

Status: PENDING

**PROGRAM REQUEST**  
Geospatial Data and Analysis

Last Updated: Myers,Dena Elizabeth  
06/08/2011

<b>Fiscal Unit/Academic Org</b>	Graduate School Admin - D3000
<b>Administering College/Academic Group</b>	Arts And Sciences
<b>Co-administering College/Academic Group</b>	
<b>Semester Conversion Designation</b>	Converted with minimal changes to program goals and/or curricular requirements (e.g., sub-plan/specialization name changes, changes in electives and/or prerequisites, minimal changes in overall structure of program, minimal or no changes in program goals or content)
<b>Current Program/Plan Name</b>	Geospatial Data and Analysis
<b>Proposed Program/Plan Name</b>	Geospatial Data and Analysis
<b>Program/Plan Code Abbreviation</b>	GDA-IS
<b>Current Degree Title</b>	

**Credit Hour Explanation**

Program credit hour requirements		A) Number of credit hours in current program (Quarter credit hours)	B) Calculated result for 2/3rds of current (Semester credit hours)	C) Number of credit hours required for proposed program (Semester credit hours)	D) Change in credit hours
Total minimum credit hours required for completion of program		21	14.0	13	1.0
Required credit hours offered by the unit	Minimum	0	0.0	0	0.0
	Maximum	7	4.7	3	1.7
Required credit hours offered outside of the unit	Minimum	14	9.3	10	0.7
	Maximum	21	14.0	13	1.0
Required prerequisite credit hours not included above	Minimum	0	0.0	0	0.0
	Maximum	6	4.0	7	3.0

**Program Learning Goals**

Note: these are required for all undergraduate degree programs and majors now, and will be required for all graduate and professional degree programs in 2012. Nonetheless, all programs are encouraged to complete these now.

**Program Learning Goals**                      •

**Assessment**

Assessment plan includes student learning goals, how those goals are evaluated, and how the information collected is used to improve student learning. An assessment plan is required for undergraduate majors and degrees. Graduate and professional degree programs are encouraged to complete this now, but will not be required to do so until 2012.

**Is this a degree program (undergraduate, graduate, or professional) or major proposal?** No

**Program Specializations/Sub-Plans**

If you do not specify a program specialization/sub-plan it will be assumed you are submitting this program for all program specializations/sub-plans.

**Pre-Major**

**Does this Program have a Pre-Major?** No

Status: PENDING

**PROGRAM REQUEST**  
Geospatial Data and Analysis

Last Updated: Myers,Dena Elizabeth  
06/08/2011

**Attachments**

- GIS\_program\_attachments.pdf: On behalf of Geospatial Data Analysis faculty

*(Program Proposal. Owner: Craigmile,Peter F)*

**Comments**

**Workflow Information**

Status	User(s)	Date/Time	Step
Submitted	Craigmile,Peter F	05/12/2011 10:09 AM	Submitted for Approval
Approved	Stasny,Elizabeth Ann	06/07/2011 01:56 PM	Ad-Hoc Approval
Approved	Myers,Dena Elizabeth	06/07/2011 03:39 PM	Unit Approval
Approved	Myers,Dena Elizabeth	06/08/2011 09:38 AM	College Approval
Approved	Myers,Dena Elizabeth	06/08/2011 09:39 AM	GradSchool Approval
Pending Approval	Soave,Melissa A Cameron,Erin Marie	06/08/2011 09:39 AM	CAA Approval



Department of Statistics

Cockins Hall  
1958 Neil Avenue  
Columbus, OH 43210-1247

Phone (614) 292-2866  
Fax (614) 292-2096

<http://www.stat.osu.edu/>

10 May 2011

To: Office of Academic Affairs

Re: Proposed Graduate Interdisciplinary Specialization in Geospatial Data and Analysis

Please find attached our proposal for the **Graduate Interdisciplinary Specialization (GIS) in Geospatial Data and Analysis (GSDA)** under semesters. A committee of faculty members from the Departments of Statistics and Geography prepared this proposal. This committee included the faculty who originally proposed the GSDA GIS (Catherine Calder, Statistics; Bryan Mark, Geography; and Ningchuan Xiao, Geography) and Desheng Liu (joint appointment in Geography and Statistics). We also obtained feedback on the Civil and Environmental Engineering and Geodetic Sciences (CEEGS) courses included in the curriculum from Carolyn Merry, Chair, Department of CEEGS.

