23. Change in Curriculum

**College of Geosciences**

Department of Geography

BS in Geographic Information Science and Technology

All tracks
CHANGE IN CURRICULA
CHANGE IN CURRICULUM
COLLEGE OF GEOSCIENCES
DEPARTMENT OF GEOGRAPHY
BS IN GEOGRAPHIC INFORMATION SCIENCE AND TECHNOLOGY
ALL TRACKS
Texas A&M University
Request for a Change in Curriculum
Undergraduate • Graduate • Professional

1. Program request type:  
   ✔ Undergraduate  □ Graduate  □ First Professional (e.g., DVM, JD, MD, etc.)

2. Request change for:  
   ✔ Degree Program  □ Minor  □ Certificate

3. Request submitted by (Department or Program Name):  
   Geography

4. Program Designation and Name  
   (e.g., B.A. in History, Minor in History, Certificate in European Union):  
   B.S. in GIST

5. Brief description of change:  
   We are adding one course as required course option for all tracks of the GIST degree. The degree will require either ESSM 459 (Spatal Databases and Programming) or GEOG 391 (Geodatabases)

6. Rationale for change:  
   The addition of an option for students allows for content and schedule flexibility to complement existing curricular needs.

Use the checkboxes below to make sure that all information is included.

7. a. Proposed curriculum attached.  
   □ Yes  □ No

   b. Current catalog curriculum with handwritten edits attached.  
   □ Yes  □ No

   c. Current Howdy degree evaluation with handwritten edits attached.  
   □ Yes  □ No

   Please make sure the attached proposed curriculum, catalog and Howdy degree evaluation match.

8. a. Will degree program hours change (increase/decrease) due to the proposed curriculum changes?  
   □ Yes  ✔ No

   b. If yes, degree program hours will change from:  
   to:  

   c. If yes, is the Texas Higher Education Coordinating Board form attached?  
   □ Yes  □ No

   http://www.thecb.state.tx.us/index.cfm?objectid=A0F9F7FA-9A92-4F11-2756AD3BBFF01D260

9. If proposed changes affect other unit(s), are letters of support attached?  
   □ Yes  □ No

IMPORTANT NOTE: Curriculum changes submitted through the approval process and fully approved by February (December-UCC/GC, January-Faculty Senate, February-President) will be effective in the next academic year. Changes requiring approval beyond the University should complete the internal approval process early in the fall semester whenever possible in order to ensure timely implementation.

Approval recommended by:

[Signatures with dates]

Questions regarding this form should be directed to Curricular Services at 845-8201 or sandra-williams@tamu.edu.
Curricular Services – 04/14
TO: University Curriculum Committee

FROM: Dr. David M. Cairns, Head
      Department of Geography

DATE: October 1, 2015

SUBJECT: Proposal for a Change in Degree

The Department of Geography proposes to make a minor change to B.S. in GIST (all tracks). We are adding one course as required course option for all tracks of the B.S. in GIST. The degree will require either ESSM 459 or GEOG 391 (new course proposed this year). The addition allows for content and schedule flexibility to complement existing curricular needs.
Geographic Information Science and Technology -
BS, Earth Systems Analysis Track

The BS in Geographic Information Science and Technology (GIST) requires semester credit hours for completion in the Computation, Design and Analysis (CDA), Earth Systems Analysis (ESA) or the Human Systems and Society (HSS) tracks.

The Earth Systems and Analysis (ESA) track will attract students interested in studying the Earth sciences and assessing the natural resources of the Earth through a foundation in biogeochemistry, climate, geomorphology, soil science, geology, and ecosystem science.

