

GEOGRAPHY

Geography

Major

Minor

	MAJOR	MINOR	MAPPING/GEOSPAT. SCIENCES CONC.	GLOBAL SYSTEMS ANALYSIS CONC.	CLIMATE SCIENCE CONC.
Hours Required in Geography:	41-44	22	42-43	38-39	44-45
Hours Required in Other Departments:	3	0	12-13	9	6
Total Hours Required:	44-47	22	54-56	47-48	50-51

Concentrations in:

- CLIMATE SCIENCE
- GLOBAL SYSTEMS ANALYSIS
- MAPPING & GEOSPATIAL SCIENCES

See related programs:

- EARTH SCIENCE
- ENVIRONMENTAL ANALYSIS AND PLANNING
- ETHNOBOTANY
- URBAN AND REGIONAL PLANNING

Professors:

Bullamore, Caupp, Kessler (chair), Precht, Saku

Associate Professors:

Allen, Ramspott

Assistant Professors:

Bogart, Russo

Lecturers:

T. Edwards, A. Lewis

- You may elect to complete the major without specialized concentration or choose a concentration in climate system science, global systems analysis or mapping science.
- An internship is optional.

Summary of Requirements for Major/Minor in Geography

(without specialized concentration)

Major

1. Required Core Courses: (20 hours)

- GEOG 103 Physical Geography (GEP Group C)
 GEOG 104 Human Geography (GEP Group D or F)
 or GEOG 110 World Regional Geography: Cultural Diversity (GEP Group D or F)
 GEOG 275 Fundamentals of Geographic Data Handling (Tech. Fluency)
 GEOG 310 Fundamentals of Cartography
 GEOG 380 Research Methods in Geography
 GEOG 480 The Geographic Perspective
 GEOG 481 Geography Capstone

2. Advanced Physical Geography: (3-4 hours)

- GEOG 335 Oceanography
 GEOG 340 Soils: Genesis, Nature and Characterization
 GEOG 405 Global Climate System
 GEOG 430 Surface Water Hydrology
 GEOG 431 Quaternary Environments
 GEOG 445 Biogeography

3. Advanced Human Geography: (3 hours)

- GEOG 300 Economic Geography
 GEOG 324 Urban Geography: Internal City Patterns
 GEOG 325 Urban Geography: Metropolitan Systems
 GEOG 407 Political Geography
 GEOG 410 Locational Analysis
 GEOG 423 Geography of the Suburbs
 GEOG 425 Geography of Transportation
 GEOG 427 Geography of Languages & Religions (GEP Group F)
 GEOG 454 Geography of Tourism

4. Advanced Regional Geography: (3 hours)

Select from:

- GEOG 301 Geography of North America
 GEOG 302 Geography of Maryland
 GEOG 320 Geography of Latin America
 GEOG 400 Geography of Asia
 GEOG 401 Geography of Europe
 GEOG 402 Geography of Northern Eurasia
 GEOG 403 Geography of Sub-Saharan Africa
 GEOG 404 Geography of the Middle East and Central Asia

5. Geographic Techniques: (3 hours)

Select from:

- GEOG 317 Principles of Geographic Information Systems
 GEOG 413 Remote Sensing - Image Interpretation
 GEOG 420 Topics in the Mapping and Geospatial Sciences
 GEOG 433 Surveying and Field Techniques

6. Human-Earth Relationships: (3 hours)

Select from:

- GEOG 360 Food Systems
 GEOG 406 Mgmt. & Conservation of Natural Resources
 GEOG 450 Urban Planning

Minor

1. Required Core Courses: (7 hours)

- GEOG 103 Physical Geography (GEP Group C)
 GEOG 104 Human Geography (GEP Group D or F)
 or GEOG 110 World Regional Geography: Cultural Diversity (GEP Group D or F)

2. Electives (15 hours)

Select any from GEOG courses at or above the 200-level or equivalent except GEOG 492 and 495

Major <i>continued</i>	Minor <i>continued</i>
GEOG 460 Natural Hazards in the Physical Environment GEOG 472 Environmental Planning GEOG 473 Environmental Law 7. Electives (6-8 hours) <i>Any two additional geography courses at or above the 200-level or equivalent except GEOG 495</i> 8. Required Courses in Other Departments: (3 hours) MATH 109 Elements of Applied Probability & Statistics <i>(Core Skill 3)</i> <i>*Three or more credits earned in GEOG 499 Research in Geography, may count as one course.</i>	

Requirements for Climate Science Concentration

1. Required Core Courses: (20 hours)

- GEOG 103 Physical Geography (GEP Group C)
 GEOG 104 Human Geography (GEP Group D or F)
 or GEOG 110 World Regional Geography: Cultural Diversity
 (GEP Group D or F)
 GEOG 275 Fundamentals of Geographic Data Handling
 (Tech. Fluency)
 GEOG 310 Fundamentals of Mapping Sciences
 GEOG 380 Research Methods in Geography
 GEOG 480 The Geographic Perspective
 GEOG 481 Geography Capstone

