### UNIVERSITY CURRICULUM COMMITTEE

Minutes #10 approved (2017-2018 Undergraduate Catalog and 2018-2019 Undergraduate Catalog) February 1, 2017

Members Present: Al-Bataineh, Brandt, Brown, Ciani, Cook, Duce, Hamilton, Prud'homme, Rosenthal,

Segelcke, Shim, Standard, Stapleton, Trefzger, Wolf

Members Absent: Dustin, Geary, Hernandez, Lieberman

Guests Present: Dagmar Budikova, Geography, Geology and the Environment; Roger Thomas, Languages,

Literatures, and Cultures; Danielle Lindsey, Office of the Registrar

**1.** Stapleton convened the meeting at 3:05 p.m.

2. **INTRODUCTIONS:** Members and the guests introduced themselves.

### 3. PROPOSAL ACTION:

# GEO MAJOR IN GEOGRAPHY (Revise) Dustin and Prud`homme GEOGRAPHY TEACHER EDUCATION SEQUENCE (Revise)

With no further discussion needed, Cook moved to suspend the practice of "discussion one week – action the next" and act on the proposal today, Wolf seconded, and the committee approved by acclamation. Prud`homme moved to approve the proposals to revise the Major in Geography and the Geography Teacher Education Sequence, pending Budikova's response, Al-Bataineh seconded, and the committee approved by acclamation. Catalog copy follows:

### MAJOR IN GEOGRAPHY

Advisor: Jill Freund Thomas (309) 438-8403.

Email: jfthoma@ilstu.edu

Programs must be planned in consultation with the program advisor.

- Minimum of 50 hours required. All Geography majors should consult with the program advisor concerning appropriate elective coursework in related fields. The faculty also recommends that students consider participating in a Study Abroad program as a means of experiencing different cultural settings.
- Required courses (29 hours): GEO 100; 135 or 142; 138, 204, 205, 238, 292, 300, 303, 398 (4 hours).
- Elective Geography-Geology courses: a minimum of 21 hours required. 15 hours must be at the 300 level. 1 course (3 hours) must be a regional class (see below).

Geography regional course options: GEO 235A01, 235A02, 235A04, 265, 306A15, 306A22, 306A26.

Other elective Geography course options: GEO 235A01, 235A02, 235A04, 265 (if not already taken), 304, 305, 306A15, 306A22, 306A26 (if not already taken); 308, 310, 311, 315, 334, 336, 341, 342, 344, 351, 370.

Geology elective course options: GEO 361, 380, 382.

 Students must earn a grade of C or better in all required courses to be eligible to participate in GEO 398.

## **Geography Teacher Education Sequence:**

Advisor: Jill Freund Thomas (309) 438-8403

Email: jfthoma@ilstu.edu

- Minimum of 56 hours required. Part of entitlement program leading to teacher licensure with a secondary 6-12 endorsement. Student must plan program in consultation with an advisor.
- Required Geography courses (34 hours): GEO 100, 135, 138, 142, 204, 205, 261, 292, 300, 303, 307; 1 regional Geography course (3 hours) from GEO 235A01, 235A02, 235A04, 265, 306A15, 306A22, 306A26.
- Advanced Geography social science elective courses: 6 hours at the 300 level from GEO 304, 305, 306A15, 306A22, 306A26, 308, 310, 315, 334, 336, 341, 342, 344, 351, 370.
- Supporting courses required (16 hours): ECO 105; HIS 101 or 102, 135 or 136; POL 101 or 106; SOC 106.
- To qualify for the professional educator license, the student must complete the Professional Education requirements (26 hours): EAF 228 or 231 or 235; PSY 215; TCH 212, 216, 219; STT 399A18 Student Teaching (12 hours); and the General Education requirements as described in this Undergraduate Catalog.
- NOTE: A 2.75 GPA in the major and overall is required for admission to Student Teaching.
   Deadlines for admission to Professional Studies and Student Teaching are available from the Cecelia J. Lauby Teacher Education Center.