Students will receive a rigorous and modern-day education and training in GIST with application knowledge in physical and human geography. Employers require problem solvers, not button pushers, to address problems in various application domains. The BS in GIST is designed to:

- Provide modern-day exposure to the rapidly changing field of GIST
- Balance education and training with a focus on competency
- Provide application and problem-solving experiences
- Support student activities and research
- Provide students with professional experience
- Produce high-quality geographers with strong GIST knowledge and skills

Geospatial technology graduates are in extremely high demand and according to the US Department of Labor (USDL), one of the highest growth areas in the federal government, particularly in homeland security activities, as well as in energy, software and engineering firms, and biomedical and biohazard research, among many others. A 35% annual rate of growth in Geospatial Technology related degrees are projected by the United States Department of Labor. Specifically, students have employment opportunities with the following corporate and government entities:

- Government agencies (federal, state, county and city): management and planning of urban infrastructure, inventory and assessment of natural resources including agriculture, forestry, and water resources.
- Energy industry: assessing biofuel production, and identifying locations suitable for renewable energy resources and mineral exploration.
- Health Science industry: determine hotspots of health events and to explore for causative influences.
- Military and intelligence community: numerous opportunities exist in military branches, and agencies such as CIA, NAS and other Intelligence organizations.
- Commercial industries: business analytics and marketing, as spatial information can be used to target marketing campaigns, and assess suitable sites to locate companies.
- Geospatial Industries: Software development, geotechnical engineering, and technology development.

Students select courses with the assistance of faculty advisors and academic advisor in an individualized advising system.

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<th>Fall</th>
<th>Semester Credit Hours</th>
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<tbody>
<tr>
<td>GEOG 203</td>
<td>Planet Earth &amp; Planet Earth Lab</td>
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<td>MATH 141</td>
<td>Business Mathematics I</td>
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<tr>
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<td>BIOL 101</td>
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<td>College Physics</td>
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<td>ATMO 201</td>
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| Second Year | Fall | | |
|--------------|------|-----------------------|
| GEOG 232 | Cartography and Visualization | 3 |
| POLS 207 | State and Local Government | 3 |
| American history | | 3 |
| Creative arts | | 3 |
| Social and behavioral sciences | | |
| | | |
| Term Semester Credit Hours | 15 |

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<tr>
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<tr>
<td>GEOG 324</td>
<td>Global Climatic Regions</td>
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<td>GEOG 331</td>
<td>Geomorphology</td>
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<td>Pattern and Process in Biogeography</td>
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<td>Course Title</td>
<td>Credits</td>
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<td>GEOG 352</td>
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<td>Statistical Methods</td>
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<td>American History</td>
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**Third Year**

**Fall**

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<td>GEOG 336</td>
<td>Introduction to Urban Geography</td>
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<td>GEOG 319</td>
<td>Cultural Geography</td>
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Select one of the following:

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<td>3</td>
</tr>
<tr>
<td>GEOG 335</td>
<td>Pattern and Process in Biogeography</td>
<td>4</td>
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<td>GEOG 361</td>
<td>Remote Sensing in Geosciences</td>
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</tr>
<tr>
<td>GEOG 390</td>
<td>Principles of Geographic Information Systems</td>
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**Spring**

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<th>Course Title</th>
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<tr>
<td>ESSM 450</td>
<td>Spatial Databases and Programming</td>
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<td>GEOG 312</td>
<td>Data Analysis in Geography</td>
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<tr>
<td>GEOG 475</td>
<td>Advanced Topics in GIS (Geographic Information Systems)</td>
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Direct elective 3

Select one of the following:

<table>
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<tbody>
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<td>BESC 387</td>
<td>U.S. Environmental Regulations</td>
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<td>BESC 403</td>
<td>Sampling and Environmental Monitoring</td>
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<td>ESSM 305</td>
<td>Watershed Analysis and Planning</td>
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<td>ESSM 308</td>
<td>Fundamentals of Environmental Decision-Making</td>
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<td>ESSM 309</td>
<td>Forest Ecology</td>
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<td>ESSM 351</td>
<td>Geographic Information Systems for Resource Management</td>
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<td>ESSM 406</td>
<td>Natural Resources Policy</td>
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<td>ESSM 416</td>
<td>Fire Ecology and Natural Resource Management</td>
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<tr>
<td>ESSM 440</td>
<td>Wetland Delineation</td>
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<td>ESSM 464</td>
<td>Spatial Project Management</td>
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<td>GEOL 104</td>
<td>Physical Geology</td>
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<td>GEOG 306</td>
<td>Sedimentology and Stratigraphy</td>
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<td>GEOG 410</td>
<td>Hydrogeology</td>
<td>3</td>
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<td>RENR 205</td>
<td>Fundamentals of Ecology</td>
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<td>RENR 470</td>
<td>Environmental Impact Assessment</td>
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<tr>
<td>STAT 211</td>
<td>Principles of Statistics I</td>
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<tr>
<td>STAT 212</td>
<td>Principles of Statistics II</td>
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**Fourth Year**

