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The Core Curriculum

III. Thematic Transdisciplinary Clusters (at least 9 hours and three courses; all courses eligible for multiple counting. Students who complete a minor or a concentration are exempt from the Clusters requirement.):

Comment [CC1]: The USAC would like to add this add'l qualification.

Thematic Transdisciplinary Clusters, a trio of thematically-related courses from University Studies and departmental majors, allow students to investigate a common theme through multiple disciplinary lenses. Through the completion of a Cluster, students will develop their critical thinking skills through the integration of the methods and findings specific to each disciplinary perspective. Cross-disciplinary study equips students with the skills to seek creative solutions to difficulties they will encounter when dealing with the complex problems that shape our modern world.

Students will declare their Cluster theme formally through the registrar's office and will select courses with at least two different departmental prefixes from one of the following Clusters:

Modeling: A model can be thought of as an abstract, non-unique, description of a natural system that captures its features essential for addressing the modeling objectives. Nearly every discipline creates models that mimic the "real world" and enable scholars to make predictions and develop understanding crucial to specific fields of study. Models often simplify to clarify, but students do not often fully appreciate that they are using a model that contains simplifying assumptions. Further, despite encountering models across disciplines, many students do not at first see the connections between how different disciplines develop and define them. This cluster of courses emphasizes the common aspects of models used in a variety of disciplines. By taking these courses, students will demonstrate an understanding of the common elements, important limitations, and powerful predictive properties that models provide. And students will compare and contrast these models as a way to assess their applicability across a range of contexts.

ANT 105: Introduction to Anthropology

ANT 207: Archeology

BIO 201: Principles of Biology: Cells

BIO 366: Ecology

CHM 101: General Chemistry I

CSC 112: Introduction to Computer Science I

CSC 121: Introduction to Computer Programming

EVS 195: Introduction to Environmental Sciences

MAT 101: Mathematics for Liberal Arts: A Contemporary Approach

MAT 151: Basic Calculus with Applications I

MAT 152: Basic Calculus with Applications II

MAT 161: Calculus with Analytic Geometry I

MAT 162: Calculus with Analytic Geometry II

PSY 105: General Psychology

PSY 256: Brain and Behavior

Immigration: The topic of immigration, or the migration of people from one location to another, has received a lot of attention in the United States and throughout the world in the last decade. Most often, we hear about immigration within a political context - new legislation or policies denying or providing some rights to immigrants. This interdisciplinary thematic cluster on immigration will provide students the opportunity to approach this broad topic from many viewpoints and disciplines. Our hope is that after completing this cluster, students will be prepared to critically analyze the many sides of the immigration issue, both domestically and internationally, while proposing and analyzing solutions to the ‘immigration problem,’ taking into account the many views introduced to them in the cluster courses.

ANT 316: Exploring World Cultures: The Immigrant Experience
 ANT 327: Globalization and Culture Change
 ENG 344: Latino and Latina Voices in American Literature
 FRH 421: French Immigrant Narratives
 HON 210: Immigration to the US (spring 2013)
 HST 106: History of the United States since 1865
 HST 340: Race, Gender, and Citizenship
 INT 105: Introduction to International Studies
 SPN 323: Introduction to US Latino Literature and Culture
 SPN 490: Service Learning and Research: Hispanics in North Carolina

Climate Change and Society: The complex interactions between human societies and the environment has not only affected every ecosystem on Earth, but also molded the evolution of human society through time. With an ever increasing pool of evidence indicating that significant anthropogenic climate change is highly likely in the near future, it is important that we fully understand the potential impacts of such changes on natural ecosystems and society. Such complex interactions at the global scale are well suited as a topic in a thematic transdisciplinary cluster, as the most pressing and salient questions are interdisciplinary. For example, how have humans affected the world’s climate and ecosystems? How do anthropogenic impacts on climate change compare to natural climate variability? What impacts might climate change have on natural ecosystems and human societies? Are complex human societies capable of adapting to significant climate change? What is the most effective means of communicating complex climate change data to the general public? Here we propose a group of courses especially well-suited to address these complex questions from a variety of perspectives. Exposure to a combination of the physical and social sciences specifically addressing these questions is the only meaningful way to grasp the complex past and future interactions between humans and the climate system.