Sincerely,

Handwritten signature of Douglas A. Wolfe in black ink.

Douglas A. Wolfe  
Chair, Department of Statistics

Handwritten signature of Morton O'Kelly in black ink.

Morton O'Kelly  
Chair, Department of Geography

## **Proposed Graduate Interdisciplinary Specialization in Geospatial Data and Analysis**

### **Rationale for Changes**

The changes to the GSDA GIS curriculum primarily reflect updates to the Departments of Geography, Statistics, and CEEGS graduate curriculums that have been made after the GSDA GIS was originally approved in 2007. The following new courses have been added to the list of Core requirements:

**Stat 6530 (631): Introduction to Spatial Statistics**

**Geog 5270 (684): Geographic Applications of Remote Sensing.**

In addition to these two courses, the new course

**Geog 5224 (688): Emerging Topics in GIS**

has been added to the list of Elective courses. All three of these courses were designed in part to strengthen training in spatial analysis and naturally fit into the GSDA curriculum.

The only other curriculum change being proposed is to include

**Geog 5223 (687): Design and Implementation of GIS**

in the list of Core courses in the Geographic Information Science category. (This course still can be counted as an Elective, if it has is not used to fulfill the Core requirement.) It is the opinion of GSDA faculty that the material covered in this course provides foundational knowledge in the area of Geographic Information Science, and thus we believe that it should be included as a Core course in this area.

The minimum total credit hour requirement has decreased from 21 quarter credit hours to 13 semester credit hours. This decrease reflects the changes in the course credit hours under semesters, which make it possible for a student to satisfy all the Core and Elective requirements by taking a total of 13 semester credit hours. Lastly, the total number of credit hours required outside a student's home department has increased from 14 quarter hours to 10 semester hours as required by the Graduate School.

**Proposed Graduate Interdisciplinary Specialization (GIS) in Geospatial Data and Analysis (GSDA)  
List of Semester Courses**

The GSDA GIS requires a minimum of 13 semester hours of coursework satisfying the Core and Elective course requirements listed below. At least 10 semester hours of coursework must be taken outside the student's home department. A grade of B or better or S is required in each course counting towards the completion of the GSDA GIS.

**Core Required Courses -- one course in each of the three core areas (Geographic Information Science, Spatial Statistics and Remote Sensing) is required**

Under Semesters			Under Quarters		
Code	Credits	Title	Code	Credits	Notes
<b>Geographic Information Science</b>					
Geog 5520	3	Fundamentals of Geographic Information Systems	Geog 607	5	Straight conversion
Geog 5221	3	Spatial Simulation and Modeling in GIS	Geog 685	5	Straight conversion (name change)
Geog 5223	3	Design and Implementation of GIS	Geog 687	5	Straight conversion
Geog 6220	3	Advanced Applications in Geographic Information Systems	Geog 787	5	Straight conversion
<b>Spatial Statistics</b>					
Stat 6530*	2	Introduction to Spatial Statistics	Stat 631	3	Straight conversion
Stat 6620	2	Environmental Statistics	Stat 662	3	Straight conversion
Stat 8530	3	Spatial and Spatio-Temporal Statistics	Stat 829	3	Material on spatio-temporal statistics has been added
<b>Remote Sensing</b>					
CivEng 5420	3	Remote Sensing of the Environment	CivEng 603/606	4	Combined version of CivEng 603 and 606, both of which were listed as possible core classes under quarters
CivEng 8421	3	Integrating Remote Sensing with Engineering Databases	CivEng 808	5	Straight conversion
Geog 5270*	3	Geographic Applications of Remote Sensing	Geog 684	5	Straight conversion

