New Course

	New Data
Program Affected?	Y
Program Change Form Submitted?	N (Simple Change) - Please add this course to "Complementary courses" for: B.A. & Sc. Interfaculty Program in Sustainability, Science and Society, in Area 1A: Methods: Observation, Analysis, Modelling and Management AND B.A. Honours in Urban Systems, as a "Complementary Course" option AND B.A. Major Concentration in Geography, as a complementary course listed in 'Analysis & Methodology' section
Subject/Course/Term	GEOG 512 • one term
Credit Weight or CEU's	3 credits

Course Activities

Schedule Type	Hours per week
M - Seminar	3

Total Hours per Week : 3
Total Number of Weeks : 13

Course Title

Official Course Title :	Adv quant meth in soc fld rsch
Course Title in Calendar :	Advanced quantitative methods in social field research

Rationale

The University offers a broad range of field experiences to undergraduate and graduate students through through field studies courses, independent studies, or thesis/dissertation research. However, little instruction offers students the opportunity to think about designing field research in human geography or other social sciences, and then how to pair this with quantitative analytical techniques. This course proposes to introduce some common techniques used across quantitative human geography and other disciplines such as economics, political science, epidemiology, sociology, quantitative anthropology, and psychology. These techniques can control for local geographic context in various ways, and offer interesting perspectives for analyzing data from a geographic perspective for a range of disciplinary or interdisciplinary research. The use of techniques to quantitatively assess impacts of policies or programs, to analyze time-series household or land use data, and to examine (or control for) spatial relationships have dramatically increased. Students interested in understanding the latest research on human-environment relationships should have familiarity with these techniques. Students should learn not only

	how to use these techniques, but also the critical assumptions they carry. Further, those interested in using these techniques in their own work must currently engage in self-directed study. This course will help draw connections across these techniques, introduce students to a range of ways to analyze primary social field data, and provide a foundation for deeper self-directed study in quantitative methods.
Responsible Instructor	Brian E Robinson
Course Description	How does one collect data to quantitatively assess research questions in human geography or other social sciences, and what methods are available to analyze those data? This course introduces students to advanced statistical techniques commonly confronted in field-based social science studies. The course is divided into four major topics: research design, evaluating impacts of policies or programs, time-series data, and spatial interactions. For the techniques investigated, the course will highlight major technical assumptions, field considerations for data collection, and how each does or does not account for geographic factors that may influence outcomes of interest.
Teaching Dept.	0288 : Geography
Administering Faculty/Unit	SC : Faculty of Science
Prerequisites	GEOG 351 or SOCI 504 or SOCI 505 or ECON 337, or equivalent experience in applied multivariate regression with permission of instructor Web Registration Blocked? : N
Corequisites	
Restrictions	
Supplementary Calendar Info	
Additional Course Charges	
Campus	Downtown
Projected Enrollment	15
Requires Resources Not Currently Available	N
Explanation for Required Resources	
Required Text/Resources Sent To Library?	
Library Consulted About Availability of Resources?	
Consultation Reports Attached?	Y - ANTH-consultation_COMPLETED.docx - BIOL-consultation_COMPLETED.docx - SOC-consultation_COMPLETED.pdf

		ECON-consultation_COMPLETED.pdf
		MATH-consultation_COMPLETED.pdf
		MATH-consultation2_COMPLETED.pdf

Effective Term of Implementation	201409
File Attachments	• geog512-Adv Quant Methods_2013-11-11.docx
To be completed by the Faculty	
For Continuing Studies Use	

Approvals Summary

Show all comments

Version No.	Departmental Curriculum Committee	Departmental Meeting	Departmental Chair	Other Faculty	Curric/Academic Committee	Faculty	SCTP	Version Status
7					Approved Malek Yalaoui Meeting Date: Nov 26 2013 Approval Date: Nov 25 2013 View Comments	Approved Malek Yalaoui Meeting Date: Dec 03 2013 Approval Date: Nov 25 2013 View Comments		Approved by Faculty Meeting Edited by: Brian Robinson on: Nov 22 2013
6								Approved by Department Meeting Edited by: Brian Robinson on: Nov 22 2013
5		Approved Lea Berrang Ford Meeting Date: Nov 18 2013 Approval Date: Nov 20 2013 View Comments						Approved by Department Meeting Edited by: Brian Robinson on: Nov 11 2013
4	Approved Lea Berrang Ford Meeting Date: Oct 21 2013 Approval Date: Oct 30 2013 View Comments							Approved by Departmental Curriculum Committee Edited by: Brian Robinson on: Oct 30 2013
3								Submitted to Departmental Curriculum Committee for approval Edited by: Brian Robinson on: Oct 28 2013
2								Submitted to Departmental Curriculum Committee for approval