2. Required Climate Science Courses:

- (15-16 hours)
 GEOG 205 or PHSC 205 Descriptive Meteorology
 GEOG 335 Oceanography
 or GEOG 430 Surface Water Hydrology
 GEOG 405 Physical Climatology
 GEOG 429 Synoptic Climatology
 GEOG 469 Principles of Atmospheric Dynamics

3. Advanced Physical Geography: (3-4 hours)

- Select one from:*
 GEOG 335 Oceanography*
 GEOG 340 Soil: Genesis, Nature & Characterization
 GEOG 430 Surface Water Hydrology*
 GEOG 431 Quaternary Environments
 GEOG 432 Groundwater Hydrology
 GEOG 445 Biogeography
 GEOG 460 Natural Hazards in the Physical Environment

*if not used to fulfill Climate Science Requirement

4. Advanced Human Geography: (3 hours)

- Select one from:*
 GEOG 324 Urban Geography: Internal City Patterns
 GEOG 325 Urban Geography: Metropolitan Systems
 GEOG 360 Food Systems
 GEOG 406 Conservation & Management of Natural Resources
 GEOG 410 Locational Analysis
 GEOG 423 Geography of the Suburbs
 GEOG 425 Geography of Transportation

5. Geographic Techniques: (3 hours)

- Select one from:*
 GEOG 317 Principles of Geographic Information Science
 GEOG 413 Remote Sensing - Image Interpretation
 GEOG 420 Topics in the Mapping and Geospatial Sciences

6. Required Courses in Other Departments (6 hours)

- MATH 109/110 Elements of Applied Probability and Statistics
(Core Skill 3)
 MATH 220 Calculus for Applications
 or MATH 236 Calculus I (Core Skill 3)

7. Recommendations:

- Students are encouraged to select additional course work:*
 COSC 130 Introduction to Programming
 MATH 221 Calculus for Applications 2
 PHSC 215 General Physics 1
 Additional Geographic Techniques courses
 Additional Advanced Physical Geography courses

Requirements for Global Systems Analysis Concentration

1. Required Core Courses: (20 hours)

- GEOG 103 Physical Geography (GEP Group C)
 GEOG 104 Human Geography (GEP Group D or F)
 or GEOG 110 World Regional Geography: Cultural Diversity (GEP Group F)
 GEOG 275 Fundamentals of Geographic Data Handling (Tech. Fluency)
 GEOG 310 Fundamentals of Cartography
 GEOG 380 Research Methods in Geography
 GEOG 480 The Geographic Perspective
 GEOG 481 Geography Capstone

2. Specialized Advanced Courses: (15 hours)

Group I Human Geography: (9 hours)

- GEOG 300 Economic Geography
 GEOG 407 Political Geography
Select one from:
 GEOG 325 Urban Geography: Metropolitan Systems
 GEOG 410 Locational Analysis
 GEOG 423 Geography of the Suburbs
 GEOG 425 Geography of Transportation
 GEOG 427 Geography of Languages and Religions (GEP Group F)
 GEOG 454 Geography of Tourism

Group II Regional Geography: (6 hours)

- Select two from:*
 GEOG 320 Geography of Latin America
 GEOG 400 Geography of Asia
 GEOG 401 Geography of Europe
 GEOG 402 Geography of Northern Eurasia
 GEOG 403 Geography of Sub-Saharan Africa
 GEOG 404 Geography of the Middle East and Central Asia

3. Complementary Advanced Courses:

(3-4 hours)

Select one course from one of the three groups:

Group I Physical Geography: (0-4 hours)

- GEOG 335 Oceanography
 GEOG 340 Soils: Genesis, Nature and Characterization
 GEOG 405 Global Climate System
 GEOG 430 Surface Water Hydrology
 GEOG 431 Quaternary Environments
 GEOG 445 Biogeography

Group II Geographic Techniques: (0-3 hours)

- GEOG 317 Principles of Geographic Information Science (GIS)
 GEOG 413 Remote Sensing - Image Interpretation
 GEOG 420 Topics in the Mapping and Geospatial Sciences
 GEOG 433 Surveying and Field Techniques

Group III Human-Earth Relationships: (0-3 hours)

- GEOG 360 Food Systems
 GEOG 406 Management and Conservation of Natural Resources
 GEOG 450 Urban Planning
 GEOG 460 Natural Hazards in the Physical Environment
 GEOG 472 Environmental Planning
 GEOG 473 Environmental Law

4. Required Courses in Other Departments:*(9 hours)

- MATH 109 Elements of Applied Probability and Statistics (Core Skill 3)

and select two from:

