

MISSOURI STATE UNIVERSITY
UNDERGRADUATE GEOGRAPHY AND GEOSPATIAL SCIENCES PROGRAMS
ALUMNI SURVEY -- SPRING 2009

[Total surveys sent: 668; Surveys returned: 126; Response Rate: 20.0%]

Please indicate your major: **(126 responses)**

<input type="checkbox"/> General Geography (B.A. or B.S.)	49	39%
<input type="checkbox"/> Geography B.S.—Environmental & Natural Resources Option	29	23%
<input type="checkbox"/> Geography B.S.—Travel Geography Option	14	11%
<input type="checkbox"/> Geospatial Science (Cartography and Map Technology)	34	27%

Question 1: Which of the following best describes your current employment status?

Geography B.A. and Geography B.S.—General Option Graduates (49 responses)

<input type="checkbox"/> employed full-time as a professional geographer or in a closely related field	9	27%
<input type="checkbox"/> employed full-time in a professional or technical field at least somewhat related to geography	10	25%
<input type="checkbox"/> employed full-time in a field unrelated to geography	17	29%
<input type="checkbox"/> unemployed but actively seeking full-time employment in geography or a closely related field	0	2%
<input type="checkbox"/> unemployed and actively seeking full-time employment in a field unrelated to geography	0	0%
<input type="checkbox"/> not employed full-time at this time by choice	13	17%

Geography B.S.—Environmental & Natural Resources Option Graduates (29 responses)

<input type="checkbox"/> employed full-time as a professional geographer or in a closely related field	6	21%
<input type="checkbox"/> employed full-time in a professional or technical field at least somewhat related to geography	8	28%
<input type="checkbox"/> employed full-time in a field unrelated to geography	11	38%
<input type="checkbox"/> unemployed but actively seeking full-time employment in geography or a closely related field	0	0%
<input type="checkbox"/> unemployed and actively seeking full-time employment in a field unrelated to geography	0	0%
<input type="checkbox"/> not employed full-time at this time by choice	4	14%

Geography B.S.—Travel Geography Option Graduates (14 responses)

<input type="checkbox"/> employed full-time as a professional geographer or in a closely related field	1	7%
<input type="checkbox"/> employed full-time in a professional or technical field at least somewhat related to geography	2	14%
<input type="checkbox"/> employed full-time in a field unrelated to geography	5	36%
<input type="checkbox"/> unemployed but actively seeking full-time employment in geography or a closely related field	2	14%
<input type="checkbox"/> unemployed and actively seeking full-time employment in a field unrelated to geography	0	0%
<input type="checkbox"/> not employed full-time at this time by choice	4	29%

Geospatial Science (Cartography & Map Technology) Graduates (34 responses)

<input type="checkbox"/> employed full-time as a professional geographer or in a closely related field	18	53%
<input type="checkbox"/> employed full-time in a professional or technical field at least somewhat related to geography	11	32%
<input type="checkbox"/> employed full-time in a field unrelated to geography	4	12%
<input type="checkbox"/> unemployed but actively seeking full-time employment in geography or a closely related field	1	3%
<input type="checkbox"/> unemployed and actively seeking full-time employment in a field unrelated to geography	0	0%
<input type="checkbox"/> not employed full-time at this time by choice	0	0%

Question 2: How important has the education you received in the Missouri State Geography program been to your success in your current career?

Geography B.A. and Geography B.S.—General Option Graduates (49 responses)

<input type="checkbox"/> absolutely essential	12	24%
<input type="checkbox"/> very useful	18	37%
<input type="checkbox"/> somewhat useful	11	22%
<input type="checkbox"/> of very little use	8	16%

Geography B.S.—Environmental & Natural Resources Option Graduates (29 responses)

<input type="checkbox"/> absolutely essential	4	14%
<input type="checkbox"/> very useful	9	31%
<input type="checkbox"/> somewhat useful	10	34%
<input type="checkbox"/> of very little use	6	21%

Geography B.S.—Travel Geography Option Graduates (14 responses)

<input type="checkbox"/> absolutely essential	0	0%
<input type="checkbox"/> very useful	3	21%
<input type="checkbox"/> somewhat useful	6	43%
<input type="checkbox"/> of very little use	5	36%

Geospatial Science (Cartography & Map Technology) Graduates (34 responses)

<input type="checkbox"/> absolutely essential	11	32%
<input type="checkbox"/> very useful	15	44%
<input type="checkbox"/> somewhat useful	7	21%
<input type="checkbox"/> of very little use	1	3%

Question 3: How important was the education you received in the Missouri State Geography program to your success in your first full-time professional endeavor after graduation (i.e., in obtaining your first full-time job or in obtaining admission to a graduate program)?

Geography B.A. and Geography B.S.—General Option Graduates (48 responses)

<input type="checkbox"/> absolutely essential	18	38%
<input type="checkbox"/> very useful	15	31%
<input type="checkbox"/> somewhat useful	9	19%
<input type="checkbox"/> of very little use	6	13%

Geography B.S.—Environmental & Natural Resources Option Graduates (27 responses)

<input type="checkbox"/> absolutely essential	8	30%
<input type="checkbox"/> very useful	6	22%
<input type="checkbox"/> somewhat useful	10	37%
<input type="checkbox"/> of very little use	3	11%

Geography B.S.—Travel Geography Option Graduates (14 responses)

<input type="checkbox"/> absolutely essential	2	14%
<input type="checkbox"/> very useful	5	36%
<input type="checkbox"/> somewhat useful	3	21%
<input type="checkbox"/> of very little use	4	29%

Geospatial Science (Cartography & Map Technology) Graduates (34 responses)

<input type="checkbox"/> absolutely essential	16	47%
<input type="checkbox"/> very useful	10	29%
<input type="checkbox"/> somewhat useful	5	15%
<input type="checkbox"/> of very little use	3	9%

Question 4: Completely aside from career considerations, how important has the education you received in the Missouri State Geography program been for your personal enjoyment and quality of life?