								Edited by: Brian Robinson on: Oct 28 2013
1								Submitted to Departmental Curriculum Committee for approval Created on: Oct 21 2013

Geography 512
Advanced quantitative methods for social field research (3 credits)
Proposed course outline; academic year 2014-2015

Professor Brian E Robinson
Department of Geography
Burnside Hall, room 432
brian.e.robinson@mcgill.ca
514-398-3453

Summary
How does one collect data to quantitatively assess research questions in human geography or other social sciences, and what methods are available to analyze those data? This course introduces students to advanced statistical techniques commonly confronted in empirical social science literature, particularly those used to analyze primary field data. The course is divided into four major topics:
- designing field research for social inquiry
- methods for causal inference
- analyzing time-series data
- controlling for and measuring spatial interactions

As we go through the course we will highlight (a) how these techniques do or do not account for geographic factors that may influence outcomes of interest, (b) the major assumptions that underlie the methods we investigate, and (c) how field data collection relates to each analytical method.

We will use journal articles, book chapters and case studies to deepen our understanding of research design and analytical techniques. Readings will draw from a range of disciplines, but most will focus on analysis of socio-economic and environmental systems. Some of the topical questions we might consider include:
- How do we know if a particular aid or development project is achieving results?
- Does participation in afforestation programs have a positive effect on poor households?
- How do households consider aspects of the landscape in choosing their livelihood activities?
- How does the spatial pattern of road development affect tropical deforestation?
- Where should conservation efforts be located?

Course prerequisites
GEOG 351 or SOCI 504 or SOCI 505 or ECON 337, or equivalent experience in applied multivariate regression with permission of instructor.

Learning objectives
1. Gain a better understanding of how to design field research, and advanced statistical techniques that can analyze self-collected data.
2. Develop the ability to better understand and critique literature that uses the statistical techniques covered in this course.
3. Acquire a broader understanding of how, and to what extent, quantitative methods can estimate or control for local geographic factors when estimating relationships.

Assessment

40% *Laboratory exercises* [LE] (approx. 4)

Students will work individually or in small teams (depending on the assignment) to practice the methods we review in class. Students can use any software package they like, but I will be able to field software questions pertaining to STATA or MatLab.

10% *Research ideas* [RI] (approx. 4)

A 1-2 page exploration of a research idea related to the topics we cover in class. This should include a (a) problem statement with a research question, (b) description of the data one would use answer that question and (c) the methods one could use to address the question.

10% *In-class presentation of a journal article*

Students (or teams of students, depending on size of the class) will select a paper from a list of papers related to the course outline. The student(s) will present the paper's methodological strategy, strengths and weaknesses, results, and overall contribution.

30% *Research paper*

Students will use their own data, secondary data, or one of the datasets used in class to develop an independent research paper of no more than 4000 words. The topic is flexible, but data analysis should be inspired by topics covered in the course.

10% *Class participation*

Participation is evaluated based on evidence that students have read assigned readings and prepared for class, and regular, thoughtful contribution to weekly discussions. Quality of contribution is preferred over quantity. Preparation, participation and performance in student-led discussion will be taken into account.

Readings

Readings draw from foundational journal articles, textbook treatments of methodologies, or case studies that demonstrate methodologies. Several chapters will come from these two books (abbreviations are referenced in the *Schedule* below):

R&P. Rea, LM and Parker, R. 2004. Designing and conducting survey research. (San Francisco: Jossey-Bass Publishers).

M&W. Morgan, SL and Winslip C. 2007. Counterfactuals and causal inference. (New York, NY: Cambridge University Press).

W. Wooldridge, JM. 2010. Econometric analysis of cross section and panel data. (Cambridge, MA: The MIT press).

Other book-level treatments that may be of interest:

Bradley HE and Collier D. 2004. *Rethinking Social Inquiry: Diverse tools, Shared Standards*. (Lanham, MD: Roman and Littlefield).

