

From: Soave, Melissa
To: Soave, Melissa
Subject: FW: Geography MA semester conversion proposal questions
Date: Friday, July 22, 2011 2:44:59 PM

From: Polivka, Barbara [mailto:bpolivka@con.ohio-state.edu]
Sent: Thursday, July 21, 2011 5:51 PM
To: Soave, Melissa
Cc: polivka.1@osu.edu; Blackwell, Marilyn
Subject: FW: Geography MA semester conversion proposal questions

Melissa,
Attached and below is the additional information for the Geography MA that needs to be posted to CAA.
Thanks,
Barb

From: Morton O'Kelly [okelly.1@osu.edu]
Sent: Monday, June 27, 2011 10:18 AM
To: Polivka, Barbara; sui.10@osu.edu; ahlqvist.1@osu.edu
Cc: Henry Zerby; Marilyn Blackwell
Subject: Re: Geography MA semester conversion proposal questions

To: Barbara J. Polivka, PhD, RN & Subcommittee B Members (by e-mail):
From: Morton O'Kelly, Professor & Chair Department of Geography

Thanks for the questions (*reprinted in italics*); our replies are interspersed below.

a. *The pacer table indicates that the Analytical Cartography concentration in the GIS-SA specialty is being dropped – the rationale is that the credit hour requirement is high compared to the other concentrations. The transition plan provides no indication of what will happen with current students in this concentration as we move to semesters. Please provide more in-depth rationale for dropping this concentration and also provide a transition plan for students remaining in the concentration after the transition to semesters.*

The term Analytical Cartography was closely associated with the track advised by a retired professor. In brief, the term served as a 'brand name' in some ways for the particular sequence of classes, many of which required the professor's classes. Upon review, the current faculty agreed that the same material is contained in our new curriculum, without the need for a particular label. Thus, similar classes now are available for numerical cartography, cartography, GIScience, and related mapping courses. All students taking what would have been called AC have the equivalent, more modern, streamlined sequence in the new GIS option. (To be clear, the same options are available in the more encompassing term GIS-SA.)

The student's advisor, in consultation with the graduate studies committee, will make a case by case analysis of the students if a transition question arises. In fact, there are no students in this category at the moment.

b. *The Quantitative Methods concentration in the GIS-SA specialty - in the quarter based curriculum students it seems that students can take up to 5 cr. hrs of independent study, but in the semester curriculum students can use 9 cr. hrs of independent study to fulfill the major*

requirement. We'd appreciate clarification or an explanation of this change in independent study hours.

For those students with adequate quantitative preparation, the department recognizes that they might wish to take either more external stats/methods classes, or to work with a professor on an applied research project. The 9 hours of independent study is well within the norms for a student in spatial analysis.

Transition plan for courses that are pre-requisite to other courses:

The Graduate Studies Committee has representation from all the major tracks in the department and Prof. Ola Ahlqvist who is very familiar with these selections (in particular in GIS) will provide guidance as needed.

=====

MOK

Status: PENDING

PROGRAM REQUEST
Geography

Last Updated: Myers, Dena Elizabeth
05/31/2011

Fiscal Unit/Academic Org Geography - D0733
Administering College/Academic Group Social And Behavioral Sciences
Co-administering College/Academic Group
Semester Conversion Designation 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)
Current Program/Plan Name Geography
Proposed Program/Plan Name Geography
Program/Plan Code Abbreviation GEOG-MA
Current Degree Title Master of Arts

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		45	30.0	30	0.0
Required credit hours offered by the unit	Minimum	20	13.3	15	1.7
	Maximum	60	40.0	30	10.0
Required credit hours offered outside of the unit	Minimum	0	0.0	0	0.0
	Maximum	25	16.7	15	1.7
Required prerequisite credit hours not included above	Minimum	0	0.0	0	0.0
	Maximum	5	3.3	3	0.3

Explain any change in credit hours if the difference is more than 4 semester credit hours between the values listed in columns B and C for any row in the above table

The concentration in Analytical Cartography within the GIS-SA specialty field will be officially dropped during the transition to quarters. This concentration had a high credit hour requirement (60 quarter credit hours) while the other concentrations only require 45 quarter credit hours.

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? Yes

Does the degree program or major have an assessment plan on file with the university Office of Academic Affairs? 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.

