Geospatial Intelligence Certificate Program

The MU Geospatial Intelligence Certificate Program has received accreditation from the United States Geospatial Intelligence Foundation (USGIF).

- February 2008 press release

- Contact: Dr. Tim Matisziw, Department of Geography

The University of Missouri (MU) will offer and administer the Geospatial Intelligence Certificate Programs (GICP) through the Department of Geography in the College of Arts and Science. The Geography department's present course offerings cover a breadth of both technical and analytic subject matter that is essential in meeting the USGIF curriculum guidelines. In addition, MU's Center for Geospatial Intelligence (CGI) will provide important subject matter expertise necessary for ensuring that the students in our GICP are exposed to a wide variety of relevant geospatial intelligence issues and problems.

MU and the CGI are at the forefront of academic institutions focusing on GeoINT training, education, and research. MU is one of only three academic institutions in the U.S. that have executed a formal Educational Partnership Agreement (EPA) with the National Geospatial-Intelligence Agency (NGA). As part of this partnership, MU is sending a significant number of undergraduate and graduate students to NGA for summer internships. These activities serve to illustrate our commitment to providing MU students excellent career enhancement opportunities in the field of geospatial intelligence. Our GICP is an integral part of these important educational activities. Details of the undergraduate and graduate GICPs are provided on following page.

At a national level, MU's Center for Geospatial Intelligence (CGI) was the first academic organization to join the USGIF, the first to exhibit at the annual GeoINT Symposium, and is an active participant in the USGIF's efforts to develop the Geospatial Intelligence Certificate Program. These activities serve to illustrate our commitment to ensuring that our institution remains current with the GeoINT tradecraft and trends. Finally, MU recently finished construction of a 6,800 sq. ft. facility to house the CGI at a total cost of $2M. These facilities are state-of-the-art and contain a variety of specialized research laboratories dedicated to working on GeoINT problems in support of national and homeland security objectives. Our GICP students will directly benefit from CGI's subject matter expertise in the GeoINT field and will be exposed to a variety of career enhancement opportunities as well.

Eligibility for the undergraduate and graduate GICPs is established by admission to MU for any undergraduate or graduate degree program. After this, a student must be complete a minimum of 21 hours of approved coursework, and must earn a grade average of at least B (3.0) in these courses. The GICP shown in Table 1 consists of technical and analytical core courses, technical and analytic elective courses, and a required capstone course experience. All three courses must be completed from the Technical Core (Group A), one of three courses listed from the Analytical Core (Group B), one of four courses from Technical Electives (Group C), and one of nine courses from Analytic Electives (Group D). In addition, a student must complete the Capstone Experience. The three technical core courses (GEOG 3840, GEOG 4830/7830, GEOG 4840/7840) are required because they provide foundational material in

Geographic Information Science (GIS) and Remote Sensing (RS). The courses listed as technical electives provide more advanced material (image processing, spatial analysis, etc.) for GIS and RS analyses. The analytic core course introduces students to broad aspects of human, political, or economic geography, while the analytic elective course provides more focused study on a particular geographic region. Overall, the analytic courses provide an initial exposure to cultural, social, political, and regional geographic concepts important for GeoINT analysis. The final course must be a capstone experience (GEOG 4130/7130) where GICP students will be required to synthesize the knowledge and experience gained in their previous courses to relevant GeoINT problems. Faculty members from the Center for Geospatial Intelligence will mentor and work with the GICP students to select appropriate GeoINT topics for their project work. The projects will require the students to demonstrate technical, analytical, communication, and writing skills to successfully address a relevant GeoINT problem. Students will be expected to analyze the GeoINT problem, identify project components (data, tools, etc.), propose appropriate methods, implement the methods, analyze the results, and present their findings in the form of a report and a multimedia presentation. Students pursuing the graduate GICP are required to select among course at or above the 7000 level.

Curriculum for the Geospatial Intelligence Certificate Programs.

Group A – Technical Core (9 credits)
GEOG 3840 Computer-Assisted Cartography
GEOG 4830/7830 Remote Sensing
GEOG 4840/7840 Geographic Information Systems I*

Group B – Analytical Core (3 credits – choose one)
GEOG 2550 Introduction Humanized Earth
GEOG 2710 Economic Geography
GEOG 2780 World Political Geography
GEOG 4850/7850 Transportation Geography*

Group C – Technical Elective (3 credits – choose one)
GEOG 4710/7710 Spatial Analysis in Geography
GEOG 4740/7740 Location Analysis and Site Selection
GEOG 4810/7810 Landscape Ecology & GIS Analysis I
GEOG 4860/7860 Advanced Remote Sensing
GEOG 4940/7940 Geographic Information Systems II

Group D - Analytic Electives (3 credits – choose one)
GEOG 2340 South America
GEOG 2260 Geography of East Asia
GEOG 2270 Geography of Asia
GEOG 3140 Mexico, Central America & Caribbean
GEOG 3260 Geography of South East Asia
GEOG 3270/8270 Geography of the Middle East
GEOG 3280 Geography of South Asia
GEOG 3290 Geography of Russia
GEOG 3450 Geography of Africa

Capstone Experience (3 credits – required)
GEOG 4130/7130 Geospatial Sciences in National Security

*Course is also cross-listed in other departments