ANT 312: Collapse: The Fall of Complex Civilizations
 GGY 140: Introduction to Human Geography
 GGY 230: Introduction to Weather and Climate
 GGY 333: Applied Climatology
 GGY 340: Global Change: Population, Resources, and the Environment
 GGY 432: Biogeography
 GGY 436: Ice Age Earth

GGY 439/GLY 439: Paleoclimatology
 GLY 250: Beaches and Coasts
 GLY 350: Advanced Oceanography
 GLY 420: Global Climate Change

Global Diversity: This cluster will allow students to investigate global diversity in order to understand better the importance and implication of cultural and religious diversity. Students will consider questions such as: What role does global diversity play in encouraging different perspectives and fostering creativity and innovation? How does one navigate between international, cultural, and religious differences? Issues and topics explored in this cluster could include diasporic traditions, multiculturalism, cultural diversity, and religious pluralism.

ENG 341: Postcolonial and Third World Literature
 ENG 359: World Indigenous Literatures and Film
 HEA 320: Foundations of Global Health
 HST 104: Global History from the Revolution of 1848 to the Present
 HST 367: Colonial Latin America
 INT 105: Introduction to International Studies
 PAR 230: Judaism, Christianity, Islam
 PAR 232: Asian Religions
 PED 206: Traditional American Dance I
 PED 235: Principles of Physical Education
 PED 350: Motor Behavior
 REC 265: Introduction to Recreation Services
 REC 351: Introduction to Travel and Tourism
 REC 494: Study Abroad in Recreation, Sport, and Tourism.

Foundations for Systems Thinking: We all realize that the whole is more than the sum of the parts. Why is this, and how do parts of systems fit together? Understanding of the mechanisms that generate whole-system level, emergent patterns is the focus of the Foundations in Systems Thinking Cluster. The world around us is fundamentally hierarchical – systems within systems, nested like matryoshka dolls – from human societies that build from individual to family, neighborhood, community, and nation, to the natural world, which builds from organism to population, community, and ecosystem. All such systems have internal feedbacks and dynamics (e.g., supply and demand, competition for resources) that can produce emergent properties difficult to predict by examining a single level of organization (e.g., economic globalization, altruistic social networks). Groundbreaking advances in any one discipline have often occurred when investigators apply systems thinking from a different discipline. By understanding that systems are nested hierarchies and bringing insights from different disciplines to bear on new problems, students can learn how to look to lower levels of organization for mechanistic processes and to higher levels for other kinds of constraints on system dynamics and organization.

BIO 105: Concepts of Modern Biology
 BIO 201: Principles of Biology: Cells
 BIO 345: Animal Physiology
 BIO 366: Ecology
 ECN 221: Principles of Microeconomics: Economic Models

ECN 250: Capitalism and Global Market Society
 EXS 216: Human Anatomy and Physiology I
 EXS 217: Human Anatomy and Physiology II
 RTH 468: Program Planning and Evaluation in Recreation Therapy

Evolution: The concept of evolution is foundational to many fields of science, including anthropology, biology, geology, paleontology, and psychology. Evolution is a scientific concept, which means it addresses questions about the natural world through a process of testing hypotheses with empirical evidence. But, because science is limited to explaining natural phenomena using empirical evidence, it cannot provide religious, philosophical, or ultimate explanations for life. Humanities-based views on evolution will allow students to consider cultural/societal implications of evolution, address moral and ethical dimensions of their decisions, and explore questions of ultimate purpose and meaning that are beyond the scope of science. This cluster will allow students to study the evolution of life from the perspective of different scientific disciplines, as well as to think about its significance in relation to human life and culture, including our philosophical, religious, historical, artistic and literary modes of reflection. An evolution cluster of courses can be expected to stimulate students' abilities to recognize multiple viewpoints concerning evolution and to consider how and to what extent these perspectives complement or compete with one another.