**Fall**

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>GEOG 477</td>
<td>Terrain Analysis and Mapping</td>
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**Term Semester Credit Hours**

<table>
<thead>
<tr>
<th>Credits</th>
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<td>14</td>
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**Spring**

<table>
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<tr>
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<tbody>
<tr>
<td>GEOG 479</td>
<td>Principles of Geocomputation</td>
<td>4</td>
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<tr>
<td>GEOG 476</td>
<td>GIS Practicum</td>
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Directed elective \(^3\)

Select three of the following:

- BESC 201 Introduction to Bioenvironmental Sciences
- BESC 367 U.S. Environmental Regulations
- BESC 403 Sampling and Environmental Monitoring
- ESSM 305 Watershed Analysis and Planning
- ESSM 306 Fundamentals of Environmental Decision-Making
- ESSM 309 Forest Ecology
- ESSM 351 Geographic Information Systems for Resource Management
- ESSM 406 Natural Resources Policy
- ESSM 416 Fire Ecology and Natural Resource Management
- ESSM 440 Wetland Delineation
- ESSM 464 Spatial Project Management
- GEOL 104 Physical Geology
- GEOL 308 Sedimentology and Stratigraphy
- GEOL 410 Hydrogeology
- RENR 205 Fundamentals of Ecology
- RENR 470 Environmental Impact Assessment
- STAT 211 Principles of Statistics I
- STAT 212 Principles of Statistics II

<table>
<thead>
<tr>
<th>Term Semester Credit Hours</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Semester Credit Hours:</td>
<td>120</td>
</tr>
</tbody>
</table>

1. 8 hours required. Department requires that you take two in the same discipline to meet this requirement.

2. Track electives comprise 6 hours of focused coursework. The track and specific courses within the track are to be chosen in consultation with the advisor and/or faculty mentor.

3. 19 hours required. To be selected from the following or chosen in consultation with an advisor.
This is NOT an official evaluation.

Transfer:
Overall GPA
Program GPA
Total Required

Met

Credits
Not Used

Courses

Department:
Major:
Level:
Degree:
College:
Campus:
Program:

Limitation:
- Geography: Only one course from GEOC 102 and 103 may be used for this degree.
- Correspondence: No more than 12 hours of correspondence coursework in an accredited institution may be used for an undergraduate degree.
- Correspondence:

Effective from 2016

Degree Requirements

Viewing: Degree Evaluation (DEGEVAL, EMail)--
Oct 13, 2015 11:15 AM
Roxanna R. Russell
Select 6 hours from any courses with the Communication attributes [KCOM].

Area: Communication (6.000 credits) - Not Met

Unofficial Evaluation

Total Credits and GPA: 3.00

with GPA: 0.00

They are inactive courses

Removal GEOS 477

Area: Supportive coursework (3.600 credits) - Not Met

Unofficial Evaluation

Total Credits and GPA: 4.00

with GPA: 0.00

Δ GEOS 391 (In progress for approval)
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>GPA</th>
<th>Met</th>
<th>Condition Rule Subject Attribute Low High Required Credits Term Subject Course Title Attribute Credits Grade Source</th>
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| A.                   | 0.000   | 0.000 | No  | Met[
| No                   |         |     | Met | Condition Rule Subject Attribute Low High Required Credits Term Subject Course Title Attribute Credits Grade Source |
| A.                   | 0.000   | 0.000 | No  | Met[
| No                   |         |     | Met | Condition Rule Subject Attribute Low High Required Credits Term Subject Course Title Attribute Credits Grade Source |
| A.                   | 0.000   | 0.000 | No  | Met[
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Geographic Information Science and Technology - BS, Computation, Design and Analysis Track

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The Computation, Design and Analysis (CDA) track will attract students interested in the computational, analysis and software development aspects of GIST. This track is more computational and information technology centered and focuses on addressing technical issues, algorithm development and performance, and software tool development.