Program Specialization/Sub-Plan Name Environment and Society (Existing)
Program Specialization/Sub-Plan Goals • Environment and Society

Status: PENDING

PROGRAM REQUEST
Geography

Last Updated: Myers,Dena Elizabeth
05/31/2011

Program Specialization/Sub-Plan Name GIS-SA (Existing)
Program Specialization/Sub-Plan Goals • Geographic Information Systems - Spatial Analysis

Program Specialization/Sub-Plan Name URGS (Existing)
Program Specialization/Sub-Plan Goals • Urban, Regional, and Global Studies

Pre-Major

Does this Program have a Pre-Major? No

Attachments

- MA attachment 2_5.24.11.docx: Attachment 2
(Program Proposal. Owner: Pernik,Juliana Christine)
- Division Cover Letter for Geography.doc: Division Letter
(Letter from the College to OAA. Owner: Mumy, Gene Elwood)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Pernik,Juliana Christine	12/29/2010 08:35 AM	Submitted for Approval
Revision Requested	O'Kelly,Morton Edward	05/09/2011 02:45 PM	Unit Approval
Submitted	Pernik,Juliana Christine	05/13/2011 09:00 AM	Submitted for Approval
Approved	O'Kelly,Morton Edward	05/13/2011 02:17 PM	Unit Approval
Revision Requested	Mumy, Gene Elwood	05/19/2011 09:16 PM	College Approval
Submitted	Pernik,Juliana Christine	05/24/2011 04:17 PM	Submitted for Approval
Approved	O'Kelly,Morton Edward	05/27/2011 08:43 AM	Unit Approval
Approved	Mumy, Gene Elwood	05/31/2011 12:29 PM	College Approval
Approved	Myers,Dena Elizabeth	05/31/2011 03:36 PM	GradSchool Approval
Pending Approval	Cameron,Erin Marie Soave,Melissa A	05/31/2011 03:36 PM	CAA Approval



College of Arts and Sciences

186 University Hall
230 North Oval Mall
Columbus, OH 43210

Phone (614) 292-1667
Fax (614) 292-8666

Web artsandsciences.osu.edu

May 27, 2011

Chairs of Arts and Sciences CCI and CAA

Dear Chairs:

At the undergraduate level the Department of Geography has six major programs:

1. Environment and Society (BA)
2. Climatology and Physical Geography Specialization (BS)
3. Spatial Analysis (BS)
4. Urban, Regional and Global Studies (BA)
5. Geographic Information Science (BS) Tagged Major, pending
6. Atmospheric Science (BS) Tagged Major, pending

Atmospheric Science and Geographic Information Science are new degrees approved early this year at the University level but have not yet been given final approval by the Board of Regents. We are fairly confident that they will receive BOR approval and Geography has presented semester transition plans with only minor changes except for a reduction of sequences in the GIS major to eliminate possible transition programs in sequenced courses.

At the time the new degrees were being developed Geography also revised the entire Geography major and its specializations. These revisions were also approved by CAA early this year so the semester conversion plans contain minimal changes.

These conversion plans were reviewed by me and the Social Sciences Disciplinary Advisory Panel (SS DAP). The SS DAP and I support Geography's conversion plans and submit them to you for CCI's consideration.

At the undergraduate level the Department also has a Geography minor. Currently the minor requires a choice of five courses in one of four tracks. As detailed in the program rationale, students interested in the minor often have interests that cross the boundaries of the tracks leading to a host of exceptions being made to the requirement of staying in a track. As a result, the semester conversion plan allows a student to take five courses of interest in any area of Geography and Atmospheric Sciences but adds a depth requirement by adding the condition that no more than two courses can be at the 2000-level and at least one must be at the 4000-level or higher; and the program must be approved by the undergraduate advisor.

The SS DAP and I think this is a positive change to the minor and have approved it. I therefore submit it to you for CCI's approval.

At the graduate level Geography offers the following degrees:

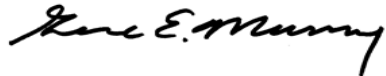
1. M.A. in Geography
2. Ph.D. in Geography
3. M.S. in Atmospheric Science
4. Ph.D. in Atmospheric Science

In his letter, Department Chair O'Kelly describes the process for converting the programs and explains that all of them are being converted with minimal changes.

The approval process for all Ph.D. and MA programs in SBS was that all of them were first examined and discussed for feedback and improvement by the SBS Graduate Committee, which is made up of the graduate directors. When ready for final consideration in the Division they move to the Social Sciences Disciplinary Advisory Panel (SS DAP).

The SS DAP has approved the Geography Ph.D. and MA programs after some changes were made. I endorse those approvals and now submit the programs to CAA and the Graduate School for their consideration.

Sincerely,

A handwritten signature in black ink that reads "Gene E. Mummy". The signature is written in a cursive style with a large, stylized initial "G".

Gene E. Mummy
Associate Dean of Arts and Sciences/Social and Behavioral Sciences

To: OAA

Date: 6/14/2010

Cover Letter for Proposals from the Department of Geography

This is the transmittal cover letter to the Office of Academic Affairs that reflects the efforts by the Department of Geography under Quarter to Semester Conversion.

The department used a series of committee and special purpose task forces to review programs and courses. Having recently proposed substantial revisions to our majors, we were in relatively good position to begin the Q to S process.