ANT 210: Physical Anthropology
 ANT 320: Human Origins
 ANT 322: Primate Biology and Behavior
 ANT 324: Human Biological Variation
 ANT 328: Human Growth and Development
 BIO 105: Concepts of Modern Biology
 BIO 202: Principles of Biology: Biodiversity
 BIO 430: Evolutionary Biology
 BIO 475: Plant Taxonomy
 GLY 132: The Earth Through Time
 GLY 135: Prehistoric Life
 GLY 337: Invertebrate Paleontology
 PSY 257: Evolutionary Psychology

Common Requirements

I. Building Competencies

c. Quantitative and Logical Reasoning: This requirement offers an option; students can take (1) an additional course beyond the mathematics or statistics course used for the *Mathematics and Statistics* requirement or a quantitative methods course from any discipline that acquaints a student with how quantitative reasoning is applied; or (2) an introductory logic, symbolic logic or critical thinking course that will improve student ability to reason critically by analyzing, evaluating and extending arguments. (3 hours—may be taken as a major requirement):

Comment [CC2]: The USAC would like to add this add'l text to clarify the req.

II. Explorations Beyond the Classroom (1 approved experience from the options below—may be integrated into the major or any of the other components of University Studies):

Explorations Beyond the Classroom are high-impact educational experiences that help students integrate ideas and skills learned in the classroom with opportunities and challenges outside the classroom. Explorations experiences fall within these four categories:

Discovery: These options are generally credit-bearing research or creative projects that involve close work with a faculty mentor; they frequently take the form of a Directed Individual Study (DIS) or Honors project.

Application: These options involve applying content knowledge and skills to real-world problems, often taking the form of work with a professional outside the classroom in a variety of traditional applied settings, including internships, fieldwork, practicum, and student-teaching.

Regional Engagement: These options include course-embedded service learning projects with community-based organizations (profit or non-profit) that may not currently result in academic credit but represent substantial opportunities for students to gain direct experience with issues they have encountered in coursework.

Exploration Away: These options include all education exchange and abroad options approved by the *National Student Exchange Program* or the *Office of International Programs*.

The completion of one approved experience, credit or non-credit bearing, is required here.

Approved Experiences:

ACG 491: Directed Individual Study
 ACG 498: Internship in Accountancy
 ANT 491: Directed Individual Study
 ANT 498: Internship in Anthropology
 ANTL 207: Archeology Lab
 ART 491: Directed Individual Study
 BIO 291: Introductory Research
 BIO 480: Field Studies in Biology
 BIO 491: Directed Individual Study
 BIO 493: Bio Lab Teaching Practicum
 BIO 495: Seminar
 BIO 498: Internship in Biological Sciences
 BIOL 495: Applied Learning Seminar
 BLA 491: Directed Individual Study
 BLA 498: Internship in Business Law
 CHM 495: Senior Seminar
 COM 491: Directed Individual Study
 COM 498: Internship in Communication Studies
 CRM 490: Criminal Justice Practicum
 CSC 491: Directed Individual Study
 CSC 498: Internship in Computer Science