- ECON 309 Comparative Economic Systems
 ECON 400 International Trade
 ECON 401 International Finance
 ECON 405 Econ. Growth & Develop.: Developing Economies
 HIST 304 History of Latin America
 HIST 341 Modern & Contemporary Middle East
 HIST 353 Contemporary Africa
 HIST 376 Modern Europe
 HIST 404 Revolutionary and Soviet Russia
 HIST 409 World Environmental History
 HIST 437 History of Korea
 HIST 450 History of Mexico
 HIST 455 Latin American Revolutions
 HIST 457 India
 HIST 458 History of China
 HIST 459 History of Japan
 PHIL 311 Asian and African Philosophy (GEP Group F)
 PHIL 315 Philosophy and the Environment
 POSC 330 Politics of Africa
 POSC 331 Politics of Latin America
 POSC 332 Politics of the Middle East
 POSC 333 Politics of Europe
 POSC 341 International Organization
 POSC 431 Russian Politics
 POSC 435 Model Organization of American States
 POSC 441 International Relations: Theory and Practice

Foreign language courses at the 200 level or higher may fulfill this requirement.

** some courses may have prerequisites*

Requirements for Mapping and Geospatial Sciences Concentration

1. Required Core Courses: (20 hours)

GEOG 103 Physical Geography (GEP Group C)
 GEOG 104 Human Geography (GEP Group D or F)
 or GEOG 110 World Regional Geography: Cultural Diversity
 (GEP Group D or F)
 GEOG 275 Fundamentals of Geographic Data Handling
 (Tech. Fluency)
 GEOG 310 Fundamentals of Cartography
 GEOG 380 Research Methods in Geography
 GEOG 480 The Geographic Perspective
 GEOG 481 Geography Capstone

2. Specialized Advanced Courses:

Geographic Techniques: (12 hours)

GEOG 317 Principles of Geographic Information Science (GIS)
 GEOG 413 Remote Sensing - Image Interpretation
 GEOG 420 Topics in Mapping and Geospatial Sciences
 GEOG 433 Surveying and Field Techniques

3. Complementary Advanced Courses:

(9-10 hours)

Select one course from three of the four groups:

Group I Physical Geography: (0-4 hours)

GEOG 335 Oceanography
 GEOG 340 Soils: Genesis, Nature and Characterization
 GEOG 405 Global Climate System
 GEOG 430 Surface Water Hydrology
 GEOG 431 Quaternary Environments
 GEOG 445 Biogeography

Group II Human Geography: (0-3 hours)

GEOG 300 Economic Geography
 GEOG 324 Urban Geography: Internal City Patterns
 GEOG 325 Urban Geography: Metropolitan Systems
 GEOG 407 Political Geography
 GEOG 410 Locational Analysis
 GEOG 423 Geography of the Suburbs
 GEOG 425 Geography of Transportation
 GEOG 427 Geography of Languages and Religions (GEP Group F)
 GEOG 454 Geography of Tourism

Group III Regional Geography: (0-3 hours)

GEOG 301 Geography of North America
 GEOG 302 Geography of Maryland
 GEOG 320 Geography of Latin America
 GEOG 400 Geography of Asia
 GEOG 401 Geography of Europe

GEOG 402 Geography of Northern Eurasia
 GEOG 403 Geography of Sub-Saharan Africa
 GEOG 404 Geography of the Middle East and Central Asia

Group IV Human-Earth Relationships: (0-3 hours)

GEOG 360 Food Systems
 GEOG 406 Management and Conservation of Natural
 Resources
 GEOG 450 Urban Planning
 GEOG 460 Natural Hazards in the Physical Environment
 GEOG 472 Environmental Planning
 GEOG 473 Environmental Law

4. Required Courses in Other Departments:*(12 hours)

MATH 109 Elements of Applied Probability & Statistics
 (Core Skill 3)
 MATH 119 College Algebra (Core Skill 3)
 or MATH 220 Calculus for Applications I
 or any MATH level III class (3 hours)
 COSC 130 Introduction to Programming (3 hours)
 Select one additional COSC or ITEC course not to include COSC 101
 or ITEC 312 (3-4 hours).

5. Recommendations:*

Students are encouraged to select additional course work depending on their specific area of interest such as:

MATH 220 & 221 Calculus I and II
 COSC 240 Computer Science I (4 hours)
 COSC 241 Computer Science II (4 hours)
 COSC 330 Web Design and Development (3 hours)
 ITEC 315 Programming (3 hours)
 ITEC 345 Database Systems I (3 hours)

*some of these courses may have prerequisites

Summary of Requirements for Double Major in Secondary Teacher Education

If you wish to complete a Maryland State-approved program in teaching secondary social studies, you must:

- Complete the BA/BS in geography in the Mapping Sciences, Global Systems Analysis or Climate Science concentration or without concentration.
- Declare a second major in Secondary Teacher Education. See the Secondary Teacher Education Program Coordinator for details.
- In addition to the regular major requirements, you must take coursework in economics, history, political science, and social science in order to qualify for Maryland State certification in social studies and to meet NCATE accreditation standards. See the Secondary Teacher Education Program Coordinator for details.