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<td><strong>Second Year</strong></td>
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<td>GEOG 232</td>
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<td>CSCE 111</td>
<td>Introduction to Computer Science Concepts and Programming</td>
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### Spring

**Physical Geography**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>GEOG 324</td>
<td>Global Climatic Regions</td>
</tr>
<tr>
<td>GEOG 331</td>
<td>Geomorphology</td>
</tr>
<tr>
<td>GEOG 335</td>
<td>Pattern and Process in Biogeography</td>
</tr>
<tr>
<td>GEOG 352/GEOL 352</td>
<td>GNSS in the Geosciences</td>
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</tbody>
</table>

**STAT 303** Statistical Methods

**American History**

**Language, philosophy and culture**

**Term Semester Credit Hours** 15

### Third Year

**Fall**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>GEOG 361</td>
<td>Remote Sensing in Geosciences</td>
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<tr>
<td>GEOG 390</td>
<td>Principles of Geographic Information Systems</td>
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<tr>
<td>GEOG 392</td>
<td>GIS Programming</td>
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</table>

**Creative arts**

**Term Semester Credit Hours** 15

### Spring

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<tr>
<td>ESSM 459</td>
<td>Spatial Databases and Programming</td>
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<td>GEOG 312</td>
<td>Data Analysis in Geography</td>
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<tr>
<td>GEOG 475</td>
<td>Advanced Topics in GIS (Geographic Information Systems)</td>
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</table>

**Directed elective**

**Term Semester Credit Hours** 14

### Fourth Year

**Fall**

**Human Geography**

**Select one of the following:**

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>GEOG 304</td>
<td>Economic Geography</td>
</tr>
<tr>
<td>GEOG 306</td>
<td>Introduction to Urban Geography</td>
</tr>
<tr>
<td>GEOG 311</td>
<td>Cultural Geography</td>
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**Directed elective**

**Track elective**

**Select from the following:**

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>GEOG 306</td>
<td>Introduction to Urban Geography</td>
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<td>GEOG 309</td>
<td>Geography of Energy</td>
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<td>GEOG 330</td>
<td>Resources and the Environment</td>
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<td>GEOG 335</td>
<td>Pattern and Process in Biogeography</td>
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<td>GEOG 370/</td>
<td>Coastal Processes</td>
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<td>GEOG 398</td>
<td>Interpretation of Aerial Photographs</td>
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<td>Digital Image Processing in the Geosciences</td>
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<td>GEOG 467</td>
<td>Dynamic Modeling of Earth and Environmental Systems</td>
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<tr>
<td>GEOG 477</td>
<td>Terrain Analysis and Mapping</td>
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</table>

**GEOG 479** Principles of Geocomputation

**Term Semester Credit Hours** 15

### Spring

<table>
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<th>Course Code</th>
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<tr>
<td>GEOG 476</td>
<td>GIS Practicum</td>
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<td>WebGIS</td>
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**Directed elective**

**Term Semester Credit Hours** 8

**Total Semester Credit Hours:** 120

1. Department requires that you take two in the same discipline to meet this requirement.

3. Track electives compr as 6 hours of focused coursework. The track and specific courses with the track are to be chosen in consultation with the advisor and/or faculty mentor.