Geography B.A. and Geography B.S.—General Option Graduates (48 responses)

___ absolutely essential	16	33%
___ very useful	24	50%
___ somewhat useful	7	15%
___ of very little use	1	2%

Geography B.S.—Environmental & Natural Resources Option Graduates (29 responses)

___ absolutely essential	7	24%
___ very useful	16	55%
___ somewhat useful	6	21%
___ of very little use	0	0%

Geography B.S.—Travel Geography Option Graduates (14 responses)

___ absolutely essential	1	7%
___ very useful	9	64%
___ somewhat useful	3	21%
___ of very little use	1	7%

Geospatial Science (Cartography & Map Technology) Graduates (34 responses)

___ absolutely essential	8	24%
___ very useful	14	41%
___ somewhat useful	12	35%
___ of very little use	0	0%

Question 5: What change(s) would you recommend we make to our current degree requirements to enhance the quality and usefulness of our Geography program for today's students?

[NOTE--Some respondents selected more than one response, so the percentages total more than 100%.]

Geography B.A. and Geography B.S.—General Option Graduates (49 responses)

___	No change recommended	2	4%
___	Add additional requirement: Careers in Geography	16	33%
___	Add additional requirement: Geographic Information Systems (GIS)	25	51%
___	Add additional requirement: Global Positioning Systems (GPS)	18	37%
___	Add additional requirement: Introduction to Business	11	22%
___	Add additional requirement: Statistical Methods in Geography	12	24%
___	Add additional requirement: Technical Writing	16	33%
___	Add additional requirement: Undergraduate research project or internship	14	29%
___	Eliminate current requirement: GRY 367—Research Methods in Geog. and Planning . . .	3	6%
___	Eliminate current requirement: GRY 470—Field Study in Geography	8	16%
___	Eliminate the following current requirement(s) (specify):	2	4%
	• Statistics.		
	• Eliminate all politics by professors.		
___	Add the following additional requirement(s) (specify):	6	12%
	• More writing, speaking, critical thought.		
	• Make an emphasis of internships to enhance employment after graduation.		
	• Calculus & Physics - at least for the physical track.		
	• Intro to Business management or Public Administration.		
	• I am not up to date on all of your current Geography courses, but I would say that to have some additional requirements or at least courses available that make the students more marketable - interdisciplinary areas is absolutely essential.		
	• Get Uncle Milton back (Guest Lecturer)!		

Geography B.S.—Environmental & Natural Resources Option Graduates (29 responses)

___	No change recommended	3	10%
___	Add additional requirement: Careers in Geography	8	28%
___	Add additional requirement: Geographic Information Systems (GIS)	14	48%
___	Add additional requirement: Global Positioning Systems (GPS)	7	37%
___	Add additional requirement: Introduction to Business	5	17%
___	Add additional requirement: Statistical Methods in Geography	5	17%
___	Add additional requirement: Technical Writing	11	38%
___	Add additional requirement: Undergraduate research project or internship	10	34%
___	Eliminate current requirement: GRY 367—Research Methods in Geog. and Planning . . .	1	3%
___	Eliminate current requirement: GRY 470—Field Study in Geography	2	7%
___	Eliminate the following current requirement(s) (specify):	1	3%
	• Cartography.		
___	Add the following additional requirement(s) (specify):	8	28%
	• Language skills, as well as math, computer, and science backgrounds, are a plus, even in regional survey courses.		
	• More field work & maybe 2 summer requirements for 18 day "in field" curriculum		
	• Basic soils and Soil Morphology - for the natural resources majors.		
	• Trig or either math and physics and class for physical geography.		
	• One or two more field study courses.		
	• I think additional math should be required not just college algebra.		
	• I would make the Summer field course required early on. It was one of my last classes and it was discovered that the outdoors was not my thing, but I'd already completed 95% of the program.		
	• Career Planning.		

Question 5 (continued): What change(s) would you recommend we make to our current degree requirements to enhance the quality and usefulness of our Geography program for today’s students?

[NOTE--Some respondents selected more than one response, so the percentages total more than 100%.]

Geography B.S.—Travel Geography Option Graduates (14 responses)

___	No change recommended	1	7%
___	Add additional requirement: Careers in Geography	6	43%
___	Add additional requirement: Geographic Information Systems (GIS)	4	29%
___	Add additional requirement: Global Positioning Systems (GPS)	1	7%
___	Add additional requirement: Introduction to Business	4	29%
___	Add additional requirement: Statistical Methods in Geography	1	7%
___	Add additional requirement: Technical Writing	4	29%
___	Add additional requirement: Undergraduate research project or internship	5	36%
___	Eliminate current requirement: GRY 367—Research Methods in Geog. and Planning . . .	2	14%
___	Eliminate current requirement: GRY 470—Field Study in Geography	0	0%
___	Eliminate the following current requirement(s) (specify):	1	7%
	• Travel Agency for Travel Geography not needed for many professions.		
___	Add the following additional requirement(s) (specify):	2	14%
	• Certify in PARS or SABRE to have graduating travel students qualified in booking air tickets.		
	• International Management/Marketing/Finance/Financial Geography.		

Geospatial Science (Cartography & Map Technology) Graduates (34 responses)

___	No change recommended	2	6%
___	Add additional requirement: Careers in Geography	5	15%
___	Add additional requirement: Geographic Information Systems (GIS)	24	71%
___	Add additional requirement: Global Positioning Systems (GPS)	10	29%
___	Add additional requirement: Introduction to Business	9	26%
___	Add additional requirement: Statistical Methods in Geography	4	12%
___	Add additional requirement: Technical Writing	12	35%
___	Add additional requirement: Undergraduate research project or internship	5	15%
___	Eliminate current requirement: GRY 367—Research Methods in Geog. and Planning . . .	2	6%
___	Eliminate current requirement: GRY 470—Field Study in Geography	3	9%
___	Eliminate the following current requirement(s) (specify):	1	3%
	• Statistics.		
___	Add the following additional requirement(s) (specify):	8	24%
	• Field work Methods/Classes.		
	• More legal requirements to survey program.		
	• Project Management.		
	• Mandatory Summer Internships with industry firms involved with GIS & Mapping.		
	• I am not familiar with your current program, but basic programming skills should be a requirement.		
	• A general class touching on careers, GPS, technical writing - stuff that may not fill a class but by itself still very important.		
	• Natural disaster/rescue scenarios and how terrain analysis can assist in evacuations & aid response.		
	• Geospatial Intelligence. Expand GIS/GPS to include sensor technology (remote sensing) and geospatial decision making.		