Deaton A. 1997. The Analysis of Household Surveys. (Washington, DC: John Hopkins University). Press.

Luker K. 2008. *Salsa Dancing into the Social Sciences*. (Cambridge, MA: Harvard Univ Press).

Pearl, J. 2009. *Causality*. 2nd Ed. (New York, NY: Cambridge University Press).

Schedule

Week	Session	Description	Readings: theory & methods	Readings: application	Exercise
1	a	Introduction & overview of the research process	Luker K. 2008. Ch 1. Bradley & Collier 2004. Ch 1		
	b	Experimental design for social sciences	Bradley & Collier 2004. Ch 2 & 7		RI: pers. interest
Research design					
2	a	Sampling Field (hh) survey design I	R&P. Section 2. Deaton 1997, Ch 1.1		
	b	Field survey design II	Deaton 1997, Ch 1.2-1.3		
3	a	Measurement & attenuation bias	Handout on attenuation bias Crossly & Kennedy 2002		LE: measuring welfare
	b	Field logistics (technology, enumerators, ethics, etc.)	R&P. Ch 1.3 Administering questionnaires		
Evaluating impacts of policies & programs					RI: eval
4	a	Randomized controlled trials (for)	Duflo, Glennerster, et al. 2007. Blattman: Impact eval 3.0. W. Ch 21.1	Duflo et al 2012. Ch 1 Poor Econ. Ashraf, Jack, et al. 2012. Info & Subsidies. JEBO.	
	b	Randomized controlled trials (against)	Ravallion 2009. Should the Randomistas Rule?		
6	a	Instrumental variables	M&W Ch 7. W. Ch 21.4	Deaton 2010. *Instruments, Randomization, and Learning about Development*.	
5	a	Matching	M&W Ch 4 W. Ch 21.3	Joppa, et al 2010. *Reassessing the forest impacts of protection*. Annals of NY Acad of Sci. Andam, 2008. *Measuring effectiveness of protected areas in reducing deforestation*. PNAS.	LE: matching
	b	Difference-in-difference	Romero, et al 2008. W. Ch 10.6	Zheng, Robinson 2013. PNAS. (DID + Matching)	
Data over time & temporal considerations					RI: temp
7	a	Fixed intercept models	W. Ch 10	Glewwe & Jacoby, Chapter 23. Designing Household Survey Questionnaires for Developing Countries.	
	b	Random coefficients models	W. Ch. 10 (con't)	Cole. 2005. *Re-examining the pollution-income relationship*.	
8	a	Multilevel modeling cases	Rabe-Hesketh 2012, Chapter 2-4.	Aslam 2012. *The geography of well-being*. Econ Geog. Larsen 2005. *App Assessment of neighborhood effects on ind health*. Am Epi. Wendland, 2011 *Deforestation and governance in Russia*. GEC.	LE: panel methods

				Holland 2013. *Land tenure & defor in Ecuador*. WD	
	b	Regression discontinuity (?) (spatial / temporal)	M&W Ch 9.2 W. Ch. 21.5	Keele, 2013. *Geographic boundaries as regression discontinuities*. (Working ppr)	
Spatial considerations					RI: spatial
9	a	Review: spatial autocorr and spatial lag	Anselin. 2001. *Spatial Econometrics*.	Espindola 2012. *Agricultural land use dynamics in the Brazilian Amazon based on RS and census data*. App Geog.	
	b	Modifiable areal unit problem	Fotheringham & Wong. 1991. *The modifiable areal unit problem in multivariate statistical analysis*. EPA.	Taylor 2003. *The modifiable areal unit problem: Segregation between schools and levels of analysis*. EPA.	
10	a	Spatial interactions: neighborhood effects	Dietz. 2002. *The estimation of neighborhood effects in the social sciences: An interdisciplinary approach*. Soc Sci Research.	Ross et al. 2005. *BMI in Urban Canada*. AJPH	LE: spatial methods
	b	Spatial interactions con't	Durlauf. 2002. *Neighborhood Effects*.	Zhou et al. 2011. *Poverty, biomass, air pollution in Accra, Ghana*. PNAS.	
11	a	Land use regression	Lewis & Plantinga. 2007. *Policies for Habitat Fragmentation: Combining Econometrics with GIS-Landscape Simulations*. Land Econ.	Polasky et al. 2008. *Where to put things*. Biol Cons.	
	b	Geographically weighted regression	Charlton & Fotheringham. 2009. *Geographically Weighted Regression*. LeSage. 2004. A Family of Geographically Weighted Regression Models.	Huang & Leung. 2002. *Industrial growth Jiangxi*.	
Wrap-up					
12		Review & wrap up	n/a	Fotheringham, Brunsdon. 1999. *Local forms of spatial analysis*. Paez, Scott. 2004. *Spatial Stats for Urban Analysis*.	
13		Research project consultations			