Two courses in the degree plan must be Writing Intensive courses designated by the department in the schedule of classes. Also, International and Cultural Diversity Electives (6 hours) must be incorporated into the degree.
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<thead>
<tr>
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<th>Rule Subject</th>
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<th>Required Courses Term Subject Course Title</th>
<th>Catalog Term</th>
<th>Expected Graduation Date</th>
<th>Request Number</th>
<th>Request as of</th>
<th>Minor:</th>
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**Program Evaluation**

**Limitations:**
- Only one course from GEOL 101, 102, and 104 may be used for this degree.
- Students who have completed 24 hours of college-level coursework may be used for an undergraduate degree.

This is NOT an official evaluation.

**Information for Degree Evaluation**

Effective Fall 2016

**Detail Requirements**
Detail Requirements

Area: Communication (6.000 credits) - Not Met

1. Concentration Requirement

Meted Condition Rule Subject Attribute Low Required Credits Required Courses: Title/Attribute/Grade Source

Term Subject Course Title/Attribute/Grade Source

Area: Communication (6.000 credits) - Not Met

Unofficial Evaluation

Add: HSM 463, HSM 464, ESM 549

Total Credits and GPA: 0.000

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No
Geographic Information Science and Technology - BS, Human Systems and Society Track

The BS in Geographic Information Science and Technology (GIST) requires semester credit hours for completion in the Computation, Design and Analysis (CDA), Earth Systems Analysis (ESA) or the Human Systems and Society (HSS) tracks.

The Human Systems and Society (HSS) track will attract students interested in social sciences, human/environment relationships, and the planning and management of human resources and urban environments.

Students will receive a rigorous and modern-day education and training in GIST with application knowledge in physical and human geography. Employers require problem solvers, not button pushers, to address problems in various application domains. The BS in GIST is designed to:

- Provide modern-day exposure to the rapidly changing field of GIST
- Balance education and training with a focus on competency
- Provide application and problem-solving experiences
- Support student activities and research
- Provide students with professional experience
- Produce high-quality geographers with strong GIST knowledge and skills

Geospatial technology graduates are in extremely high demand and according to the US Department of Labor (USDOL), one of the highest growth areas in the federal government, particularly in homeland security activities, as well as in energy, software and engineering firms, and biomedical and biohazard research, among many others. A 33% annual rate of growth in Geospatial Technology related degrees are projected by the United States Department of Labor. Specifically, students have employment opportunities with the following corporate and government entities:

- Government agencies (federal, state, county and city): management and planning of urban infrastructure, inventory and assessment of natural resources including agriculture, forestry, and water resources.
- Energy industry: assessing biofuel production, and identifying locations suitable for renewable energy resources and mineral exploration.
- Health Science Industry: determine hotspots of health events and to explore for causative influences.
- Military and intelligence community: numerous opportunities exist in military branches, and agencies such as CIA, NAS and other intelligence organizations.
- Commercial industries: business analytics and marketing, as spatial information can be used to target marketing campaigns, and assess suitable sites to locate companies.
- Geospatial Industries: Software development, geotechnical engineering, and technology development.

Students select courses with the assistance of faculty advisors and academic advisor in an individualized advising system.

Program Requirements

<table>
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<tr>
<th>First Year</th>
<th>Fall</th>
<th>Semester Credit Hours</th>
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<tr>
<td>GEOG 203</td>
<td>Planet Earth</td>
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<td>GEOG 213</td>
<td>Planet Earth Lab</td>
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<td>MATH 141</td>
<td>Business Mathematics I</td>
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<td>Communication</td>
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<tr>
<td>Life and physical sciences elective</td>
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</table>

Select one of the following:

- BIOL 101 Botany
- BIOL 111 Introductory Biology I
- CHEM 101 Fundamentals of Chemistry I
- CHEM 111 and Fundamentals of Chemistry Laboratory I
- GEOL 101 Principles of Geology
- PHYS 201 College Physics
- ATM 201 Weather and Climate
- ATM 202 and Weather and Climate Laboratory

| Term Semester Credit Hours | 14 |

Spring

| GEOG 201 | Introduction to Human Geography | 3 |
| MATH 142 | Business Mathematics II | 3 |
| POLS 206 | American National Government | 3 |
| Communication | | 3 |
| Life and physical sciences elective | | 4 |