Question 6: What change(s) would you recommend we make to the content or emphasis of specific existing Geography courses to enhance their quality and usefulness for today's students?

Geography B.A. and Geography B.S.—General Option Graduates

- **Nothing I can think of.**
- **More real world examples - based on what's happening in Springfield.**
- **None.**
- **Energy/Energy/Energy.**
- **Think of this subject in relation geography. Employ ops in removable/sustainable energy fields.**
- **Add more field work: analyze soil conditions, locate quarry sites, watch a road construction from start to finish, formulate a system to complete the project, dealing with owners.**
- **Having traveled considerably, I find it is the geography of several areas that affects the government, life styles, etc such as mining, agriculture and fishing.**
- **Often there is too much information; most of it doesn't prove useful.**
- **No real changes - a universal emphasis on the need to stay current in your field. The learning cannot stop at graduation. Most careers will require a lifetime of learning and the individual must have the tools to study indefinitely.**
- **I believe students working on a geography major should be required to research jobs in the geography field and the department should work to help get them placed.**
- **I would recommend more emphasis on use of computers, as well as your skills in the business world.**
- **No politics in the curriculum. Educate don't politicize.**
- **The courses that I was enrolled in were valuable & specific in and to GRY. But I don't feel that students are prepared for career searching upon graduation. I had obtained knowledge in my major, but didn't know how or where to apply it.**
- **I view geography an interdisciplinary study. It's the ultimate synthesis of history, political science, physical science, statistics - that's why I love it. It combines a lot of knowledge to create a picture of life and its motivations. How can geology, history or political science be viewed more relevant than geography?**
- **I think more courses in GIS would be useful.**
- **I am not up to date on all of your current Geography courses, but I would say that to have some additional requirements or at least courses available that make the students more marketable - interdisciplinary areas is absolutely essential.**
- **Climate info and climate change.**
- **Technical writing helps everyone.**

Geography B.S.—Environmental & Natural Resources Option Graduates

- **Offer at least one more "Cultural Geography" "Economic Geography" and "Political Geography" including demographics & people's uses of resources (nature & man-made).**
- **I feel the geography courses I good just need additional science courses in physical geography major.**
- **More field study research and hands-on experience.**
- **Revisit what courses in Math are required - I did not have the math background to pursue the career in geosciences I had hoped for upon graduation.**
- **GRY 470- More field work and more data collection.**
- **More field work I think it would be better for students and ultimately help the environment.**
- **More field integration and current issue analysis.**

Question 6 (continued): What change(s) would you recommend we make to the content or emphasis of specific existing Geography courses to enhance their quality and usefulness for today's students?

Geography B.S.—Travel Geography Option Graduates

- **More practical applications for the work force. Once you graduate more career planning**
- **Marketing business class should be added**
- **Infusion of political and financial in all aspects. More business focus - many possibilities w/skills acquired in Geo Science - as long as you have a business focus/savvy (unless a government job!)**

Geospatial Science (Cartography & Map Technology) Graduates

- **Stay up with technology.**
- **Test students on their understanding of the labs more and not as much on main tests. Focus on their "hands on" skill. That will carry them in the GIS field farther than good test scores.**
- **It's been too long for me to make such recommendations. Maybe too much emphasis on Ozarks.**
- **More in depth use of ARC GIS. Less cultural geography options/requirements.**
- **Have some sort of focus on GEO INT, this is an important use of GIS in today's world.**
- **I am sure that the content of classes is much different now than in the 80's, but I wish I had more emphasis on computer, IT, other things that would have exposed me to the future and future possible careers.**
- **None that I am aware of.**
- **Regarding my experience @ MSU my view relates to improving the content with historical and current case studies to apply the methods in all courses such as Economic Geography or Political Geography.**
- **I'm not up to date with your current requirements, but in the Geospatial field, emphasis must be on GIS, Remote Sensing.**
- **Teach students how to integrate GIS into real world government & business (i.e. engineering) work flows to improve manual/out-dated processes. Example: buffer analysis to generate mailing notifications for Planning/Zoning & utility work.**
- **Any real world courses or internships would definitely benefit students as they become career ready.**
- **Suggest a degree program modeled after the USGIF Accreditation. Work Partnership agreement with National Geospatial Intelligence Agency - Largest Employer of GIS professionals in the country and they have a major installation in St. Louis.**

Question 7: Indicate your opinion concerning the importance of each of the following items in an undergraduate Geography program: 4=essential; 3=important but not essential; 2=nice to have, but not necessary; 1=unimportant and unnecessary

Geography B.A. and Geography B.S.—General Option Graduates (49 responses)

	Average
Introduction to geospatial sciences (GIS, remote sensing, GPS)	3.51
Computer operating systems and applications software	3.33
GRY 470 Field Studies in Geography	3.23
GRY 367 Research Methods in Geography and Planning	3.21
Independent study project (research, internship, etc.)	3.18
Statistics and data analysis	3.13
Technical Writing course	3.10
Summer Field Geography course	2.66
Computer programming languages (C++, Java, etc.)	2.51

Geography B.S.—Environmental & Natural Resources Option Graduates (29 responses)