4

Language of Assignments
In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded. (*approved by McGill Senate on 21 January 2009 - see also the section in this document on Assignments and evaluation.*)

Conformément à la Charte des droits de l'étudiant de l'Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté (sauf dans le cas des cours dont l'un des objets est la maîtrise d'une langue).

Academic integrity
McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see www.mcgill.ca/students/srr/honest/ for more information). (*approved by Senate on 29 January 2003*)

To help ensure students follow proper citation and attribution practices, I reserve the right to use text-matching software to flag potential problems. If you have questions about how to properly reference work, please see me in office hours.

Late work
Late assignments are accepted, but will result in a 5% reduction in the points attainable on that assignment, per day. "Late" is defined as more than 1 minute past a stated deadline. Work more than one week late will not be accepted. Please see me for special circumstances.

CONSULTATION REPORT FORM
RE COURSE PROPOSALS

DATE: October 28, 2013
TO: **Dr. Ismael Vaccaro**
               Department of Anthropology/ McGill School of the Environment
               McGill University
               Stephen Leacock Building, Room 838
               855 Sherbrooke Street West
               Montreal, Quebec, H3A 2T7
               Tel.: 514-398-5832
               ismael.vaccaro@mcgill.ca

FROM: Dr. Brian E Robinson

Faculty: Science

Department: Geography

Chair: Tim Moore

E-mail: brian.e.robinson@mcgill.ca

The attached proposal has been submitted to the Curriculum/Academic Committee, and it has been
decided that your department should be consulted on the course [course Code + #, Title, Credit Weight]:
               GEOG 512, Advanced quantitative methods for social field research, 3 credits

Would you be good enough to review this proposal and let me know as soon as possible, on this form,
whether or not your department has any objections to, or comments regarding, the proposal.

_____X_____NO OBJECTIONS   _____SOME OBJECTIONS

COMMENTS:

Signature: _____

Date: _____3/11/2012_____

CONSULTATION REPORT FORM
RE COURSE PROPOSALS

DATE: October 28, 2013
TO: **Dr. Jon Sakata**
               Department of Biology
               McGill University
               Stewart Biology Building
               1205 ave Docteur Penfield
               Montreal, Quebec CANADA H3A 1B1
               Tel.: 514-398-3636
               jon.sakata@mcgill.ca

FROM: Dr. Brian E Robinson

Faculty: Science

Department: Geography

Chair: Tim Moore

E-mail: brian.e.robinson@mcgill.ca

The attached proposal has been submitted to the Curriculum/Academic Committee, and it has been decided that your department should be consulted on the course [course Code + #, Title, Credit Weight]:
               GEOG 512, Advanced quantitative methods for social field research, 3 credits

Would you be good enough to review this proposal and let me know as soon as possible, on this form, whether or not your department has any objections to, or comments regarding, the proposal.

XX   NO OBJECTIONS   SOME OBJECTIONS

COMMENTS:

I think this course is a wonderful complement to the courses I am offering in the Biology department (BIOL 596: Advanced Experimental Design, and BIOL 597: Advanced Biostatistics). This course emphasizes time series and spatial models that my course does not focus heavily on.

Signature: _____

Date: _____

Brian, several of us have reviewed the course proposal, and we have no objections. I hope that this email can be taken as sufficient confirmation.
Best,
John

John W Galbraith   Chair, Department of Economics, McGill University
855 Sherbrooke Street West, Montreal, Quebec H3A 2T7 Canada
514 398 4400 extension 09044   http://johngalbraith-economics.mcgill.ca
----

Dear Prof Galbraith,
I'm new faculty in the Dept of Geography wanted to run a course by Economics that I'm proposing, GEOG 512. The proposed course will focus on primary field work (mostly household data collection) and review some methodologies that are often paired with that data. As such, I plan for part of the course to review some methods for impact evaluation and time series analysis, so I thought it would be appropriate to request a consultation report from your Department. Other parts of the course are devoted to study design, spatial techniques and analysis of land use data.