Select one of the following:

- BIOL 107 Zoology
- BIOL 112 Introductory Biology II
- CHEM 102 Fundamentals of Chemistry II
- CHEM 112 and Fundamentals of Chemistry Laboratory II
- GEO 106 Historical Geology
- PHYS 202 College Physics
- OCN 251 Oceanography
- OCN 252 and Oceanography Laboratory

| Term Semester Credit Hours | 15 |

Second Year

| Fall | GEOG 232 | Cartography and Visualization | 3 |
| POLS 207 | State and Local Government | 3 |
| American history | | 3 |
| Creative arts | | 3 |
| Social and behavioral sciences | | 3 |

| Term Semester Credit Hours | 3 |

Spring

Select one of the following:

<p>| GEOG 324 | Global Climatic Regions | 3 |</p>
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<td>Geomorphology</td>
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<td>GEOG 335</td>
<td>Pattern and Process in Biogeography</td>
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<td>GEOG 352/GEOG 352 GNSS in the Geosciences</td>
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<td>STAT 303</td>
<td>Statistical Methods</td>
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<td>Language, philosophy and culture</td>
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**Term Semester Credit Hours:** 15

**Third Year**

**Fall**
Select one of the following:
- GEOG 304  Economic Geography
- GEOG 306  Introduction to Urban Geography
- GEOG 311  Cultural Geography
- GEOG 401  Political Geography
- GEOG 361  Remote Sensing in Geosciences
- GEOG 390  Principles of Geographic Information Systems
- Track elective ²
Select one of the following:
- GEOG 304  Economic Geography
- GEOG 306  Introduction to Urban Geography
- GEOG 309  Geography of Energy
- GEOG 311  Cultural Geography
- GEOG 330  Resources and the Environment
- GEOG 335  Pattern and Process in Biogeography
- GEOG 360  Natural Hazards
- GEOG 392  GIS Programming
- GEOG 398  Interpretation of Aerial Photographs
- GEOG 401  Political Geography
- GEOG 404  Spatial Thinking, Perception and Behavior
- GEOG 406  Geographic Perspectives on Contemporary Urban Issues
- GEOG 430  Environmental Justice
- GEOG 461  Digital Image Processing in the Geosciences
- GEOG 477  Terrain Analysis and Mapping
- GEOG 478  WebGIS
- GEOG 479  Principles of Geocomputation

**Term Semester Credit Hours:** 14

**Fourth Year**

**Fall**
Select one of the following:
- GEOG 304  Economic Geography
- GEOG 306  Introduction to Urban Geography
- GEOG 311  Cultural Geography
Select one of the following:
- GEOG 398  Interpretation of Aerial Photographs
- GEOG 477  Terrain Analysis and Mapping
- GEOG 479  Principles of Geocomputation
- Track elective ²
Select one of the following:
- GEOG 304  Economic Geography ²
- GEOG 306  Introduction to Urban Geography ²
- GEOG 309  Geography of Energy ²
- GEOG 311  Cultural Geography ²
- GEOG 330  Resources and the Environment ²
- GEOG 335  Pattern and Process in Biogeography ²
- GEOG 360  Natural Hazards ²
- GEOG 392  GIS Programming ²
- GEOG 398  Interpretation of Aerial Photographs ³
- GEOG 401  Political Geography ²
- GEOG 404  Spatial Thinking, Perception and Behavior
- GEOG 406  Geographic Perspectives on Contemporary Urban Issues
- GEOG 430  Environmental Justice
- GEOG 461  Digital Image Processing in the Geosciences
- GEOG 477  Terrain Analysis and Mapping
- GEOG 478  WebGIS ³
- GEOG 479  Principles of Geocomputation