	Average
Introduction to geospatial sciences (GIS, remote sensing, GPS)	3.48
Statistics and data analysis	3.41
GRY 470 Field Studies in Geography	3.38
GRY 367 Research Methods in Geography and Planning	3.38
Technical Writing course	3.23
Computer operating systems and applications software	3.19
Independent study project (research, internship, etc.)	3.10
Summer Field Geography course	3.00
Computer programming languages (C++, Java, etc.)	2.10

Geography B.S.—Travel Geography Option Graduates (14 responses)

	Average
Computer operating systems and applications software	3.64
Statistics and data analysis	3.00
Independent study project (research, internship, etc.)	3.00
Technical Writing course	2.91
Introduction to geospatial sciences (GIS, remote sensing, GPS)	2.82
GRY 367 Research Methods in Geography and Planning	2.82
GRY 470 Field Studies in Geography	2.64
Summer Field Geography course	2.64
Computer programming languages (C++, Java, etc.)	2.36

Geospatial Science (Cartography & Map Technology) Graduates (34 responses)

	Average
Introduction to geospatial sciences (GIS, remote sensing, GPS)	3.91
Computer operating systems and applications software	3.69
Statistics and data analysis	3.16
Technical Writing course	3.16
Independent study project (research, internship, etc.)	3.00
GRY 367 Research Methods in Geography and Planning	2.71
GRY 470 Field Studies in Geography	2.69
Summer Field Geography course	2.68
Computer programming languages (C++, Java, etc.)	2.56

Question 8: In light of the significant reduction in state support for higher education in recent years, we are under increasing pressure to reduce the cost of our program. Which of the following cost-cutting options do you feel would do the least harm to the Missouri State Geography program?

[NOTE--Some respondents selected more than one response, so the percentages total more than 100%.]

Geography B.A. and Geography B.S.—General Option Graduates (49 responses)

<input type="checkbox"/> increase class size (increase student-to-teacher ratio)	21	43%
<input type="checkbox"/> make more extensive use of graduate teaching assistants in laboratory sections	28	57%
<input type="checkbox"/> reduce the number of field trips and other out-of-classroom activities	8	16%
<input type="checkbox"/> reduce the number of optional upper-division Geography courses offered	1	2%
<input type="checkbox"/> reduce the ratio of laboratory experiences to lecture contact hours	2	4%

Geography B.S.—Environmental & Natural Resources Option Graduates (29 responses)

<input type="checkbox"/> increase class size (increase student-to-teacher ratio)	9	31%
<input type="checkbox"/> make more extensive use of graduate teaching assistants in laboratory sections	14	48%
<input type="checkbox"/> reduce the number of field trips and other out-of-classroom activities	2	7%
<input type="checkbox"/> reduce the number of optional upper-division Geography courses offered	2	7%
<input type="checkbox"/> reduce the ratio of laboratory experiences to lecture contact hours	0	0%

Geography B.S.—Travel Geography Option Graduates (14 responses)

<input type="checkbox"/> increase class size (increase student-to-teacher ratio)	6	43%
<input type="checkbox"/> make more extensive use of graduate teaching assistants in laboratory sections	7	50%
<input type="checkbox"/> reduce the number of field trips and other out-of-classroom activities	2	14%
<input type="checkbox"/> reduce the number of optional upper-division Geography courses offered	1	7%
<input type="checkbox"/> reduce the ratio of laboratory experiences to lecture contact hours	1	7%

Geospatial Science (Cartography & Map Technology) Graduates (34 responses)

<input type="checkbox"/> increase class size (increase student-to-teacher ratio)	15	44%
<input type="checkbox"/> make more extensive use of graduate teaching assistants in laboratory sections	20	59%
<input type="checkbox"/> reduce the number of field trips and other out-of-classroom activities	8	24%
<input type="checkbox"/> reduce the number of optional upper-division Geography courses offered	4	12%
<input type="checkbox"/> reduce the ratio of laboratory experiences to lecture contact hours	2	12%

Question 9: If Missouri State had not offered a major in Geography when you were an undergraduate, which of the following paths would you most likely have taken?

Geography B.A. and Geography B.S.—General Option Graduates (47 responses)

<input type="checkbox"/> graduate from Missouri State with a major other than Geography	38	81%
<input type="checkbox"/> graduate with a major in Geography from another institution in Missouri	5	11%
<input type="checkbox"/> graduate with a major in Geography from an institution outside Missouri	4	8%
<input type="checkbox"/> not graduate from any university	0	0%

Geography B.S.—Environmental & Natural Resources Option Graduates (24 responses)

<input type="checkbox"/> graduate from Missouri State with a major other than Geography	18	75%
<input type="checkbox"/> graduate with a major in Geography from another institution in Missouri	4	17%
<input type="checkbox"/> graduate with a major in Geography from an institution outside Missouri	0	0%
<input type="checkbox"/> not graduate from any university	2	8%

Question 9 (continues): If Missouri State had not offered a major in Geography when you were an undergraduate, which of the following paths would you most likely have taken?

Geography B.S.—Travel Geography Option Graduates (12 responses)

___ graduate from Missouri State with a major other than Geography	12	100%
___ graduate with a major in Geography from another institution in Missouri	0	0%
___ graduate with a major in Geography from an institution outside Missouri	0	0%
___ not graduate from any university	0	0%

Geospatial Science (Cartography & Map Technology) Graduates (32 responses)

___ graduate from Missouri State with a major other than Geography	19	56%
___ graduate with a major in Geography from another institution in Missouri	7	21%
___ graduate with a major in Geography from an institution outside Missouri	6	18%
___ not graduate from any university	0	0%

Question 10: If your son or daughter expressed an interest in majoring in geography, which would you do?