Is there someone you suggest I contact in Econ for a course consultation? (I sent a request to Prof Chemin a few weeks ago, but fear I may have caught him at a bad time as I have not heard back. And apologies for not copying you on the first request as I'm still learning the ins-and-outs of the processes here).

If possible, I would greatly appreciate comments within the next week. I've attached the consultation report and the draft course outline, and the rationale for the course follows.

Please let me know if you have any questions.
Thanks,
Brian

Rationale
The University offers a broad range of field experiences to undergraduate and graduate students through through field studies courses, independent studies, or thesis/dissertation research. However, little instruction offers students the opportunity to think about designing field research in human geography or other social sciences, and then how to pair this with quantitative analytical techniques.
This course proposes to introduce some common techniques used across quantitative human geography and other disciplines such as economics, political science, epidemiology, sociology, quantitative anthropology, and psychology. These techniques can control for local geographic context in various ways, and offer interesting perspectives for analyzing data from a geographic perspective for a range of disciplinary or interdisciplinary research.
The use of techniques to quantitatively assess impacts of policies or programs, to analyze time-series household or land use

data, and to examine (or control for) spatial relationships have dramatically increased. Students interested in understanding the latest research on human-environment relationships should have familiarity with these techniques. Students should learn not only how to use these techniques, but also the critical assumptions they carry. Further, those interested in using these techniques in their own work must currently engage in self-directed study. This course will help draw connections across these techniques, introduce students to a range of ways to analyze primary social field data, and provide a foundation for deeper self-directed study in quantitative methods.

Brian E Robinson, PhD | brianerobinson.com
Assistant Professor | McGill University | Geography
brian.e.robinson@mcgill.ca | 514-398-3453 | @brianer
students: schedule a meeting

[see attached file: geog512-Adv Quant Methods_2013-11-04.docx]

HI Brian:

It looks like an interesting course and a useful addition to McGill's offerings. I wish you the best of luck with it.

Best
Steven Rytina

From: Brian E Robinson [mailto:brianer@gmail.com]
Sent: Wednesday, November 06, 2013 9:36 AM
To: Steven Rytina, Prof.
Subject: Re: course consult - quant methods in Geography

Dear Dr. Rytina,
Just a friendly reminder about the course consultation I requested last week. I would greatly appreciate your feedback by Friday (Nov 8). But if I haven't heard from you I'll assume you have no objections.
All the best,
Brian

Brian E Robinson, PhD | brianerobinson.com
Assistant Professor | McGill University | Geography
brian.e.robinson@mcgill.ca | 514-398-3453 | @brianer

On Oct 29, 2013, at 3:08 AM, Brian E Robinson, Dr wrote:

Dear Dr Rytina,
I'm new faculty in the Dept of Geography and am proposing a course focusing on primary data collection (mostly household surveys) and analytical methods to pair with that data. Given your involvement in the Social Statistics Program and the range of quantitative methods courses you teach, I thought you would be appropriate to ask for a consultation report. The proposed course, GEOG 512, is unique in its focus on how methods can (or can't) control for or measure local phenomenon that might impact relationships of interest. I aim to build from a multivariate regression course as a prerequisite (Soci 504, Geog 351 or equivalent) and will present a range of advanced methods through empirical literature and hands on exercises.

If you are able to provide feedback, I would appreciate your comments by November 8, 2013. If I haven't heard from you by then, I will assume you have no objections. I've attached the consultation report and the draft course outline, and the rationale for the course follows.

Please let me know if you have any questions.
Thanks,
Brian

Rationale
        The University offers a broad range of field experiences to undergraduate and graduate students through through field studies courses, independent studies, or thesis/dissertation research. However, little instruction offers students the opportunity to think about designing field research in human geography or other social sciences, and then how to pair this with quantitative analytical techniques.
        This course proposes to introduce some common techniques used across quantitative human geography and other

disciplines such as economics, political science, epidemiology, sociology, quantitative anthropology, and psychology. These techniques can control for local geographic context in various ways, and offer interesting perspectives for analyzing data from a geographic perspective for a range of disciplinary or interdisciplinary research.

