I. Foundations: Intellectual and Practical Skills

Writing in the Disciplines: (Students need 3 credits)

GEOG 300: Writing in the Geosciences – Students conduct investigations into writing, reading, and research conventions in the geosciences and receive advanced instruction in planning, drafting, arranging, revising, and editing geoscience specific essays and research projects. Prerequisites: GEOG 103 or GEOL 103 and GEOG 110. (3 credits). (ENG 100 would also be helpful preparation.)

II. Explorations: Knowledge of Human Cultures and the Physical and Natural World

Social and Behavioral Science: (Students need 3 credits)

GEOG 110: World Regional Geography – A general survey of the political, social, and ecological systems of the world. The course is concerned with the complexity and diversity of world peoples and cultures. (3 credits)

Natural & Physical Sciences: (Students need a minimum of 6 hours, including one course with an essential applied/lab component (SL). Courses must be taken from two different disciplines)

GEOG/GEOL 103: Our Dynamic Planet – Introductions to the spatial dimension of Earth’s dynamic systems and how they affect people. These include the atmosphere, hydrosphere, and lithosphere. (3 credits).

GEOG 280: Environmental Science and Sustainability (SL) – A general understanding of geoscience applications in solving contemporary environmental problems. Lab component provides practical experiences associated with the theories outlined in the course content. Course fee. (4 credits: 3 hours lecture and 2-hour Lab).

GEOL 111: The Earth – The study of the Earth including rocks, mineral resources, energy, soils, surface geologic processes, earthquakes and Earth’s interior, global tectonics, hydrology and environmental geology. Students must also take GEOL 113 to earn lab credit. (3 credits).

GEOL 113: The Earth Lab (SL) – Laboratory work designed to accompany GEOL 111. Minerals, rocks, topographic maps, geologic maps, and aerial photographs are studied. Pre/Corequisite: GEOL 111 (1 credit – 2-hour lab).

GEOL 112: Earth’s Past and Future – Deep time study of Earth, life, and climate to understand how the planet - our only home - has changed in the past and what this means for the future of human species. Students electing to meet their general education laboratory requirement through GEOL 114 must simultaneously enroll in GEOL 112. (3 credits)

GEOL 114: Earth’s Past and Future Lab (SL) – Laboratory work designed to accompany GEOL 112. Sedimentary rocks, fossil specimens, stratigraphic concepts and geologic maps are studied. Course fee. Prerequisite or corequisite: GEOL 112 (1 credit– 2-hour lab)

GEOL 250: Environmental Geology (SL) – Survey of the geologic principles in relation to environmental problems arising from human actions. Topical environmental issues controlled by whole Earth processes, and the use of geologic knowledge in their remediation will be investigated. Hands-on lab exercises provides students applied learning experience of the Earth’s various natural and anthropogenic processes that controls environmental changes and increases societal risk and vulnerability. (3 credits Lecture/Lab).
METR 121: Meteorology (SL) – An introduction to the elements of the atmosphere, severe storms, atmospheric environmental issues, the interdependence between human life and the atmosphere, and rudimentary forecasting of basic weather systems. A self-paced laboratory is required. Course fee. (3 credits: 2 hour lecture and 1 hour lab).

III. Connections: Understanding Individual and Social Responsibility –
Students must have 21 hours of Foundations and Explorations Courses, or junior status to enroll in Connections courses. Courses must be from 3 separate disciplines.

Social and Cultural: (Students need 3 credits)

GEOG 200: Latin American Society: Past and Present – This course is a broad, interdisciplinary introduction to the study of Latin America, emphasizing regions, peoples, and cultures. Equivalent to HIST 200 (3 credits).

GEOS 330: Introduction to Cultural Geography – An overview of core concepts in cultural geography based on five major themes: region, mobility, globalization, nature-culture, and cultural landscape. Field trips required (3 credits).

GEOS 385: Society, Resources and Climate – Discussion of global climate change from a societal and resource perspective. A basic understanding of global climate change and how humans affect such change by studying characteristics such as population size, natural resources, policy, personal behavior, and societal choices. Prerequisites: GEOS 110 and 280 (3 credits)

Local to Global: (Students need 3 credits)

GISC 216: Geotechnologies in a Global Community – Introduces the purpose, operation, and application of the Geographic Information Science technologies in contemporary society. Course fee. (3 credits)

GEOG 378: Food, Culture, and Environment – Exploration of geographical patterns of agricultural production and cuisine through the intersection of environment, technology, and culture. Field trips required. Students will share the cost of several meals. Course fee. (3 credits)

GEOG 380: Global Sustainability – An introduction to the major themes and scientific principles of sustainability, with an emphasis on developing critical thinking skills. (3 credits).

GEOG 452: Applied Geoscience Field Experiences - Applied geoscience experiences in a variety of field-based settings, including, but not limited to, Study Abroad and Study Away programs, field camps, and extended fieldtrips to national or international settings (3 credits can be applied to Colonnade).

Systems: (Students need 3 credits)

GEOG 225 Visualizing Geography - uses photographs, maps, media, and illustrations, at local, regional, and global scales, to explore critically how integrated structures such as cultural systems, political systems, resources, environments, and population movements influence our perceptions and understanding of the world around us as a unified, holistic system (3 credits).

GEOG 226: Our Dangerous Planet – Introduction to how normal Earth processes concentrate their energies to create devastating impacts to humans and the built environment, with emphasis on survival techniques. (3 credits)

GEOG 227: Our Vulnerable Planet – Explore how anthropogenic processes such as climate change, pollution, urban sprawl, deforestation, and desertification impact the people on Earth and its ecosystems (3 credits).

GEOL 301: Geology and Climate: Past and Future – Survey of Earth’s past climate changes, the present state, and what these mean for the future of our planet – our only home. Factors and processes that influence Earth’s climate over a variety of timescales are examined. Prerequisite(s): (GEOL 103 or GEOG 103 or GEOL 111 or GEOL 112)

GEOL 315 - Energy, Climate and Carbon - Energy, Climate and Carbon investigates our current reliance upon carbon-based sources of energy, the effect of fossil-fuel emissions on the environment and climate at local-to-global scales, and current efforts to limit fossil-fuel emissions and global climate change. The course is particularly focused on carbon-capture technologies, geological carbon sequestration and renewable energy resources (3 credits). Prerequisite or corequisites: GEOL 111 or GEOG 110 or GEOL 103.

METR 322 Global Climate Systems –
Analyzes the elements of climate and their world distribution with emphasis on the climatic controls and processes; surveys the influences of climates on environment; introduces climatic classification systems and climatological regions of the world. Prerequisite: METR 121 (3 credits).