There has been a tremendous effort to accomplish these planned changes, with commendable input from Professor Becky Mansfield (Undergraduate), Jay Hobgood (Atmospheric Science), and Darla Munroe (Graduate). The graduate level documents are still being finalized.

The department recommends approval of these changes, which by and large are converted with minimal changes to program goals and/or curricular requirements at the undergraduate level. A recently approved set of revisions to the Majors has been incorporated into our planned semester version. *[There are minimal name changes, changes in electives and/or prerequisites, minimal changes in overall structure of program, minimal or no changes in program goals or content.]*

The graduate courses are minimally changed, but there is expected to be a complete re-write of our graduate manual to organize these classes in a way that conveys greater advisor flexibility. The department will seek appropriate approval for any substantive track or programs changes built around our existing graduate courses.

The following are the programs in the department:

a. Undergraduate bachelors degree programs and/or majors

1. Environment and Society (BA)
2. Climatology and Physical Geography Specialization (BS)
3. Spatial Analysis (BS)
4. Urban, Regional and Global Studies (BA)
5. Geographic Information Science (BS) Tagged Major, pending
6. Atmospheric Science (BS) Tagged Major, pending

b. Undergraduate minors

A minor in geography is available to any Arts and Sciences student who is not already majoring in geography.

c. Undergraduate associate degree programs
n/a

d. Graduate degree programs

1. M.A. in Geography
2. Ph.D. in Geography
3. M.S. in Atmospheric Science
4. Ph.D. in Atmospheric Science

e. Graduate minors
n/a

f. Graduate certificate programs
n/a

g. Graduate interdisciplinary specializations

Graduate Interdisciplinary Specialization in Geo-Spatial Data Analysis.

Since the interdisciplinary specialization requires elements from many other degree programs, we plan to finalize these syllabi and arrangements after the initial round of graduate degree courses has been screened.

h. Professional degree programs
n/a

i. Combined programs (e.g., BS/MS, Ph.D./ MD)
n/a

For the record, no programs are being withdrawn. The details in the balance of the template are incorporated by reference, and are being revised to ensure technical compliance with the templates.

Thank you for attention to these proposals

Morton O'Kelly
Professor & Chair
Department of Geography

Rationale for program changes and a description of how changes will benefit students and enhance program quality. [include date of last program revision]

We have made minimal changes. The only changes for semesters is that Geog 8102 (Semesters) replaces Geog 883.01 and 883.02 (Quarters) and that there have been four name changes to seminar classes.

List of semester courses in the program – Specialty Field: Environment and Society

Environment & Society Segment of Graduate Program (Semesters)	Semester course number	Semester course name	Units
Required Prerequisites or Supplements			
		None	
Required courses (3 hours)			
	5220	Fundamentals of Geographic Information Systems	3
Electives (complete all categories):			
1. Choice of two of the following methods courses (6 hours):			
	5100	Quantitative Geographical Methods	3
	7101	Research Design	3
	7102	Fieldwork in Human Geography	3
	8102	Spatial Data Analysis	3
2. Choice of four courses (12 hours):			
	5401	Geography of Latin America	3
	5402	Globalization and Environment	3
	5402	Land Use Geography	3
	5501	Conservation of Natural Resources	3
	5602	Geography of Development	3
	5700	Newly Industrializing Countries	3
3. Choice of two advanced classes (6 hours)			
	8100	The Development of Geographic Thought	3
	8200	Seminars in Cartography	3
	8271	Location Theory	3
	8272	Problems	3
	8300	Theory of Transportation Geography	3
	8400	Approaches and Issues in Economic Geography	3
	8401	Theory of Population and Social Geography	3
	8402	Problems in Population and Social Geography	3
	8501	Spatial Organization of the City	3
	8502	Urban Systems Analysis	3
	8503	Third World Urbanization	3
	8601	Theory of Political Geography	3
	8602	Problems in Political Geography	3
	8800	Seminar in Environment and Society	3
4. Independent Study (3 hours)			
	7193	Individual studies in Geography	3
5. One optional course (1 hour)			
	8109	Graduate Student Professionalization	1

List of semester courses in the program – Specialty Field: Urban, Regional, and Global Studies