### LAN MINOR IN EAST ASIAN STUDIES (Revise)

#### **Wolf and Shim**

With no further discussion needed, Cook moved to suspend the practice of "discussion one week – action the next" and act on the proposal today, Wolf seconded, and the committee approved by acclamation. Wolf moved to approve the proposal for revision of the Minor in East Asian Studies, Shim seconded and the committee approved by acclamation. Catalog copy follows:

#### MINOR IN EAST ASIAN STUDIES

Advisor: Roger Thomas Office: 233E Stevenson Hall Phone: (309) 438-7982

The Minor in East Asian Studies provides an interdisciplinary approach to exploring the languages, politics, society, and cultures of countries in East Asia. Two tracks are available: a language track, emphasizing language and culture; and an interdisciplinary track, emphasizing the socio-political and cultural dynamics of the countries located in the region and their roles in the world.

## **Course requirements:**

The plan of study must be created in consultation with the East Asian Studies advisor.

- 24 hours required.
- Required courses for all students: two-year sequence or equivalent in an East Asian language; either Chinese (4 hours) CHI 115, or Japanese (JPN) 115, 116.
- Choose one option:
  - Option 1: Language Track: JPN 111 (if haven't had JPN 112 or higher), JPN 112 (if haven't had JPN 115 or higher), JPN 231, 232, and one elective from any elective group below.
  - Option 2: Interdisciplinary Track: In consultation with the East Asian Studies advisor, sufficient electives from the following groups:
  - A. Department of Languages, Literatures, and Cultures: CHI 111, 112, 115, JPN 111, 112, 115, 116, 231, 232.
  - B. Department of History: HIS 104A02, 269, 275, 276, 373, 375.
  - C. Department of Politics and Government: POL 140, 245, 345.

- D. Department of Philosophy: PHI 208.
- E. Department of Sociology and Anthropology: ANT 278, 294, 307, 308.
- F. School of Music: MUS 275A01.
- G. Interdisciplinary Studies: IDS 203A10.
- H. School of Theatre and Dance: THE 271A07.

See course descriptions by department. Other electives, including coursework taken abroad, may be counted toward the minor with prior approval of the minor advisor.

#### 4. PROPOSAL DISCUSSION:

# GEO MAJOR IN GEOGRAPHY (Revise) Dustin and Prud`homme GEOGRAPHY TEACHER EDUCATION SEQUENCE (Revise)

Dagmar Budikova was present from the Department of Geography, Geology, and the Environment. Prud`homme distributed a handout and presented a review of the proposal to revise the Major in Geography and the proposal for revision of the Geography Teacher Education Sequence.

- The Department of Geography, Geology, and the Environment proposes adding GEO 135 as an alternative option to GEO 142 in the list of required courses and adding GEO 138 to major core requirements for both the Major in Geography and the Geography Teacher Education Sequence.
- They also propose adding GEO 292 to the major core in both the major and sequence stating that the course in combination with the revised GEO 204 will enable them to remove GEO 315 from the core. They believe that this change will facilitate time to graduation.
- For the Major, they propose students take one regional geography elective (3 hours) instead of the previously required two (6 hours); and they will require that students take more electives at the 300 level to increase the rigor of the program. They provided the lists of elective courses to be added.
- For the Geography Teacher Education sequence they added GEO 303 as a core requirement, and added regional elective courses (GEO 306 decimalizations) and 300-level elective courses. They encourage students to take more than one variant of GEO 306, so they listed the 306 decimals as electives and for the regional requirement. They deleted GEO 315 from the required list.

### Comments/Questions:

- Standard noted that GEO 235 decimalized courses were not listed in the major's "Other elective course options;" however, GEO 306 decimalized courses are. Budikova will discuss the listing of GEO 235 courses with the faculty and get back to Ryburn who will edit the proposal if necessary.
- In regards to the department's desire to encourage students to take more than one variant of GEO 306, there was a comment on the proposal "We are not sure how to word that for the catalog." The reviewers suggested adding: "Students are encouraged to take more than one advanced variant of GEO 306 to gain broader (or to enrich their) field experience."

With no further discussion needed, Cook moved to suspend the practice of "discussion one week – action the next" and act on the proposals today, Wolf seconded, and the committee approved by acclamation. (See "Proposal Action" above.)

### LAN MINOR IN EAST ASIAN STUDIES (Revise)

#### **Wolf and Shim**

Roger Thomas from Languages, Literatures, and Cultures was present. Wolf distributed a handout and presented a review of the proposal for revision of the Minor in East Asian Studies.

- The Department of Languages, Literatures, and Cultures proposes several small changes to the Minor in East Asian Studies.
- They propose deletion of the phrase "at least three of" from the description of "Option 2: Interdisciplinary Track."
- An elective has been added to option 2: H. Department of Theatre and Dance: THE 271A07.