Geography B.A. and Geography B.S.—General Option Graduates (50 responses)

___ encourage him/her to pursue geography as a career option by majoring in Geography at Missouri State (assuming that the issue of in-state versus out-of-state tuition was not a factor)	33	66%
___ encourage him/her to pursue geography as a career option by majoring in Geography at a university other than Missouri State	9	18%
___ encourage him/her to pursue geography as an avocation, but not as a career	7	14%
___ discourage him/her from pursuing that interest	1	2%

Geography B.S.—Environmental & Natural Resources Option Graduates (24 responses)

___ encourage him/her to pursue geography as a career option by majoring in Geography at Missouri State (assuming that the issue of in-state versus out-of-state tuition was not a factor)	16	67%
___ encourage him/her to pursue geography as a career option by majoring in Geography at a university other than Missouri State	2	8%
___ encourage him/her to pursue geography as an avocation, but not as a career	4	17%
___ discourage him/her from pursuing that interest	2	8%

Geography B.S.—Travel Geography Option Graduates (14 responses)

___ encourage him/her to pursue geography as a career option by majoring in Geography at Missouri State (assuming that the issue of in-state versus out-of-state tuition was not a factor)	9	64%
___ encourage him/her to pursue geography as a career option by majoring in Geography at a university other than Missouri State	1	7%
___ encourage him/her to pursue geography as an avocation, but not as a career	3	21%
___ discourage him/her from pursuing that interest	1	7%

Geospatial Science (Cartography & Map Technology) Graduates (33 responses)

___ encourage him/her to pursue geography as a career option by majoring in Geography at Missouri State (assuming that the issue of in-state versus out-of-state tuition was not a factor)	22	67%
___ encourage him/her to pursue geography as a career option by majoring in Geography at a university other than Missouri State	7	21%
___ encourage him/her to pursue geography as an avocation, but not as a career	4	12%
___ discourage him/her from pursuing that interest	0	0%

Question 11: Which course (or courses) in your Missouri State Geography program have you found to be particularly useful to you after graduation?

Geography B.A. and Geography B.S.—General Option Graduates

- **Intro to Cart (GRY 363) Thematic Mapping.**
- **Planning.**
- **Geomorphology - conservation - GEO of the US - Physical geography weather elements. I never tried so hard to make a "C" and I was so Proud!"**
- **World Geography, Geography of Latin America, Environmental Geography, Geography of the U.S., Atmospheric Geography. P&Z, Geography of Middle East. Thanks Mr. Corcoran**
- **Economic Geography, Physical Geography and Cartography**
- **Cartography**
- **Rocks & Minerals**
- **Physical geography**
- **Economic Geography**
- **GIS**
- **GIS**
- **GIS**
- **Applied not theoretical 2/3 application 1/3 theory**
- **Urban Geography**
- **Urban Geography, Economic Geography and Conservation of Natural Resources.**
- **Geomorphology Field Studies – 470.**
- **Conservation of Natural resources.**
- **Land Development Law and Cartography (of course).**
- **Russia History and Geography.**
- **The Research Methods class has provided the most long term benefit as it taught me how to teach myself. Bill Cheek did a remarkable job with that class.**
- **Statistical analysis.**
- **Cartography - GIS- thematic Mapping world Regional Geog and US Geography.**
- **Cartography.**
- **Geomorphology & Cartography.**
- **Planning and research related.**
- **All of them as I use my education every day at my current profession (airline pilot). I especially use the courses I took in climatology, meteorology, math and physics on a daily basis. Milton Rafferty was my main professor and he was outstanding as an educator.**
- **I didn't really enjoy Economic Geography at the time, but I have found knowledge of the concepts useful. Research Methods, despite that I had a horrible first-time instructor for that course, has also proven useful It gave me a head start for my Graduate school level research methods course. My favorite classes were: Cartography, Cultural Geography and Atmospheric Science.**
- **Interpretation of Aerial photography was the single course that changed my career aspirations. Had they been taught better and with today's technologies, remote sensing, GIS and similar courses also would have had greater impact on my career outlook.**
- **Cultural geography, physical geography, computer mapping - cartography, GRY studies.**
- **Weather & Climate (5 hrs) 1968.**

Question 11 (continued): Which course (or courses) in your Missouri State Geography program have you found to be particularly useful to you after graduation?

Geography B.S.—Environmental & Natural Resources Option Graduates

- Physical Science aspects, as well a cultural/political reference frames for geospatial planning/analysis or both business and environmental requirements and challenges
- Intro to Cartography, Remote Sensing Field Camp
- Almost all of them that I took. Unfortunately, I was forced to "retire", before I got a chance to work in my field, due to family health issues.
- Research Methods, Field Study Geomorph, and Cartography
- I also received a minor in geology and the only courses useful were the geology classes because I taught HS Science for six years.
- Environmental chemistry
- Resume and Cover letter class
- Aerial photo interpretation Geomorphology Geology Soils
- As a former soil scientist and now a hydrologist the following courses were useful: Geomorphology, Geology, Atmospheric science, conservation of natural resources, cartographic science/GIS
- Physical Geography Cartography
- Geomorphology, GIS
- Conservation of natural resources field studies classes
- Field methods, geomorphology
- Economic geography Cartography, Intro to Geo, Physical Geo"
- All field experience courses
- Geology 110
- GRY 367 - Great class, I use stats every day, GRY 142 - Very basic class, but still helpful, GRY 470- Great trip, just wish we had more ""field work""
- Physical Geography - V's point up stream type of info
- Geomorphology, Atmos. Science, cartography
- I was appreciative of the required resume class
- Atmospheric Science
- Field Studies: Taught me research improved intercommunications skills. Building teamwork, budgeting, and was a hell of a lot of fun! I'll always cherish GEO Summer Camp with David Castilion and Geology Summer Camp with Vince Kurtz.
- The field courses, weather courses and physical geography helped me immensely.
- GLG 499 Independent Research Project with Pavlowsky, RIL 537, GRY 561, GRY 348 n- Translates well for on the ground applications.