\*new to the GSDA curriculum

**Elective Courses -- 5 additional semester hours from at least two different core areas is required**

Under Semesters			Under Quarters		
Code	Credits	Title	Code	Credits	Notes
<b>Geographic Information Science</b>					
Geog 5275	3	Location Analysis	Geog 647	5	Straight conversion
Geog 5221	3	Spatial Simulation and Modeling in GIS	Geog 685	5	Straight conversion (name change)
Geog 5222	3	GIS Applications in Social Science and Business	Geog 686	5	Straight conversion
Geog 5223	3	Design and Implementation of GIS	Geog 687	5	Straight conversion
Geog 5224*	3	Emerging Topics in GIS	Geog 688	5	Straight conversion
Geog 6220	3	Advanced Applications in Geographic Information Systems	Geog 787	5	Straight conversion
<b>Spatial Statistics</b>					
Stat 6530*	2	Introduction to Spatial Statistics	Stat 631	3	Straight conversion
Stat 6560	3	Applied Multivariate Analysis	Stat 656	5	Straight conversion
Stat 6620	2	Environmental Statistics	Stat 662	3	Straight conversion
Stat 8530	3	Spatial and Spatio-Temporal Statistics	Stat 829	3	Material on spatio-temporal statistics has been added
<b>Remote Sensing</b>					
CivEng 5420	3	Remote Sensing of the Environment	CivEng 603/606	4	Combined version of CivEng 603 and 606, both of which were listed as possible core classes under quarters
CivEng 8420	3	Radiometric Measurements and Modeling	CivEng 804	5	Combined version of CivEng 804 and 806
CivEng 8421	3	Integrating Remote Sensing with Engineering Databases	CivEng 808	5	Straight conversion
Geog 5270*	3	Geographic Applications of Remote Sensing	Geog 684	5	Straight conversion
<b>Digital Terrain Analysis</b>					
CivEng 6451	4	Introduction to Photogrammetry	CivEng 629	4	Combined version of GeodSci 628 and 629
CivEng 7432	4	Advanced Spatial Data Structures and Databases	GeodSci 787	4	Combined version of GeodSci 786 and 787

\*new to the GSDA curriculum



**Graduate Interdisciplinary Specialization  
Procedures**

Graduate School  
247 University Hall  
230 North Oval Mall  
Columbus, OH 43210  
Phone: 614-292-6031  
Fax: 614-292-3656  
Email: [Jordan.194@osu.edu](mailto:Jordan.194@osu.edu)

**GRADUATE INTERDISCIPLINARY SPECIALIZATION PROGRAM FORM**

Student Name: \_\_\_\_\_

OSU Email Address: \_\_\_\_\_

Name of Graduate Interdisciplinary Specialization: \_\_\_\_\_

**Graduate Interdisciplinary Specialization Program of Study**

<u>Department</u>	<u>Course #</u>	<u>Course Title</u>	<u>Credit Hrs.</u>

\_\_\_\_\_  
Student Signature Date

\_\_\_\_\_  
Advisor Signature Date

\_\_\_\_\_  
Graduate Studies Chair in Graduate Interdisciplinary Program Date

## **Proposed Graduate Interdisciplinary Specialization in Geospatial Data and Analysis**

### **Transition Policy**

**Students who initiated course requirements for the Graduate Interdisciplinary Specialization (GIS) in Geospatial Data and Analysis (GSDA) before semester conversion will be able to complete the requirements without penalty.**

**In consultation with a student's academic advisor and other GSDA GIS faculty, the GSDA GIS Graduate Studies Chair will advise students completing the GIS during the transition from quarters to semesters.**

All quarter versions of the courses currently included in the GSDA curriculum can be counted with a 2/3 conversion towards the semester credit hour requirements of the GSDA GIS. Also, any quarter or semester version of the listed courses will satisfy the core area requirements.