- There were four other changes incorporated in the catalog copy that were from an editorial request submitted by Laura Edwards (received prior to this proposal to revise the minor). The changes conform with editorial requests that were approved for all LAN Minors to help make plans of study consistent. Thomas was not aware of these changes and did not know they were incorporated into the catalog copy for the Minor in East Asian Studies and this caused some confusion.
- After discussion with Thomas, it was decided that in Option 1: Language Track, the Chinese courses (CHI 111 and 112) will be removed. For Option 2: Interdisciplinary Track, elective group A, the following courses will be removed: CHI 287 (Independent Study), 300 (Research in Foreign Languages), JPN 287 (Independent Study), and 300 (Research in Foreign Languages). Ryburn will edit the proposal to make these corrections.

With no further discussion needed, Cook moved to suspend the practice of "discussion one week – action the next" and act on the proposal today, Wolf seconded, and the committee approved by acclamation. (See "Proposal Action" above.)

## 5. LIAISON REPORTS:

- a. Council on General Education Rosenthal reported that the committee
  - reviewed MQM 128. They will vote on it at the next meeting;
  - looked at a proposal to add ANT 297 as a Humanities course;
  - discussed the proposal to revise the IDS Minor in Middle Eastern and South Asian Studies;
  - discussed a request from the chair of the Academic Senate, Susan Kalter, to recommend a course on world religions. Factors to be taken into account are (1) they need faculty to teach the course, and (2) it might be appropriate to be taught in other curriculum.
- b. Council for Teacher Education Rosenthal reported that CTE discussed edTPA plagiarism protocol and the upcoming Council for Accreditation of Educator Preparation (CAEP) accreditation visit.
- c. Academic Affairs Committee Trefzger reported that:
  - Jim Jawahar is the new Provost's representative on the committee. He replaces Jonathan Rosenthal.
  - There have been good results on the effort to increase international enrollment.
  - The University will award LAN 111 credit to any student who holds a state of Illinois Certificate of Biliteracy.
  - Academic Affairs acknowledged receiving last year's University Curriculum Committee
     Annual Report and expressed thanks to the UCC for the effort that clearly went into such a
     thorough document.
  - The Reggie Net survey was discussed. There were mixed results, with both positive and negative views and lots of comments.

## 6. MISCELLANEOUS:

Ryburn (for Lieberman): Requested a member to serve as liaison to the Council for Teacher Education because Lieberman has a class and cannot continue to serve on that committee. None of the committee members offered. Rosenthal, who also attends the CTE meetings, said he will continue to report to the UCC.

Rosenthal: Courses for AMALI approval: COM 320A01 and COM 390A01. The courses will be offered this summer in Panama. Panamanian students will be working with the Illinois State University students. He thinks the course meets the AMALI criteria and asked the committee for consent to approve the courses for AMALI credit. There were no objections. The courses were approved by consensus.

### 7. STAFF REPORT:

Ryburn: There are no new proposals to review at this time.

- **8. ADJOURNED**: Stapleton called for adjournment. The meeting adjourned at 4:01 p.m. The next meeting will be called when needed.
- **9. INFORMATION:** The University Curriculum Committee Executive Secretary approved the following:

New Courses:

**GEO** 

#### 292 CAREER PREPARATION IN GEOGRAPHY II

1 sem, hr.

This course provides tools necessary for geography majors to gain a successful professional practice in internship/student teaching and employment in their field. Prerequisites: GEO 204 and completion of 75 hours or consent of the instructor.

HIS

#### 105 WORLD HISTORY

3 sem. hrs.

Introductory survey of the history of the world from the beginning of civilizations to approximately 1991.

#### 370 CULTURES OF EMPIRE: THE BRITISH RAJ IN INDIA

3 sem. hrs.

The course aims to familiarize students with the global interconnectedness of British colonialism through the study of popular culture.

LGS

### 324 TOPICS IN PUBLIC LAW

3 sem. hrs.

Selected topics focusing on specialized aspects of Public Law. Multiple enrollments allowed if content is different; maximum of 6 hours. Also offered as POL 324. Prerequisites: Completion of 60 hours, POL 100, 106 or consent of the instructor. POL 215 is recommended.