Geography B.S.—Travel Geography Option Graduates

- Geography of the US and Geography of Europe.
- Planning courses, Urban Geography, Basic Geography, Lab courses.
- Sustainability w/Dimitri Ioannides
- Honestly, I haven't used hardly any of the info learned in my classes. Most of it didn't apply to any jobs I held.
- Tourism.
- I can't honestly say any have been useful, referring to Question #1 - I am not using my degree.

Question 11 (continued): Which course (or courses) in your Missouri State Geography program have you found to be particularly useful to you after graduation?

Geospatial Science (Cartography & Map Technology) Graduates

- All 4 surveying classes. GPS class.
- All of them I didn't like, technical reports, writing - proper grammar, etc.
- The land surveying classes as I am now a MO Professional Land Surveyor.
- Political Geography GIS.
- GIS, Statistics, Computer Programming, Technical Writing.
- All my computer/cartographic classes. All the photo interp. classes, Photogrammetry class, Geography of USSR (Focus on adding more foreign Geography classes).
- Soils/General Geology.
- GRY 100, GRY 363, GRY 360, Photogrammetry, Remote sensing.
- Aerial photography, remote sensing, photogrammetry.
- Field work, computers, writing.
- GRY 360 - Interp Aerial Photo, GRY 275 - Intro/Plane Survey, GRY 363 & GRY 362
- I have used nearly everything! When I was in school there were requirements for drafting & printing technology. These are likely dropped (I hope!) With current technology, all sorts of people can now make a map; however accurately and clearly presenting it
- Air photo Interp GIS 1 & 2.
- Computer based mapping.
- Cartography, Photogrammetry, Regional Geography, Atmospheric Science (Meteorology), Computer Science.
- None specifically, just that the cartography program had a well rounded selection of courses.
- GRY 470 Field Studies in Geography.
- Air photo interpretation. Computer aided cartography and photogrammetry.
- Geology, air photo interpretation, computer mapping, cartography.
- Cartography, photogrammetry & Remote Sensing, Thematic Mapping, Computer Cartography, surveying, Advanced Surveying, Legal Aspects of Surveying and surveying computations.
- GIS/Computer Cartography.
- In my case it was probably the photogrammetry course, the elements of cartography course, and the air photo interpretation course.
- Since I was a business major prior to moving into cartography, I highly recommend a combination of Business & Geography courses. This approach makes a more well rounded professional and it increases an individual's communication & technical skills combined
- All the GIS courses and the GPS course. GRY 470 was also helpful.
- Remote Sensing.
- Photogrammetry and Digital Cartography.
- Cartography - now GIS, Remote sensing and interpretation of Imagery.
- Cartography, Photogrammetry, Photo Interpretation.

Question 12: What specific skills did you acquire in your Missouri State Geography program that have been particularly useful to you after graduation?

Geography B.A. and Geography B.S.—General Option Graduates

- **Drafting & cartography are useful in my career as a cartographer**
- **Working in a group, presentation skills and writing abilities.**
- **Aerial photography - physical geography- understanding weather - I am a private pilot.**
- **Interpersonal writing, more open-minded view and basic geography knowledge.**
- **Understanding the general concepts of the history of the world.**
- **Ability to do research in a variety of situations.**
- **Field course work - invaluable!**
- **Independent Research.**
- **Identifying relationship/connectedness, recognizing & planning for consequences**
- **Cartography.**
- **Computer mapping (GIS). How to prepare an environmental assessment.**
- **Taught Geography, Earth Science, History, Political Science and Archaeology for 35 years. I felt that I was well trained for my profession.**
- **Understanding spatial relationships Developed a great respect for environmental concerns**
- **General knowledge of the earth and its analysis.**
- **ARC and GIS applications.**
- **Understanding how geography can be applied to business, i.e. trends in demographics and why people live where they live. Analyzing & presenting spatial data- cartography was highly useful. Even in today's world of GIS I find cartographers presentation of information to be far superior to that of a purely GIS trained technician. All maps are not created equal! A good map not only looks good, but presents data in a logical and understandable way.**
- **Basic understanding of various geography principles and disciplines. Understanding of applying geographic methods to some of today's problems. Understanding of cultural aspects of various regions of the world and how this applies to mutual cultureless in the U.S.**
- **Geomorphology.**

Geography B.S.—Environmental & Natural Resources Option Graduates

- **General: The hands on experience in classroom and related labs, as well as participation/membership in professional societies and groups. Specific: Classification of minerals, objects, etc, as well as their inclusion association with more general category.**
- **GIS Demographic Analysis Rec Geog.**
- **Soil science (part of Geomorphology & minor in Ag) Water testing.**
- **Geomorphology, map reading.**
- **My geology knowledge was useful when I taught evolution in HS.**
- **Basic knowledge of environmental theory.**
- **GIS skills - these are essential for any of the natural resources fields Geomorphology/Geology**
- **Applied GIS skills, land for id, channel morphology, soil geomorphology, water quality, water land management, land use planning, mapping, surveying, too many to list.**
- **Environmental impact statement cause/effect.**
- **By choice I have been a stay at home mom. The education I received in the Geo-Science Dept has been priceless in helping me guide and teach my children about their environment.**
- **Field work (Field study courses).**
- **Stats, map reading.**
- **Learn how to read a map, help confirm east, west, north & south.**
- **Critical thinking, a broader view of the world.**
- **Writing/report preparation, research, intercommunication skills, and travel.**
- **Paying more attention to motive and the environment as a whole.**
- **I have used GIS in every resource job I worked. The basic physical systems and relationship understanding has been essential for effective resource, damage mitigation and monitoring.**

Question 12 (continued): What specific skills did you acquire in your Missouri State Geography program that have been particularly useful to you after graduation?