Urban, Regional, and Global Studies Segment of Graduate Program (Semesters)	Semester course number	Semester course name	Units
Required Prerequisites or Supplements			
		None	
Required courses (3 hours)			
	5220	Fundamentals of Geographic Information Systems	3
Electives (complete all categories):			
1. Choice of two of the following methods courses (6 hours):			
	5100	Quantitative Geographical Methods	3
	7101	Research Design	3
	7102	Fieldwork in Human Geography	3
	8102	Spatial Data Analysis	3
2. Choice of two broad overview courses (6 hours):			
	5401	Economies, Space and Society	3
	5402	Land Use Geography	3
	5501	Urban Spaces in the Global Economy	3
	5602	Conflict, Power, and Politics in the City	3
3. Choice of two specialized courses: (6 hours)			
	5271	Locational Analysis	3
	5300	Geography of Transportation	3
	5601	Geographies of Governmentalities	3
	5700	Geography of Development	3
4. Choice of two advanced classes (2-6 hours)			
	8100	The Development of Geographic Thought	3
	8200	Seminars in Cartography	3
	8271	Location Theory	3
	8272	Problems	3
	8300	Theory of Transportation Geography	3
	8400	Approaches and Issues in Economic Geography	3
	8401	Theory of Population and Social Geography	3
	8402	Problems in Population and Social Geography	3
	8501	Spatial Organization of the City	3
	8502	Urban Systems Analysis	3
	8503	Third World Urbanization	3
	8601	Theory of Political Geography	3
	8602	Problems in Political Geography	3
	8800	Seminar in Environment and Society	3
5. Independent Study (3 hours)			
	7193	Individual studies in Geography	3
6. One optional course (1 hour)			
	8109	Graduate Student Professionalization	1

List of semester courses in the program – Specialty Field: Geographic Information Systems – Spatial Analysis

Segment of Graduate Program (Semesters)	Semester course number	Semester course name	Units
Required Prerequisites or Supplements			
	Stat 2450	Introduction to Statistical Analysis	3
Required courses (6 hours)			
	5220	Fundamentals of Geographic Information Systems	3
	8102	Spatial Data Analysis	3
One optional course (1 hour)			
	8109	Graduate Student Professionalization	1
Concentrations (select one option below)			
1. Concentration in Geographic Information Systems			
Required core (12 hours)			
	5221	Spatial Simulation and Modeling in GIS	3
	5222	GIS Applications in Social Science and Business	3
	5223	Design and Implementation of GIS	3
	8200	Seminars in Cartography	3
Select one from the following advanced courses (3 hours)			
	5224	Emerging Topics in GIS	3
	6220	Advanced Applications in Geographic Information Systems	3
2. Concentration in Quantitative Methods			
Program of study developed in consultation with student's adviser (15 hours total)			
	5200	Elements of Cartography	3
	5300	Geography of Transportation	3
	5271	Locational Analysis	3
	5201	Computer Cartography and Geographical Visualization	3
	5270	Geographical Applications of Remote Sensing	3
	5220	Fundamentals of Geographic Information Systems	3
	5221	Spatial Simulation and Modeling in GIS	3
	5222	GIS Applications in Social Science and Business	3
	5223	Design and Implementation of GIS	3
	6271	Advanced Locational Analysis	3
	6220	Advanced Applications in Geographic Information Systems	3
	8271	Location Theory	3
	8272	Problems	3
	8400	Approaches and Issues in Economic Geography	3
	8300	Seminars in Transportation Geography	3
	8501	Spatial Organization of the City	3
	8502	Urban Systems Analysis	3

	8503	Third World Urbanization	3
	8401	Theory of Population and Social Geography	3
	8402	Problems in Population and Social Geography	3
	8200	Seminars in Cartography	3
	8100	The Development of Geographic Thought	3
	8104	Special Topics in Quantitative Geography	3
	CRP 6700	Urban Transportation Demand Forecasting	3
	CRP 6800	Transportation Planning	3
	CRP 6600	Spatial Models and Project Evaluation	3
	CE 5420	Remote Sensing of Environment	3
	CE 7740	Urban Transport Network Analysis	3
	CSE 5232	Software Requirements Analysis	3
	CSE 5361	Numerical Methods	3
	CSE 4901	Project: Design, Development, and Documentation of Web Applications	4
	CSE 4902	Project: Design, Development, and Documentation of Interactive Systems	4
	CSE 4521	Survey of Artificial Intelligence for non-majors	3
	CSE 5241	Introduction to Database Systems	3
	CSE 5331	Foundations II: Data Structures and Algorithms	2
	CSE 5541	Computer Game and Animation Techniques	2
	CSE 5522	Survey of Artificial Intelligence II: Advanced Techniques	3
	CSE 5542	Real-time rendering	3
	CSE 5545	Advanced Computer Graphics	3
	CSE 5543	Geometric Modeling	3
	ECON 8711	Microeconomic Theory IA	3
	ECON 8712	Microeconomic Theory IB	3
	ECON 8713	Microeconomic Theory IIA	3
	ECON 8714	Microeconomic Theory IIB	3
	ECON 8721	Macroeconomic Theory IA	3
	ECON 8722	Macroeconomic Theory IB	3
	ECON 8731	Econometrics I	4
	ECON 8732	Econometrics II	4
	ECON 7700	Mathematics for Economics I	3
	ECON 7701	Mathematics for Economics II	3
	GEODSCIM 7452	Spatial Geometry and Spectral Analysis	3
	GEODSCIM 6451	Introduction to Photogrammetry	3
	GEODSCIM 7433	GIS Analysis and Projects	3
	GEODSCIM 6431	GIS and Cartographic Engineering	3
	GEODSCIM 5441	Introduction to GPS: Theory and Applications	3
	GEODSCIM 7442	Fundamentals of GPS and Reference Systems	3
	ISE 5200	Mathematical Programming: Linear	3
	ISE 5850	Operations Research Models and Methods	3
	ISE 6200	Mathematical Programming: Nonlinear	3
	ISE 7200	Mathematical Programming: Advanced Nonlinear	3
	ISE 7210	Optimization Methods for Large Systems	3