**Directed elective ³**
Select from the following:
- ESSM 305  Watershed Analysis and Planning
- ESSM 308  Fundamentals of Environmental Decision-Making
- RENR 375  Conservation of Natural Resources
- RENR 470  Environmental Impact Assessment
- STAT 211  Principles of Statistics I
- STAT 212  Principles of Statistics II
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<tbody>
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<td>URPN 326</td>
<td>Advanced GIS in Urban and Regional Planning</td>
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<tr>
<td>URPN 369</td>
<td>Transportation and Urban Form</td>
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<tr>
<td>URPN 440</td>
<td>Urban and Regional Economic Development</td>
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<tr>
<td>URPN 460</td>
<td>Sustainable Communities</td>
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**Spring**

Term Semester Credit Hours: 16

Select one of the following: 3-4

- GEOG 398 Interpretation of Aerial Photographs
- GEOG 477 Terrain Analysis and Mapping
- GEOG 479 Principles of Geocomputation
- GEOG 476 GIS Practicum 3

Directed elective 9

Select from the following:

- ESSM 305 Watershed Analysis and Planning
- ESSM 308 Fundamentals of Environmental Decision-Making
- RENR 375 Conservation of Natural Resources
- RENR 470 Environmental Impact Assessment
- STAT 211 Principles of Statistics I
- STAT 212 Principles of Statistics II
- URPN 325 Introduction to GIS in Urban and Regional Planning
- URPN 326 Advanced GIS in Urban and Regional Planning
- URPN 369 Transportation and Urban Form
- URPN 440 Urban and Regional Economic Development
- URPN 460 Sustainable Communities

Term Semester Credit Hours: 15

Total Semester Credit Hours: 120

1. 8 hours required. Department requires that you take two in the same discipline to meet this requirement.

2. Track electives comprise 6 hours of focused coursework. The track and specific courses within the track are to be chosen in consultation with the advisor and/or faculty mentor.

3. 18-20 hours required. To be selected from the following or chosen in consultation with Advisor.

Two courses in the degree plan must be Writing Intensive courses designated by the department in the schedule of classes. Also, International and Cultural Diversity Electives (6 hours) must be incorporated into the degree.
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Subject</th>
<th>Term</th>
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**Met Courses**

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**Required Courses**

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**Met Courses**

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<th>Course Title</th>
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</table>
Select 6 hours from any courses with the Communication attribute (KCOM).
Met Condition Rule Subject Attribute Title Attribute Credits Grade Source Term Subject Course Required Credits Required Credits

Area: University Writing Requirement - Not Met

unofficial evaluation

Total Credits and GPA 0.000

unofficial evaluation

Term Subject Course Required Credits Required Credits

unofficial evaluation

Total Credits and GPA 0.000

unofficial evaluation

Term Subject Course Required Credits Required Credits

unofficial evaluation

Total Credits and GPA 0.000

Area: Social and Behavioral Science (3.000 credits) - Not Met

unofficial evaluation

Total Credits and GPA 0.000

unofficial evaluation

Total Credits and GPA 0.000

unofficial evaluation

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Total Credits and GPA 0.000
unofficial evaluation

Total Credits and GPA 0.000 0.000

Select any 600 or 400 level courses.

Residence 300-499 2 credits

Select from CENG 300-499.

A. Residency-Related Requirement

Met

Condition: Subject Area
Attribute: Low
High
Required
Credits
Required
Courses
Term Subject Course Title
Required
Credits
Course
Required
B. Residency Requirement - Not Met

Area:

unofficial evaluation

Total Credits and GPA 0.000 0.000

2. A two semester sequence of the same foreign language for University credit.

I. Two years of the same foreign language in high school

Completion of the following:

A. Foreign Language Requirement

Met

Condition: Subject Area
Attribute: Low
High
Required
Credits
Required
Courses
Term Subject Course Title
Required
Credits
Course
Required

Area: Foreign Language - Met

unofficial evaluation

Total Credits and GPA 0.000 0.000

Not to be used to satisfy this requirement.

Any section of CSEG 309, 310, 339, 340, 430, 431 with the Writing attribute [WRT]

Term Subject Course Title
Required
Credits
Course
Required

Two courses required.