Geography B.S.—Travel Geography Option Graduates

- **Report writing, research, analytical skills.**
- **Labs.**
- **Group projects - working together as a group. Understanding basic geography and physical geography (example - weather maps).**
- **Cartography and Mapping abilities.**
- **Research and study skills. Writing skills.**
- **Computer system operators.**
- **Cultural and locational geography - easy to build upon knowledge based in professional career. Study of large planning projects and infrastructure. Group travel study.**

Geospatial Science (Cartography & Map Technology) Graduates

- **GIS.**
- **Computer skills most all.**
- **The 4 Land survey courses were required to obtain entry into the Land-Surveyor Training Program.**
- **A solid understanding of map technology, from pen and ink to computer mapping. All the computer mapping classes I had; remember, back then SMSU did not have very many computers.**
- **Cartography.**
- **Getting an introduction to photogrammetry and Remote Sensing**
- **Basic cartographic, map making skills**
- **Hand eye, details, organizational**
- **The ability to read aerial photography absolutely to use ESRI - Arc View (now Arc GIS/Arc Map)**
- **Immediately after graduation, I really needed the basic cartography courses. Even now after over 20 years, I still rely on these skills as well as the interpretation of aerial photography (I used it today, actually!)**
- **Mainly the broad range of classes helped me realize which areas of geography I did or did not want to pursue as a career. Using Arc Map was the most useful skill that I acquired. Every job still required a bunch of training.**
- **Overall map composition**
- **Cartography, Photogrammetry, Math Skills, Computer Skills.**
- **Statistics (*statistical methods) and GIS/Remote Sensing**
- **GIS skills in general were the most useful. Still remember grad student Rick telling me how big it would be, so at that time it was right on the money.**
- **Contour maps/awareness. Imagery analysis**
- **Cartographic skills and an understanding of the entire process of mapping that allowed me to thoroughly understand the processes and improve them at a very early part of my career.**
- **Math**
- **Learning the basics of the analog stereoplottter. I would have to say the rest of my skills acquired from the program were general and well-rounded**
- **GIS**
- **Stereo compilation map design**
- **Marvel Cartography and interpreting aerial photography**
- **Business Stats**

Question 13: From your post-university experience, what have you discovered that you could have used more of in your Geography curriculum?

Geography B.A. and Geography B.S.—General Option Graduates

- GIS should have been required in my major. It would have made me more marketable.
- Economics, business and political science.
- GIS is now a permanent tool for use in geographic endeavors that I would have found exceedingly helpful.
- More world geography - better computer mapping (It was really poor) No offense Bill - You were great! The Lab facilities would have been a good Saturday Night Live Skit. (Was never so frustrated in my life!) Fortran meets Wal-Mart.
- Visits to classrooms by employee geo pros.
- Understanding politics, writing skills (less content is more in the business world).
- Technical writing.
- Statistical methods.
- Remote sensing - it was just beginning then.
- Intelligence/defense courses.
- Upper level math, physics.
- GIS.
- World Political Geography.
- More emphasis on self-study, research writing, internships. Be able to see how geography is used in the business world.
- Environment related courses - current topics.
- Meteorology courses and geology.
- GIS and computer-aided design, software training.
- Understanding of the physical, economic, and cultural impacts on people-knowledge of the history behind world events that are still impacting peoples today.
- I think I could have used more courses in GIS & a course in remote sensing & spatial analysis.
- The sciences in general do not place enough emphasis on writing and communicating research. Greater emphasis needs to be placed on translating technical jargon and esoteric concepts into easy to understand papers and presentations for success in the business and government sectors.
- Statistical method on Geography.
- Math.

Geography B.S.—Environmental & Natural Resources Option Graduates

- Use of geography as a research and business tool.
- Always more hands on and field & lab time.
- GIS, Technical writing.
- More regulatory exposure - i.e. EPA laws & such.
- Nothing.
- More water resources classes, hydrology courses.
- For physical biography: math, physics, chemistry, intro to hydrology & hydraulics, and additional geology.
- More GIS.
- Environmental planning and field research.
- Hands on learning.
- Math (engineering). Hydrology.
- More field work.
- Planning, but that didn't come until after I left to attend graduate school.
- GIS.
- On the natural resource side of things: more exposure to land management, agencies & practices, field tools (trimble, clinometers...), restoration ecology, hydrology, and a required internship or 2-3 hour independent research project.

Question 13 (continued): From your post-university experience, what have you discovered that you could have used more of in your Geography curriculum?

Geography B.S.—Travel Geography Option Graduates

- More planning courses, more help with career planning in the geography field. More talk about the education field, as far as teaching geography.
- Upon graduating from the Travel/Tourism classes, I secured a job with a tour company. I then worked for another "group tour company," however; after 9-11 and unforeseen layoffs, I was not qualified to become a basic "travel agent". I did not have the knowledge.
- Mapping & Internships.
- Life in college & what you learn in classes is completely different from the real world. I don't think that can be taught in a classroom.
- If I had been exposed more to careers of the future that my Geography experience could lead to, I would have been more likely to further my education by attending grad school.
- Travel classes.
- Sales & creative writing, journalism, or production (TV), also foreign language.

Geospatial Science (Cartography & Map Technology) Graduates

- Field work and data collection.
- More of the Land survey Legal course work
- More computer skills would have been helpful or will as some basic business courses.
- If your students are planning a career in Government, they need as much computer/GIS training as possible. Maybe a technical management type class would be good as well.
- Exposure to advance technology & the most modern methods of map production & analysis.
- English Comp, technical writing, communications
- For my career w/NRCS I need more soils/crop science classes in order to advance, but these are AG classes
- I came into this field just as it was getting computerized. In spite of regular training w/ the ESRI software, my lack of programming continues to be a gap in my knowledge
- Knowing common software, especially all of the options and shortcuts and tools available in Arc GIS. Many jobs deal with infrastructure, having a course that focused on recognizing all the different types of infrastructure could be useful for GIS & Remote sensor.
- A little Auto-Cad. I don't use it, but am forced to do some work with it as I get data from others.
- Management courses, speech and formal presentation skills
- More programming classes (Please keep in mind I graduated in 1986)
- Computer mapping.
- Technical Writing.
- More exposure to companies in our industry, through tours, etc.
- An emphasis on technical and statistical writing. Report writing is essential in the field and separates the upwardly mobile than those that will remain as live staff.
- Math and Computer Science.
- Business & Management.
- Hard to say, because the technology changed so rapidly. It was good for me at the time to learn about using the stereoplotter, and it translated well into the start of my career with a bit of hands-on experience.
- Solving real world problems using GIS, requires people to work together (team work) do define objectives solve problems, etc. All of which requires consultative skills including needs analysis requirements definitions, etc.
- More GIS programs, but they were not offered when I was in school at SMSU.
- I am pleased with the skills I learned while attending Missouri State. They did carry over nicely into the Real World. More imagery analysis and analyzing data and problem solving
- World Political Geography.