	MATH 2568	Linear Algebra	3
	MATH 4575	Combinatorial Mathematics & Graph Theory	3
	STAT 6450	Applied Regression Analysis	3
	STAT 6560	Multivariate Data Analysis	3
Independent Study (complete independent study until 30 credit hours are earned)			
	7193	Individual Studies in Geography	3

Semester Advising Sheet - Specialty Field: Environment and Society

Environment and Society Advising Sheet MA SEMESTERS			
Segment of Graduate Program (Semesters)	Semester course name	Units	Grade
Required Prerequisites or Supplements			
	None		
Required courses (9 hours: 5220 plus 6 additional hours)			
5220	Fundamentals of Geographic Information Systems	3	
5100	Quantitative Geographical Methods	3	
7101	Research Design	3	
7102	Fieldwork in Human Geography	3	
8102	Spatial Data Analysis	3	
Electives (complete all categories):			
1. Choice of four courses (12 hours):			
5401	Geography of Latin America	3	
5402	Globalization and Environment	3	
5402	Land Use Geography	3	
5501	Conservation of Natural Resources	3	
5602	Geography of Development	3	
5700	Newly Industrializing Countries	3	
2. Choice of two advanced classes (6 hours):			
8100	The Development of Geographic Thought	3	
8200	Seminars in Cartography	3	
8271	Location Theory	3	
8272	Problems	3	
8300	Theory of Transportation Geography	3	
8400	Approaches and Issues in Economic Geography	3	
8401	Theory of Population and Social Geography	3	
8402	Problems in Population and Social Geography	3	
8501	Spatial Organization of the City	3	
8502	Urban Systems Analysis	3	
8503	Third World Urbanization	3	
8601	Theory of Political Geography	3	
8602	Problems in Political Geography	3	
8800	Seminar in Environment and Society	3	
3. Independent Study (3 hours)			
7193	Individual studies in Geography	3	
4. One optional course (1 hour):			
8109	Graduate Student Professionalization	1	
Advisor Signature and Date:			
Name:			
Graduate Major/Specialization:			
Campus ID:			

Quarter Advising Sheet – Specialty Field: Environment and Society

Environment and Society Advising Sheet MA QUARTERS			
Segment of Graduate Program (Quarters)	Quarter course name	Credit hours	Grade
Required Prerequisites or Supplements			
None			
Required courses (5 hours)			
607	Fundamentals of Geographic Information Systems	5	
Electives (complete all categories):			
1. Choice of two of the following methods courses (10 hours):			
683	Quantitative Geographical Methods	5	
795	Seminar in Geography	5	
800.01	Theory of Regional Development	5	
883.01	Applications I	5	
883.02	Applications II	5	
2. Choice of four courses (20 hours):			
605	Geography of Latin America	5	
630	Conservation of Natural Resources	5	
635	Globalization and Environment	5	
642	Geography of Development	5	
643	Newly Industrializing Countries	5	
670	Population Geography	5	
3. Choice of two advanced classes (10 hours):			
800.02	Problems in Regional Development	5	
830	Sem Probs Res Anal	5	
840.01	Location Theory	5	
840.02	Problems	5	
840.03	Approaches and Issues in Economic Geography	5	
845	Theory of Transportation Geography	5	
850.01	Spatial Organization of the City	5	
850.02	Urban Systems Analysis	5	
850.03	Third World Urbanization	5	
860.01	Theory of Political Geography	5	
860.02	Problems in Political Geography	5	
870.01	Theory of Population and Social Geography	5	
870.02	Problems in Population and Social Geography	5	
880	Seminars in Cartography	5	
882	The Development of Geographic Thought	5	
4. One optional course (1 hour):			
889	Seminars in Geography	1	
Advisor Signature and Date:			
Name:			
Graduate Major/Specialization:			
Campus ID:			

