

# CARTOGRAPHY AND GEOVISUALIZATION:

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## In Workflow

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9. Reg Cat (none)

## Approval Path

1. Mon, 26 Sep 2022 21:47:56 GMT  
Ezra Zeitler (zeitleej): Approved for GEOGANTH Chair
2. Mon, 03 Oct 2022 16:53:50 GMT  
Margaret Cassidy (cassidml): Rollback to Initiator
3. Wed, 05 Oct 2022 14:14:49 GMT  
Ezra Zeitler (zeitleej): Approved for GEOGANTH Chair
4. Fri, 14 Oct 2022 15:06:22 GMT  
Margaret Cassidy (cassidml): Approved for AS Dean PreCurrComm (PIM)
5. Fri, 14 Oct 2022 15:09:59 GMT  
Margaret Cassidy (cassidml): Approved for AS Dean (PIM)

## New Program Proposal

Date Submitted: Wed, 05 Oct 2022 04:27:54 GMT

**Viewing: : Cartography and Geovisualization**

**Last edit: Thu, 06 Oct 2022 23:09:19 GMT**

Changes proposed by: Ezra Zeitler (zeitleej)

Preparer(s)

**Preparer Name:**

Ezra Zeitler

**Program Level**

Undergraduate

**Program Type**

Certificate (Credit-Bearing)

**Name of Program**

Cartography and Geovisualization

**Administrative Department**

Geography and Anthropology

**College**

Arts and Sciences

**Effective Catalog Year**

2023-2024

**Is this content intended to be shared across multiple programs/catalog pages?**

No

**Catalog Placement Notes**

Place in the Department of Geography and Anthropology section of the catalog.

## Program Requirements (Includes Course Lists):

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Code	Title	Credits
<b>12 Credits Required</b>		
GEOG 280	Cartographic Design	3
GEOG 335	Geographic Information Systems I	3
GEOG 337	Geographic Information Systems II	3
GEOG 339	Computer Mapping	3

Note 1: Completion of GEOG 280 and GEOG 335 is recommended prior to enrollment in GEOG 339

Note 2: Students cannot pursue the Geography Major and the Cartography and Geovisualization Certificate to meet graduation requirements for completing a first and second degree program. Courses taken for the certificate cannot be applied to the major program.

### Additional Program Requirements (If Applicable)

### Additional Admission Requirements Unique to Program (If Applicable)

### Other Catalog Notes/Restrictions (If Applicable)

### Learning Outcomes

Please state the Learning Outcomes for this New Program:

Description
Outcome 1 Demonstrate competency in the knowledge and application of the fundamentals of cartographic design.
Outcome 2 Demonstrate proficiency in the ethics of collection, use, and analysis of spatial data used in the production of cartographic visualizations.
Outcome 3 Demonstrate the ability to synthesize and map spatial data and create effective cartographic visualizations.

### Summary and Rationale

#### Target Audience(s)

This 12-credit certificate is designed for science, health science, social science, and humanities students who are interested in supplementing their primary area(s) of study with a complementary set of valuable technical abilities in map production and data visualization.

This certificate is distinct from the Department of Geography and Anthropology's 15-credit Geospatial - Mapping Certificate. GEOG 336: Geospatial Field Methods and GEOG 338: Remote Sensing of the Environment, which are required courses in Geospatial Mapping certificate, emphasize the front-end use of hardware and software rather than the back-end production of cartographic outputs. Students interested in the cartographic outputs would be better served by the Cartography and Geovisualization certificate.

#### Evidence of long-term need

The visualization of spatial data through maps, infographics, and other forms of visual storytelling has become a critical and effective avenue for communicating information in our interconnected world. For example, the COVID-19 pandemic introduced the general public to a myriad of infographics (i.e., the Johns Hopkins COVID-19 Dashboard). Producing maps and other cartographic products that are scientifically accurate, informed by ethical decision making, and evocative in design, however, requires familiarity with geospatial science and experience with cartographic design principles.

#### Anticipated Enrollment

20

#### Alignment with university mission

This proposed certificate aligns most directly with the university mission to provide:

- a rigorous, intentional and experiential undergraduate liberal education for life and livelihood;
- educational opportunities responsive to the needs of our communities, state, region and beyond

#### Statement of benefits to students

Students enrolled in this certificate will acquire skills in the art and science of map production through the use and application of geographic information systems (GIS), industry standard illustration software, and online mapping and data visualization platforms.

#### Department(s), program(s), college(s), and university predecessor programs

Predecessor program: Geospatial - Mapping Certificate in the Department of Geography and Anthropology.

**Relationship to existing programs**

This proposed certificate shares similarities but is distinct from the Geospatial - Mapping certificate. Students interested in cartographic outputs would be better served by the Cartography and Geovisualization certificate. The Geospatial- Mapping certificate requires different courses that focus more on the hardware and software. The Cartography and Geovisualization certificate provide a great emphasis on the back-end production of cartographic outputs.

**Resources****Does the department have the necessary staffing to offer this program?**

Yes

**Explain need for student support, library resources, etc.:**

N/A

**Describe funding needs to initiate and maintain the program, including source(s) of funding and any needed resource reallocation:**

No funding is required to initiate or maintain this certificate.

**Proposed frequency of offering for courses included in the program:**

Every fall: GEOG 280, GEOG 335, GEOG 337

Every spring: GEOG 335, GEOG 337, GEOG 339

**Proposed arrangements for ongoing faculty advising for students in the program**

Ryan Weichelt and Ezra Zeitler will serve as certificate program advisors.

**Provide justification that this program is not a duplication of another program that is currently being offered**

As mentioned above, this certificate is distinct from the Department of Geography and Anthropology's 15-credit Geospatial - Mapping Certificate. GEOG 336: Geospatial Field Methods and GEOG 338: Remote Sensing of the Environment, which are required courses in this certificate, emphasize the front-end use of hardware and software rather than the back-end production of cartographic outputs. As such, they have been identified as a barrier to the completion of the Geospatial - Mapping Certificate. This 12-credit certificate is designed for science, health science, social science, and humanities students who are interested in supplementing their primary area(s) of study with a complementary set of valuable technical abilities in map production and data visualization.

**Reviewer Comments**

**Margaret Cassidy (cassidml) (Mon, 03 Oct 2022 16:53:50 GMT):** Rollback: Revisions.

Key: 405