Question 14: Please provide any additional comments that you think would help us improve the Geography curriculum.

Geography B.A. and Geography B.S.—General Option Graduates

- Create a class to learn about employment ops.
- Get the feel for what's needed in different fields associated with Geography & Geology.
- Have another Dr. Burl Self.
- As new methods are developed you should offer courses that will bring people up to date.
- I believe the curriculum could use a course in Geography and its analysis as it related to business.
- Find another Bill Cheek!
- You should offer a degree in Meteorology or Climatology.
- Perhaps more focus in business & its relationship with GRY. More computer classes in GIS and GPS. Offer more assistance and information on career paths in GRY. Do not increase the students and professor ratio. That is one of the reasons I selected GRY as my major, the professors are very accessible and attentive.
- More knowledge of what careers I can use an undergraduate geography degree in. If I hadn't found my way to librarianship (I'm currently a Medical Library Director) I would have gone to graduate school in geography.
- Application of the science to real-world problems is everything. Don't spend time creating techno-geeks (although we do need them). Spend more time in real-world use cases and analytic problem solving scenarios. Get geographers to team with software developers in combined projects.
- More "cultural" courses.

Geography B.S.—Environmental & Natural Resources Option Graduates

- As a persistent student of SLT and related spatial phenomenon, probes into technical specialties (past, present and future) continue to provide insights with practical and intellectual value to improving/preserving our health and natural environment adaption.
- A comprehensive resource library in Temple or other Geo bldg on campus.
- To save the university, money, get rid of the physical geography/environmental & Natural resources. In my opinion, it is an irrelevant major. I was not able to find a job dealing with the environment. To find an environmental job, a person needs to be at least be a geologist or engineer.
- Require undergraduates in the natural resources option take a soils course (3-6 hours).
- I feel the physical geography program should be more rigorous in the sciences.
- Keep field & labs - critical thinking, practice. This is very valuable in career.
- Don't get rid of the field classes - they are very important in giving the hands-on experience.
- More field work - which gives more career related experiences. Even though I had math, I'm glad I took GRY 367. Any kind of field work is an added benefit. I had few or no work related experience, but the projects I did at MSU helped fill that void.
- Show students how to use GIS and GPS.
- I loved my time and experience at MSU. Wouldn't trade it for anything. Great town - great school.
- I think more technical writing would be beneficial. GPS in interesting so many applications may come from it. GRY 470 was beneficial and a great hands-on experience and I feel it should be kept.
- I graduated in 1980 - the last class at SMSU that didn't require computer classes, I believe. Emphasize: Computer Science skills, written communication skills (not e-mail!)
- Get the student in the field. That's where it all happens. You have to feel it, smell it, and just be a part of it. Get out there!
- Field trips, courses, research projects... are the most practical and effective curriculum. Prep for graduate school: GRE, options, and career requirements.

Question 14 (continued): Please provide any additional comments that you think would help us improve the Geography curriculum.

Geography B.S.—Travel Geography Option Graduates

- **More groups and extra activities to be with others in your major. More contact with employment in the Geography field. More recruiters - for example Map Defense Agency in St. Louis.**
- **Travel major should take more business classes to enhance their analysis skill.**
- **Everyone did their internship at Great Southern Travel where we did very little actual interning. We were primarily use as "free labor", and did menial chores around the office.**
- **Field study is important. Different types related to travel/incentive/meetings as well as marketing/bus/finance related geography as well as study abroad opportunities are invaluable.**

Geospatial Science (Cartography & Map Technology) Graduates

- **Field work and data collection.**
- **In my area of work I am asked to look at proposals, content, cost estimations, and keep track of monetary assets. So some business courses would have helped me.**
- **I would suggest sending students to GIS Conferences. ESRI, Federal Users Conference, Intergraph Conference, Lidar Conference, etc. This is a great way to expose them to the real world of GIS.**
- **More choices on outdoor labs.**
- **Create public/private research & development business partnerships. Partially funded by commercial contracts with business partners and government research funds. Web-based courses.**
- **The more field work the better, get them outside!**
- **Although geography still stands as an important basis for this field - the marketable skills are the IT skills and the business know-how to implement geography into an organization. Technical writing and presentation skills were not something I thought I needed.**
- **I would recommend that you make students keep good records of all of their places of employment and living addresses in case they need to apply for a job that requires a security clearance.**
- **Focus more on GEOINT, not just GIS.**
- **I think bringing back each alumnus to give short presentations on what their work day/month/year entails.**
- **Provide a much instruction in computers (e.g. programming, operating systems, and application software), GIS, GPS and remote sensing as possible. Add more math to the curriculum.**
- **Solicitation of internships through companies to gain real world experience, plus it gives the employer a chance to try out potential employees with no strings attached.**
- **Potential to bring successful alumni back to campus for a colloquia series to highlight their careers, work or help deepen the students experience.**
- **If you haven't already, develop partnerships with the corporate world to ready students for their careers. These companies are also looking for talented entry-level candidates. Have them familiar with their software products especially.**
- **Try to offer basic courses in VP Script, Python, and VB or C# that relate to GIS**
- **As much hands on experience. My first job was with DMA and it was made easier because I already knew how to compile, scribe, and interpret aerial photography.**