Semester Advising Sheet – Specialty Field: URGs

Urban, Regional, and Global Studies MA Advising Sheet SEMESTERS			
Segment of Graduate Program (Semesters)	Semester course name	Units	Grade
Required Prerequisites or Supplements			
	None		
Required courses (3 hours)			
5220	Fundamentals of Geographic Information Systems	3	
Electives (complete all categories):			
1. Choice of two of the following methods courses: (6 hours)			
5100	Quantitative Geographical Methods	3	
7101	Research Design	3	
7102	Fieldwork in Human Geography	3	
8102	Spatial Data Analysis	3	
2. Choice of two broad overview courses: (6 hours)			
5401	Economies, Space and Society	3	
5402	Land Use Geography	3	
5501	Urban Spaces in the Global Economy	3	
5602	Conflict, Power, and Politics in the City	3	
3. Choice of two specialized courses: (6 hours)			
5271	Locational Analysis	3	
5300	Geography of Transportation	3	
5601	Geographies of Governmentalities	3	
5700	Geography of Development	3	
4. Choice of two advanced classes: (6 hours)			
8100	The Development of Geographic Thought	3	
8200	Seminars in Cartography	3	
8271	Location Theory	3	
8272	Problems	3	
8300	Theory of Transportation Geography	3	
8400	Approaches and Issues in Economic Geography	3	
8401	Theory of Population and Social Geography	3	
8402	Problems in Population and Social Geography	3	
8501	Spatial Organization of the City	3	
8502	Urban Systems Analysis	3	
8503	Third World Urbanization	3	
8601	Theory of Political Geography	3	
8602	Problems in Political Geography	3	
8800	Seminar in Environment and Society	3	
5. Independent Study (3 hours)			
7193	Individual studies in Geography	3	
6. One optional course: (1 hour)			
8109	Graduate Student Professionalization	1	
Total Program Hours			
Minimum Program Hours			
Advisor Signature and Date:			
Name:			
Graduate Major/Specialization:			

Campus ID:			
------------	--	--	--

Quarter Advising Sheet – Specialty Field: URGS

Urban, Regional, and Global Studies MA Advising Sheet QUARTERS			
Segment of Graduate Program (Quarters)	Quarter course name	Credit hours	Grade
Required Prerequisites or Supplements			
None			
Required courses (5 hours)			
607	Fundamentals of Geographic Information Systems	5	
Electives (complete all categories):			
1. Choice of two of the following methods courses (10 hours):			
683	Quantitative Geographical Methods	5	
883.01	Applications I	5	
883.02	Applications II	5	
795	Seminar in Geography	5	
800.01	Theory of Regional Development		
2. Choice of two broad overview courses (10 hours):			
640	Economies, Space and Society	5	
650	Urban Spaces in the Global Economy	5	
655	Land Use Geography	5	
660	Conflict, Power, and Politics in the City	5	
3. Choice of two specialized courses: (10 hours)			
642	Geography of Development	5	
643	Geographies of Governmentalities	5	
645	Geography of Transportation	5	
647	Locational Analysis	5	
670	Population Geography	5	
4. Choice of two advanced classes (10 hours)			
800.02	Problems in Regional Development	5	
830	Sem Probs Res Anal	5	
840.01	Location Theory	5	
840.02	Problems	5	
840.03	Approaches and Issues in Economic Geography	5	
845	Theory of Transportation Geography	5	
850.01	Spatial Organization of the City	5	
850.02	Urban Systems Analysis	5	
850.03	Third World Urbanization	5	
860.01	Theory of Political Geography	5	
860.02	Problems in Political Geography	5	
870.01	Theory of Population and Social Geography	5	
870.02	Problems in Population and Social Geography	5	
880	Seminars in Cartography	5	
882	The Development of Geographic Thought	5	
5. One optional course (1 hour)			
889	Seminars in Geography	1	
Total Program Hours			
Minimum Program Hours			
Advisor Signature and Date:			
Name:			
Graduate Major/Specialization:			

Campus ID:			
------------	--	--	--

Semester Advising Sheet – Specialty Field: GIS-SA

GIS Spatial Analysis MA Advising Sheet SEMESTERS			
Segment of Graduate Program (Semesters)	Semester course name	Units	Grade
Required Prerequisites or Supplements			
STAT 2450	Introduction to Statistical Analysis	3	
1. Required courses (6 hours)			
5220	Fundamentals of Geographic Information Systems	3	
8102	Spatial Data Analysis	3	
2. One optional course (1 hour)			
8109	Graduate Student Professionalization	1	
Concentrations (select one option below)			
3A. Concentration in Geographic Information Systems			
Required core (12 hours)			
5221	Spatial Simulation and Modeling in GIS	3	
5222	GIS Applications in Social Science and Business	3	
5223	Design and Implementation of GIS	3	
8200	Seminars in Cartography	3	
Select one from the following advanced courses (3 hours)			
5224	Emerging Topics in GIS	3	
6220	Advanced Applications in Geographic Information Systems	3	
3B. Concentration in Quantitative Methods			
Program of study developed in consultation with student's adviser (15 hours total)			
5200	Elements of Cartography	3	
5300	Geography of Transportation	3	
5271	Locational Analysis	3	
5201	Computer Cartography and Geographical Visualization	3	
5270	Geographical Applications of Remote Sensing	3	
5220	Fundamentals of Geographic Information Systems	3	
5221	Spatial Simulation and Modeling in GIS	3	
5222	GIS Applications in Social Science and Business	3	
5223	Design and Implementation of GIS	3	
6271	Advanced Locational Analysis	3	
6220	Advanced Applications in Geographic Information Systems	3	
8271	Location Theory	3	
8272	Problems	3	
8400	Approaches and Issues in Economic Geography	3	
8300	Seminars in Transportation Geography	3	
8501	Spatial Organization of the City	3	
8502	Urban Systems Analysis	3	
8503	Third World Urbanization	3	
8401	Theory of Population and Social Geography	3	
8402	Problems in Population and Social Geography	3	
8200	Seminars in Cartography	3	