**Revised Courses:** 

**GEO** 

(Changed title, reduced hours, revised description)

### 204 CAREER PREPARATION IN GEOGRAPHY I

1 sem. hr.

College success and career planning for Geographers. Formerly DOING GEOGRAPHY.

(Revised title, changed hours, prerequisite)

### 303 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS

4 sem. hrs.

Fundamental principles of geographic information systems; emphasis on raster and vector based systems and their applications to spatial analysis. Lecture and lab. Prerequisite: Minimum of 30 hours completed or GEO 138 or consent of the instructor.

Revised courses (continued):

GEO

(Revised title, changed hours, description, and prerequisite)

304 ADVANCED GEOGRAPHIC INFORMATION SYSTEMS (GIS)

4 sem. hrs.

Advanced topics in GIS with an emphasis on spatial analysis methods, database structures, web/mobile GIS, and project management. Lecture and lab. Formerly *GEOGRAPHIC INFORMATION SYSTEMS APPLICATIONS*. Prerequisite: GEO 303 or 363. MAT 120 is recommended.

(Removed I from title, increased hours, revised description and prerequisite)

305 REMOTE SENSING

4 sem, hrs.

Basic principles and techniques of satellite and aerial digital image analysis for environmental applications. Lecture and lab. Prerequisite: Minimum of 30 hours completed or GEO 138 or consent of the instructor.

**Decimalized Courses:** 

COM

## 320A01 MASS MEDIA-CULTURAL CRITICISM AND PROBLEMS: IDENTITIES IN LATIN AMERICAN POPULAR CULTURE

3 sem. hrs.

Critique of identity in Latin American media genres and systems. Special focus on Panama. Prerequisites: COM 111 and 160 or 165.

# 390A01 TOPICS IN CONTEMPORARY COMMUNICATION: JOURNALISM IN LATIN AMERICA

3 sem. hrs.

This course will demonstrate various roles of the State, market forces, historical developments and distinct cultural norms and behaviors in shaping journalistic practice in the various nations that comprise Latin America. Prerequisites: COM 111, graduate standing, or consent of the instructor.

Editorial Requests/Catalog Editing-Courses:

**ACC** 

(Dropped ACC 260 from prerequisites)

366 ADVANCED BUSINESS DATA MANAGEMENT

3 sem. hrs.

Advanced study in the development of computer storage techniques required for business information systems. Techniques are developed for both enterprise and desktop applications. Prerequisite: ACC 261.

COM

(Changed title, description)

266 VISUAL STORYTELLING

3 sem. hrs.

Introduction to visual storytelling. Emphasis on telling stories through the use of visual media such as photos and video. Previous experience in photography or videography recommended. Materials charge optional. Formerly *ADVANCED PHOTOGRAPHY: MULTIMEDIA*.

**ECO** 

(Remove "GEO 138; POL 138; or" from the "Not for credit if had" statement)

### 138 ECONOMIC REASONING USING STATISTICS

3 sem. hrs.

Introduction to descriptive and inferential statistics with applications in economics. Includes the use of statistical software package on laboratory computers. May not be taken under P/NP option. Not for credit if had MOM 100. Prerequisite: MAT 120 or 130, or 145.

(Remove "1 of the following" and "or GEO 138 or POL 138 or PSY 138" from prerequisites)

## 238 USING REGRESSION AND ECONOMETRIC METHODS

3 sem. hrs.

Non-theoretical study of the basic concepts of regression analysis and econometrics which emphasizes real-world applications, statistical computing, and learning-by-doing. Prerequisites: ECO 101 and 102, or 105, and 1 of the following: ECO 138 or MQM 100.

(Revised prerequisites)

## 239 MANAGERIAL ECONOMICS

3 sem. hrs.

Theoretical and applied study of demand, cost, and production related to the theory of the firm. Developments of current interest; empirical studies intended to affirm or disaffirm applicability of economic principles. Prerequisites: ECO 101 or 105. A grade of C or better in MAT 121 or 145 required; and ECO 138 or MQM 100.

(Revised prerequisites)

## 240 INTERMEDIATE MICROECONOMIC THEORY

3 sem. hrs.

Emphasis on topics regarding resource allocation, scarcity, and distribution of income; theory of consumer choice, theory of the firm, market structures, factor markets, distribution of income, welfare economics, and general equilibrium. Prerequisites: ECO 101 or 102, or 105; ECO 138 or MOM 100; and a grade of C or better in MAT 121 or 145.

