Dutta, Lakshmi

From: Smith, Randy
Sent: Wednesday, February 07, 2007 7:08 PM
To: 'okelly.1@osu.edu'; 'calder.13@osu.edu'
Cc: Dutta, Lakshmi; winer@mps.ohio-state.edu; Smith, Randy; Myers, Brad (.7); 'dickhaut.1 @osu.edu'; 'ELLIOT SLOTNICK'; Osmer, Patrick (.1); Beck, Paul (.9); 'mumy.1@osu.edu'; 'freeman.261@osu.edu'; 'andereck@mps.ohio-state.edu'; 'wolfe.9@osu.edu'
Subject: Graduate Interdisciplinary Specialization in Geospatial Data and Analysis

Morton and Kate:

Based on a recommendation from the Council on Research and Graduate Studies, on your behalf, Professor Brian L. Winer (Chair) and I (Vice Chair) presented to the Council on Academic Affairs, at its meeting on February 7, 2007, the proposal to establish a **Graduate Interdisciplinary Specialization in Geospatial Data and Analysis**. Thank you for attending the meeting and responding to questions/comments.

The Council approved the proposal contingent upon a letter of support from Professor Carolyn Merry, Chair, Department of Civil and Environmental Engineering and Geodetic Science. The letter should be sent directly to me (203 Bricker Hall, 190 North Oval Mall) as soon as possible. If you have any concerns about this additional requirement - one based on the use of that Department's courses in this proposal - please contact me.

Once I have received the letter, I will contact you. No additional level of review/approval will be necessary. This action then will be included in the Council's next Annual Activities Report to the University Senate (June 2007).

If you have any questions about this action, or if I can be of any help in your follow-up with Professor Merry, please contact me.

Randy

W. Randy Smith
Vice Provost

THE OHIO STATE UNIVERSITY

Dean of the Graduate School

250 University Hall
230 North Oval Mall
Columbus, OH 43210-1366

Phone (614) 292-6031
Fax (614) 292-3656

December 15, 2006

W. Randy Smith
Vice Chair, Council on Academic Affairs
Vice Provost for Curriculum and Institutional Relations
203 Bricker Hall
190 North Oval Mall
Campus

Dear Randy:

The Council on Research and Graduate Studies approved the following proposals during its meeting on December 5, 2006. Attached please find a copy of the proposals as well as my correspondence with the proposing programs that may assist the Council on Academic Affairs during its review.

- Proposal for a name change of the Human and Community Resource Development (HCRD) Graduate Program
- Proposal for a Graduate Interdisciplinary Specialization in Geospatial Data and Analysis
- Proposal for a Graduate Minor in Rural Sociology
- Proposal for an advanced Chinese Track (Chinese Flagship Program) in East Asian Language and Literatures Graduate Program

Please let me know if you have questions or if you require additional information.

Sincerely,

Elliot E. Slotnick
Associate Dean

Enclosures

c: Dena Meyers

Proposal for a

Graduate Interdisciplinary Specialization in Geospatial Data and Analysis

Submitted by

Professor Douglas Wolfe
Department of Statistics

Professor Morton O'Kelly
Department of Geography

Approved by the Council on Research and Graduate Studies
December 5, 2006

August 2, 2006

Professor Elliot E. Slotnick
Associate Dean, Graduate School
250D University Hall
230 North Oval Mall

Dear Elliot,

Enclosed please find a joint proposal from the Department of Statistics and the Department of Geography for a Graduate Interdisciplinary Specialization (GIS) in Geospatial Data and Analysis. Included as part of the GIS proposal is a seed grant request for funding in support of this new initiative. As you will see, our request is for $15,000 to cover the expenses involved in setting up the necessary infrastructure to make this program available to the university community and provide a structure to maintain it once it is operational.