8100	The Development of Geographic Thought	3	
8104	Special Topics in Quantitative Geography	3	
CRP 6700	Urban Transportation Demand Forecasting	3	
CRP 6800	Transportation Planning	3	
CRP 6600	Spatial Models and Project Evaluation	3	
CE 5420	Remote Sensing of Environment	3	
CE 7740	Urban Transport Network Analysis	3	
CSE 5232	Software Requirements Analysis	3	
CSE 5361	Numerical Methods	3	
CSE 4901	Project: Design, Development, and Documentation of Web Applications	4	
CSE 4902	Project: Design, Development, and Documentation of Interactive Systems	4	
CSE 4521	Survey of Artificial Intelligence for non-majors	3	
CSE 5241	Introduction to Database Systems	3	
CSE 5331	Foundations II: Data Structures and Algorithms	2	
CSE 5541	Computer Game and Animation Techniques	2	
CSE 5522	Survey of Artificial Intelligence II: Advanced Techniques	3	
CSE 5542	Real-time rendering	3	
CSE 5545	Advanced Computer Graphics	3	
CSE 5543	Geometric Modeling	3	
ECON 8711	Microeconomic Theory IA	3	
ECON 8712	Microeconomic Theory IB	3	
ECON 8713	Microeconomic Theory IIA	3	
ECON 8714	Microeconomic Theory IIB	3	
ECON 8721	Macroeconomic Theory IA	3	
ECON 8722	Macroeconomic Theory IB	3	
ECON 8731	Econometrics I	4	
ECON 8732	Econometrics II	4	
ECON 7700	Mathematics for Economics I	3	
ECON 7701	Mathematics for Economics II	3	
GEODSCIM 7452	Spatial Geometry and Spectral Analysis	3	
GEODSCIM 6451	Introduction to Photogrammetry	3	
GEODSCIM 7433	GIS Analysis and Projects	3	
GEODSCIM 6431	GIS and Cartographic Engineering	3	
GEODSCIM 5441	Introduction to GPS: Theory and Applications	3	
GEODSCIM 7442	Fundamentals of GPS and Reference Systems	3	
ISE 5200	Mathematical Programming: Linear	3	
ISE 5850	Operations Research Models and Methods	3	
ISE 6200	Mathematical Programming: Nonlinear	3	
ISE 7200	Mathematical Programming: Advanced Nonlinear	3	
ISE 7210	Optimization Methods for Large Systems	3	
2568	Linear Algebra	3	
4575	Combinatorial Mathematics & Graph Theory	3	
STAT 6450	Applied Regression Analysis	3	
STAT 6560	Multivariate Data Analysis	3	
Independent Study (complete independent study until 30 credit hours are earned)			

7193	Individual studies in Geography	3	
	Total Program Hours		
	Minimum Program Hours		
Advisor Signature and Date:			
Name:			
Graduate Major/Specialization:			
Campus ID:			

Quarter Advising Sheet – Specialty Field: GIS-SA

GIS-Spatial Analysis MA Advising Sheet QUARTERS			
Segment of Graduate Program (Quarters)	Quarter course name	Credit hours	Grade
Required Prerequisites or Supplements			
STAT 245 or equiv	Introduction to Statistics	5	
1. Required courses (15 hours)			
607	Fundamentals of Geographic Information Systems	5	
883.01	Applications I	5	
883.02	Applications II	5	
2. One optional course (1 hour)			
889	Seminars in Geography	1	
3. Concentrations (select one option below)			
3A. Concentration in Analytical Cartography (45 hours)			
Stat 528	Data Analysis I Statistics 528	5	
580	Elements of Cartography	5	
680	Fundamentals of Geographic Information Systems	5	
685	Intermediate Geographic Information Systems	5	
780	Analytical Cartography	5	
782	Interactive Cartographic Systems	5	
795A	Cartography	5	
795B	Computer Cartography and Geographical Visualization	5	
880	Seminar in Cartography	5	
3B. Concentration in Geographic Information Systems			
Required core (20 hours)			
685	Intermediate Geographic Information Systems	5	
686	GIS Applications in Social Science and Business	5	
687	Design and Implementation of GIS	5	
880	Seminars in Cartography	5	
Select one from the following advanced courses (5 hours)			
785	Data Input Operations	5	
787	Advanced Applications in Geographic Information Systems	5	
ENR 861	GIS Institutions Environment and Nat Resources	5	
3C. Concentration in Quantitative Methods			