CSC 450: Software Engineering
EBD 491: Directed Individual Study
EBD 498: Internship in Entrepreneurship and Business Development
ECN 491: Directed Individual Study
ECN 498: Internship in Economics
EDN 318: Middle School Programs and Practices
EDN 323: Teaching Mathematics in the Middle Grades
EDN 335: Social Studies Education in the Middle Grades
EDN 352: Developing Writing and Reading Competency in the Middle Grades
EDN 338: Teaching of Science Grades 6-9
EDN 355: Language Arts for Middle Grades
EDN 409: Practicum in French and Spanish
EDN 409 PE: Internship in Physical Education and Health
EDN 411: Practicum in Special Education K-6
EDN 465: Education of Young Children
EDN 466: Enhanced Practicum in Preschool Settings
EDN 467: Non-licensure Practicum in Early Childhood Settings
EDNL 200: Field Studies
EDNL 200 PE: Field Studies in Physical Education and Health
EDNL 300: Elementary School Programs and Practices
EDNL 302: Field Experience in Early Childhood Experience
EDNL 332: Apprentice Field Experience I
EDNL 333: Apprentice Field Experience II
EDNL 388: Field Experience in Kindergarten Education
EDNL 407: Theory and Practice in Teaching Foreign Language
EDNL 450: Infant and Toddler Program Models Lab
EDNL 451: Adaptive Practices in Early Childhood
ENG 202: Introduction to Journalism
ENG 204: Introduction to Professional Writing
ENG 302: Advanced Journalism Workshop
ENG 498: Internship in Writing
EVS 431: International Field Experience
EVS 491: Directed Individual Study
EVS 497: Practicum in Environmental Studies
EVS 498: Internship in Environmental Studies
EVSL 195: Environmental Studies Lab
EXS 347: Practicum in Exercise Science
FIN 491: Directed Individual Study
FIN 498: Internship in Finance
FRH 491: Directed Individual Study
FST 498: Internship in Film Studies
GER 491: Directed Individual Study
GER 498: Internship in German
GGY 424: Advanced Geographic Information Systems
GGY 491: Directed Individual Study
GGY 498: Internship in Applied Geography

GLY 390: Field Methods in Geosciences
GLY 470: Field Course in Geology
GLY 491: Directed Individual Study
GLY 498: Internship in Geology
INT 294: International Student Exchange
INT 494: International Student Exchange
INT 491: Directed Individual Study
INT 498: Internship in International Studies
MAT 498: Internship in Mathematics
MIS 411: Information Systems Analysis
MIS 413: Systems Design/Capstone Project
MIS 491: Directed Individual Study
MIS 498: Internship in Information Systems
MGT 491: Directed Individual Study
MGT 498: Internship in Management
MKT 491: Directed Individual Study
MKT 498: Internship in Marketing
OCN 390: Field Methods
OCN 491: Directed Individual Study
OPS 491: Directed Individual Study
OPS 498: Internship in Operations Management
PAR 400: Colloquium for Majors
PHY 315: Computational Physics and Complexity
PHY 477: Data Analysis Methods in Physical Oceanography
PHY 481: Undergraduate Cruise Experience
PLS 294: Transnational Politics Study Abroad I
PLS 491: Directed Individual Study
PLS 494: Transnational Politics Study Abroad II
PLS 498: Internship in Political Science
PSY 291: Introductory Research
PSY 491: Directed Individual Study
PSY 451: Supervised Counseling Practicum
REC 498: Internship in Recreation Services
RTH 498: Internship in Recreation Therapy
SEC 220: Block I Field Experience
SEC 320: Block II Field Experience
SEC 421: Field Experience in Teaching Mathematics 9-12
SEC 422: Block III Field Experience
SEC 431: Internship in Secondary Science
SED 250: Introduction to Special Education
SED 350: Children and Adolescents with Learning Disabilities
SED 354: Intellectual and Developmental Disabilities
SED 355: Children and Adolescents with Behavioral Disorders
SED 362: Teaching Students with Social, Emotional, and Behavioral Problems
SED 367: Communication and Language Development and Intervention
SED 374: Applied Behavior Analysis for Teachers

SED 375: Collaboration and Teaming Models for Special Educators
SED 411: Practicum in Special Education
SEDL 368: Teaching Reading to Learners with Special Needs
SEDL 369: Teaching Mathematics to Learners with Special Needs
SOC 390: Public Sociology Seminar
SOC 496: Practicum in Public Sociology
SPN 490: Service Learning and Research
SPN 491: Directed Individual Study
SPN 498: Internship in Spanish
STA 294: Study Abroad
SWK 496: Field Practicum I
SWK 497: field Practicum II
WMS 498: Internship in Women's Studies
WMS 491: Directed Individual Study
xxx 499: Honors Work (in all disciplines)