spring. 3(3-0) Interdepartmental with Public Resource Management.

P: RD 201; PRM 201 or PLS 100 or PLS 301 or PLS 324. R: Not open to freshmen and sophomores.

Public policy formation related to environmental and economic development issues at state and community levels. Observation and analysis of actual proceedings. Field trips required.

446. Environmental Issues and Public Policy
Spring. 3(3-0) Interdepartmental with Zoology. Administered by Zoology.

R: Not open to freshmen and sophomores.

The interrelationship of science and public policy in resolving environmental issues. Technical, social, economic, and legal influences. Case study approach.

**460. Resource and Environmental
Economics**
Spring. 3(3-0) Interdepartmental with Public Resource Management, Park and Recreation Resources, and Agricultural Engineering.

P: RD 201, EC 201. R: Not open to freshmen and sophomores.

Economics of land and related environmental resources. Production and consumption processes. Resource allocations and scarcity. Market failure and externalities. Market and institutional remedial approaches.

461. Regional Economics
Fall. 4(3-2) Interdepartmental with Public Resource Management and Economics.

P: EC 201 or RD 460. R: Not open to freshmen and sophomores.

Location decisions of firms and households. Relevant government policies. Applications of regional analysis to industrial, regional, and community development.

**464. Natural Resource Economics and
Social Science**
Fall. 3(2-2) Interdepartmental with Forestry, Park and Recreation Resources, and Fisheries and Wildlife. Administered by Forestry.

P: EC 201 or EC 202. R: Not open to freshmen and sophomores.

Application of economic and social science principles and techniques to production and consumption of natural resources. Benefit-cost analysis. Regional impact analysis. Social impact assessment.

465. Ecological Risk Assessment
Spring of odd-numbered years. 3(3-0) Interdepartmental with Fisheries and Wildlife. Administered by Fisheries and Wildlife.

P: CEM 143, CEM 161, ZOL 355; FW 324 or STT 200 or STT 201.

Ecotoxicology. Monitoring and modeling the fate of toxins in ecosystems. Dose response relationships. State and federal regulations related to environmental contaminants.

466. Natural Resources Planning and Policy
Spring. 3(2-3) Interdepartmental with Forestry, Fisheries and Wildlife, and Park and Recreation Resources. Administered by Forestry.

P: FOR 408; FOR 464 or FW 434 or FW 424; FW 472 or PRR 443 or RD 415 or RD 460. R: Open only to seniors and graduate students in College of Agriculture and Natural Resources.

Scientific, environmental, social, and institutional factors affecting planning and policy-making. Focus on ecosystem-based planning and policy issues through development of a multiple-use plan. Case studies.