Program of study developed in consultation with student's adviser (25 hours total)			
580	Elements of Cartography	5	
645	Geography Transportation	5	
647	Location Analysis	5	
680	Numerical Cartography	5	
682	Independent Studies in Cartography	5	
684	Geography & Land Info Systems	5	
607	Fundamentals of GIS	5	
685	Intermediate GIS	5	
686	GIS in Social Science and Business	5	
687	Design & Implementation of GIS	5	
740	Advanced Locational Analysis	5	
787	Advanced Application in GIS	5	
840.01	Location Theory	5	
840.02	Problems	5	
840.03	Approaches and Issues in Economic Geography	5	
845	Seminars in Transportation Geography	5	
850.01	Spatial Organization of the City	5	
850.02	Urban Systems Analysis	5	
850.03	Third World Urbanization	5	
870.01	Theory of Population and Social Geography	5	
870.02	Problems in Population and Social Geography	5	
880	Seminars in Cartography	5	
882	The Development of Geographic Thought	5	
983	Special Topics in Quantitative Methods	5	
BUSMGT 801.03	Quant Methods in Business: Bus Data Modeling III	5	
BUSMGT 901	Seminar in Management Science	5	
CRP 763	Consequence Analysis in Urban Planning	5	
CRP 775	Urban Transportation Planning	5	
CRP 781	Spatial Models in Urban Planning	5	
CIVILEN 603	Remote Sensing of the Environment	5	
CIVILEN 604	Terrain Analysis	5	
CIVILEN 606	Transportation Demand Forecasting	5	
CIVILEN 874	Urban Transportation Network Analysis	5	
CIS 516	Info Systems Analysis & Design	5	
CIS 541	Elementary Numerical Methods	5	
CIS 560	Elements of Computer Systems	5	
CIS 570	File Design & Analysis	5	
CIS 630	Survey of Artificial Intelligence	5	
CIS 640	Numerical Analysis	5	
CIS 650	Information Storage and Retrieval	5	
CIS 670	Introduction to Database Systems	5	
CIS 680	Data Structures	5	
CIS 681	Introduction to Interactive Graphics	5	
CIS 730	Survey of AI II: Advanced Topics	5	
CIS 781	Introduction to 3-D Image Generation	5	
CIS 782	Advanced 3-D Image Generation	5	

CIS 783	Geometric Modeling	5	
ECON 600	Appl of Math in Economic Analysis	5	
ECON 641	Applied Regression & Correl Analysis	5	
ECON 642	Applied Econ Models and Forecasting	5	
ECON 741	General Linear Regression Analysis	5	
ECON 742	Econometrics	5	
ECON 804	Microeconomic Theory I	5	
ECON 805	Microeconomic Theory II	5	
ECON 806	Macroeconomic Theory I	5	
ECON 816	Mathematical Economics II	5	
ECON 840	Time Series Econometrics	5	
ECON 842	Advanced Econometrics	5	
GEODSCIM 623	Topics in Photogrammetry	5	
GEODSCIM 628	Elements of Analytical Photogrammetry	5	
GEODSCIM 633	Digital Surface Models	5	
GEODSCIM 732	Generalization of Topographic Maps	5	
ISE 702	Mathematical Programming: Linear	5	
ISE 802	Operations Research Models and Methods	5	
ISE 831	Mathematical Programming: Nonlinear	5	
ISE 832	Mathematical Programming: Advanced Nonlinear	5	
ISE 833	Optimization Methods for Large Systems	5	
MATH 568	Introductory Linear Algebra I	3	
MATH 571	Linear Algebra for Applications I	3	
MATH 572	Linear Algebra for Applications II	3	
MATH 575	Combinatorial Mathematics & Graph Theory	3	
ENR 745	Spatial Analysis in GIS	5	
STAT 645	Applied Regression Analysis	5	
STAT 656	Multivariate Data Analysis	5	
Independent Study (complete independent study until 45 credit hours are earned)			
693	Individual Studies in Geography	5	
	Total Program Hours		
	Minimum Program Hours		
Advisor Signature and Date:			
Name:			
Graduate Major/Specialization:			
Campus ID:			

Transition policy

Students who began their degree under quarters will not be penalized as we move to semesters, either in terms of progress towards their degree or their expected date of graduation. The sequence of classes is largely very flexible. We do not see the need for any bridge courses in the Geography MA program.