(Revised prerequisites)

### 241 INTERMEDIATE MACROECONOMIC THEORY

3 sem. hrs.

Theory of income, employment, interest rate and price level determination. The government's influence on these variables via monetary and fiscal policies. Prerequisites: ECO 101 and 102, or 105; ECO 138 or MQM 100; and a grade of C or better in MAT 121 or 145.

**HSC** 

(Remove "Not for credit if had HSC 247")

## 145 ENVIRONMENTAL HEALTH PRACTICE

3 sem. hrs.

Introduction to problem-solving tools and skills used in the practice of environmental health from the perspective of waste in society. Prerequisite: Major or minor or consent of the instructor.

(Remove "Not for credit if had HSC 247")

## 252 WATER AND WASTEWATER CONTROL

4 sem. hrs.

Protection of water quality for human and ecosystem needs, and the control of wastewater. Lecture and lab. Materials charge optional. Formerly *WATER QUALITY AND TREATMENT*. Prerequisites: CHE 140 and 141; MAT 118 or 145, or consent of the advisor; HSC 145; BSC 160 or

concurrent registration.

**IDS** 

(Revised description)

## 298A02 PROFESSIONAL PRACTICE: MENTORSHIP IN HEALTHCARE PROFESSIONS 1 sem. hr.

Work in a mentorship environment with practicing professionals in specific areas of healthcare, including medicine, dentistry, and optometry. Not for credit if had BSC 298A02. CR/NC only. Prerequisites: IDS 194; a minimum 3.50 GPA and consent of the pre-professional advisor.

POL

(Added cross-listing with LGS 324)

### 324 TOPICS IN PUBLIC LAW

3 sem. hrs.

Selected topics focusing on specialized aspects of Public Law. Multiple enrollments allowed if content is different; maximum of 6 hours. Also offered as LGS 324. Prerequisites: Completion of 60 hours, POL 100, 106 or consent of the instructor. POL 215 is recommended.

**NUR** (Changed title from RN/BSN to RN to BSN the following NUR courses)

## 223 CONCEPTS OF PROFESSIONAL NURSING I: RN TO BSN

4 sem. hrs.

The roles of the nurse in controlling professional practice are introduced. Reflective practice, nursing theories, historical, ethical, political, and legal issues and trends are considered. Formerly *CONCEPTS AND PRACTICE OF PROFESSIONAL NURSING.* Prerequisites: RN license. Nursing major only.

## 226 CONCEPTS OF PROFESSIONAL NURSING II: RN TO BSN

3 sem. hrs.

Transitioning from the associate degree nurse to the professional practice level nurse is bridged in this course with content and concepts that enhances the student's knowledge and vision in nursing by discussing current health care issues. Prerequisites: RN license. Nursing major only. NUR 223, 236, or concurrent registration.

## 227 HEALTH ASSESSMENT ACROSSTHE LIFE SPAN: RN TO BSN

Expansion of basic knowledge and skills of physical assessment with added dimensions of psychosocial, cultural, and spiritual needs of clients across the life span. Prerequisites: RN license. Nursing major only. NUR 223 and 236, or concurrent registration.

# 236 RESEARCH FOR PROFESSIONAL NURSING PRACTICE: RN TO BSN 3 sem. hrs.

Beginning level knowledge and skills necessary to critically read, interpret, and evaluate research; apply evidence-based practice and research utilization models. Not for credit if had NUR 331 or NUR 235. Prerequisites: RN license. Nursing major only. NUR 223 or concurrent registration.

## 238 CULTURAL AND SPIRITUAL DIMENSIONS IN HEALTHCARE: RN TO BSN 1 sem. hr.

Role of nurse as culturally sensitive caregiver explored while learning about health attitudes, beliefs, and practices of culturally and spiritually diverse populations. Not for credit if had NUR 333 or NUR 237. Prerequisites: RN license. Nursing major only. NUR 223, 236, or concurrent registration.

#### **NUR**

## 240 PATHOPHYSIOLOGY AND PHARMACOTHERAPEUTICS IN NURSING I: RN TO BSN

3 sem. hrs.

Exploration of development of commonly occurring health deviations and pharmacodynamic effects of therapeutic drugs on the human body. Not for credit if had NUR 334 or NUR 239. Prerequisites: RN license. Nursing major only. NUR 223, 236, or concurrent registration.