The use of techniques to quantitatively assess impacts of policies or programs, to analyze time-series household or land use data, and to examine (or control for) spatial relationships have dramatically increased. Students interested in understanding the latest research on human-environment relationships should have familiarity with these techniques. Students should learn not only how to use these techniques, but also the critical assumptions they carry. Further, those interested in using these techniques in their own work must currently engage in self-directed study. This course will help draw connections across these techniques, introduce students to a range of ways to analyze primary social field data, and provide a foundation for deeper self-directed study in quantitative methods.

Brian E Robinson, PhD | brianerobinson.com
Assistant Professor | McGill University | Geography
brian.e.robinson@mcgill.ca | 514-398-3453 | @brianer

<SOC-consultation_form.docx><geog512-Adv Quant Methods.docx>

Hello,

I had a close look at your draft course outline. It is detailed and very well designed. In addition, the material your plan to cover is both interesting and relevant.

As already mentioned by Professor Hurtubise, this course is likely to be somewhat challenging for the students but if it is taught at the proper level, as exemplified by the cited sources, I think it is viable.

Many of the statistical concepts mentioned in your course outline are touched on in our own curriculum (chiefly regression, time series analysis and causal inference) but not from this integrated perspective and with this specific purpose in mind.

Therefore, I see no objection to your department offering this course in its present form.

Regards,

Christian Genest
www.math.mcgill.ca/cgenest/

Le 2013-11-22 à 8:54 AM, "Brian E Robinson, Dr" <brian.e.robinson@mcgill.ca> a écrit :

> Hi Christian,
> Sorry! Thought you had them from Jacques' original email. Here you go.
> Brian
>
> [see attached file: geog512-Adv Quant Methods_2013-11-11.docx] [see attached file: MATH-consultation_form.docx]
>
> On Nov 22, 2013, at 6:32 AM, Christian Genest wrote:
>
>> Hello,
>>
>> Hard to comment without the draft course outline! Could you send me the attachments, please.
>>
>> Regards,
>>
>>
>> Christian Genest
>> www.math.mcgill.ca/cgenest/
>>
>> Le 2013-11-21 à 9:38 PM, "Brian E Robinson, Dr" <brian.e.robinson@mcgill.ca> a écrit :
>>
>>> Thank you for looking this over, Jaques. Your assessment is fair - the syllabus may be too ambitious. I'd like to see what kind of students the course draws, and then focus the course if or as needed. I will include your response as a course consult in the course proposal documentation.
>>>
>>> Christian, I look forward to any comments you may have as well.
>>>
>>> Thanks,
>>> Brian
>>>
>>>
>>> On Nov 16, 2013, at 8:11 AM, Jacques Hurtubise wrote:
>>>
>>>> Dear Brian,
>>>>
>>>> My guess is that we do not really have any one course that would answer all your needs,but of course a lot of material is covered in our various courses.
>>>>
>>>> My gut feeling is that, as for several quantitative methods courses at that level that I have seen over the years, it might be trying to do too much, expecting a student to acquire in a term the familiarity a practitioner usually picks up over several years. But I will defer to the opinion of my colleague Christian Genest, who is cc'd on this message.
>>>>
>>>> Jacques.
>>>>
>>>> From: "<Brian Robinson>", "Dr." <brian.e.robinson@mcgill.ca>

Dear Prof Hurtubise,
I'm new faculty in the Dept of Geography wanted to run a new course I'm proposing by the Math Department. The proposed course (Geog 512) will focus on primary field work - mostly household data collection - and review some statistical methodologies that are often paired with that kind of data. I plan to devote part of the course to household survey study design, and then cover techniques that build off of standard multivariate regression such as those used for impact evaluation, spatial analytic techniques, and analysis of land use data.

Is there someone you suggest I contact in Math for a course consultation?

If possible, we would greatly appreciate comments by the end of next week (Nov 22). I know this is a tight timeline and I apologize. I've attached the consultation report and the draft course outline. The rationale for the course follows.

Please let me know if you have any questions.
Thank you,
Brian

Rationale
The University offers a broad range of field experiences to undergraduate and graduate students through through field studies courses, independent studies, or thesis/dissertation research. However, little instruction offers students the opportunity to think about designing field research in human geography or other social sciences, and then how to pair this with quantitative analytical techniques.
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