### 330 PUBLIC HEALTH NURSING: RN TO BSN

5 sem. hrs.

Public health nursing emphasized health promotion and illness prevention strategies in the management of health care needs of aggregate populations. Includes public health clinical experiences and lecture. Lecture/lab. Formerly *COMMUNITY HEALTH NURSING: RN/BSN*. Prerequisites: RN license. Nursing major only. NUR 223 and 236, or concurrent registration.

## 340 PATHOPHYSIOLOGY AND PHARMACOTHERAPEUTICS

IN NURSING II: RN TO BSN

3 sem. hrs.

Examination of the mechanisms and theories related to the development of disease and the pharmacodynamic effects of therapeutic drugs on the human body. Not for credit if had NUR 434 or NUR 339. Prerequisites: RN license. Nursing major only. NUR 223, 236, and 240, or concurrent registration.

## 341 LEADERSHIP DIMENSIONS: IN PROFESSIONAL NURSING: RN TO BSN 6 sem. hrs.

Exploration of professional nursing roles based upon management and leadership perspectives. Formerly *PROFESSIONAL NURSING LEADERSHIP DIMENSIONS: CAPSTONE EXPERIENCE*. Prerequisites: RN license. Nursing major only. NUR 223, 226, 227, 236, 238, 240, 241, 330, 340.

**STT** 

(Revised prerequisites)

## 399A59 STUDENT TEACHING: SPECIALIST IN LEARNING AND BEHAVIOR

1-12 sem. hrs.

Multiple enrollments allowed. See Special Education section for total required hours. Prerequisites: SED 252A01, 252A02. (See other requirements in the University-Wide Teacher Education section of this Undergraduate Catalog.)

(Revised prerequisites)

# 399A64 STUDENT TEACHING: SPECIALIST IN LOW VISION AND BLINDNESS 1-12 sem. hrs.

Multiple enrollments allowed. See Special Education section for total required hours. Prerequisites: SED 253A01, 253A02, 350, 351, 352, 363 or 364, 357, 358. (Other requirements as stated in the University-Wide Teacher Education section of this catalog.)

Editorial Requests – Programs:

**ACC** (Added and removed ACC courses to/from electives)

## MAJOR IN BUSINESS INFORMATION SYSTEMS

### Degree Offered: B.S.

- 68 required hours including 44 hours in required core and non-business courses and 24 hours of major course work.
- 44 hours required: ACC 131, 132, 270; BUS 100; FIL 185, 240; MKT 230; MQM 100, 220, 227, 385; ECO 105; ENG 145A13; MAT 121 or 145.
- Business Information Systems required courses (15 hours): ACC 260, 261, 362, 366, 368; and nine hours from the following list of 200- or 300-level Accounting electives: ACC 255, 263, 266, 271, 287 (or 299), 353, 371, 372, 398A01. Note: No more than 3 hours of internship credit hours (398A01) may count toward the major.

NOTE: Program admission, graduation requirements and program admission standards for the Business Information Systems degree are the same as those that apply to all students in the College of Business. See College of Business section of this Undergraduate Catalog.

**RN** (Changed title from RN/BSN Sequence to RN to BSN Sequence)

## **RN** to BSN Sequence:

- 65 hours of major courses required, including: NUR 223, 226, 227, 236, 238, 240, 330, 340, 341; and 34 semester hours earned as Escrow Credit;
- A grade of C or better is required in all Nursing courses for retention in the Major.

Diploma school or Associate Degree nursing courses are "held in escrow" for the student until successful completion of three specified Nursing upper-division courses: NUR 223, 227, and 236. Once these three courses have been successfully completed through enrollment, thirty-four (34) credits are placed on the student's transcript for the following Nursing courses: NUR 229, 231, 314, 316, 317, and 325.

**GEO** (change is highlighted)

## **Traditional Sequence:**

- 40 hours in Geology required.
- Required courses: GEO 202, 203, 280, 285, 290, 295, 296, 395 and one of the following applied quantitative courses: GEO 303 or 363, 360, 361, 362, or 364.
- Required interdisciplinary courses: CHE 140 or equivalent, and CHE 141; MAT 145 and 146; PHY 108 and 109 (or 110 and 111).
- Students must complete all core courses with a grade of C or better to be able to enroll in GEO 395.