The bulk of the requested start up funds ($10,000) will be used to acquire and maintain the software necessary for the required courses in the proposed GIS program. The remaining $5,000 will be divided equally between the two departments to cover administrative costs associated with advertising and maintaining the program once it is in place. The Department of Geography will use its funds ($2,500) to hold a series of events (e.g., informational presentations with refreshments following) to advertise the new GIS program broadly across the university. The Department of Statistics, through the office of its Spatial Statistics and Environmental Sciences (SSES) Program, will use its portion of the funds ($2,500) to create a webpage for the GIS and databases to track students' progress in it.

The rationale for the creation of the proposed GIS Program is provided in the proposal itself. We simply want to add here that the Departments of Geography and Statistics have an established history of collaborative work in the general area of spatial data and its analysis. Faculty members from both departments are already at work on a number of externally funded research projects involving such problems. In addition, Desheng Liu from the University of California, Berkeley, will be joining us in Autumn Quarter 2006 with a formal joint appointment between the Department of Geography (75%) and the Department

of Statistics (25%). His area of expertise is precisely targeted in the area of this proposed GIS and we expect that he will be an active participant in its operation.

At the end of Summer Quarter 2008 we would be happy to provide the Graduate School with a report on our success in attracting students to this new program. If you have any questions, please let me know. We would be happy to meet with any groups you feel are necessary throughout this process for approval of the GIS in Geospatial Data and Analysis and the associated seed grant request.

Best Regards,

Douglas A. Wolfe
Professor and Chair
Department of Statistics

Morton E. O'Kelly
Professor and Chair
Department of Geography

Enclosures

THE OHIO STATE UNIVERSITY

College of Mathematical and Physical Sciences

425 Stillman Hall
1947 College Road
Columbus, OH 43210-1123

Phone (614) 292-2874
Fax (614) 292-3639
www.mps.ohio-state.edu

July 31, 2006

Professor Elliot E. Slotnik
Associate Dean, Graduate School
250D University Hall
230 North Oval Mall

Dear Elliot,

It is my pleasure to support the joint proposal from the Department of Statistics and the Department of Geography for a Graduate Interdisciplinary Specialization (GIS) in Geospatial Data and Analysis. This is an important initiative in an area of significant overlap between the two colleges involved. I would urge your approval of the request for funding to get this program off the ground.

Please let me know if there is anything else that MAPS can provide.

Sincerely,

Richard R. Freeman

Dean and Distinguished Professor
of Mathematical and Physical Sciences

Proposal for a Graduate Interdisciplinary Specialization (GIS) in

Geospatial Data and Analysis (GSDA)

August 3, 2006

PROPOSING PROGRAMS AND FACULTY CONTACTS

Department of Statistics

Catherine Calder
408A Cockins Hall
1958 Neil Avenue
Phone: 688-0004
Fax: 292-2096
Email: calder@stat.ohio-state.edu

Department of Geography

Bryan Mark
1136 Derby Hall
154 North Oval Mall
Phone: 247-6180
Fax: 292-6213
Email: mark.9@osu.edu

Ningchuan Xiao
1132 Derby Hall
154 North Oval Mall
Phone: 292-4072
Fax: 292-6213
Email: xiao.37@osu.edu

I. RATIONALE

Research in the physical, environmental, and earth sciences requires a diverse set of technical skills involving the collection, storage, processing, and analysis of spatial data. Scientists possessing these interdisciplinary technical skills are becoming indispensable members of research teams studying complex problems of global significance. In fact, the U.S. Department of Labor has recognized that job opportunities are growing in the fields combining geotechnology, spatial analysis, and remote sensing (Gewin, 2004). Currently, these skills are taught in various departments at OSU, each of which is recognized for their excellence. Yet given the broad range and integrated nature of geospatial analyses, graduate students must take courses outside of their home departments to obtain these skills. Further, students whose research interests are narrowly focused in one of these technical areas, such as spatial statistics or geographic information systems, benefit from a broader exposure to spatial technologies than what is typically offered by their home departments.

To gain specialized skills related to geospatial data and analyses, students from several departments at Ohio State are currently taking courses from an unofficial geospatial curriculum. There are several drawbacks to having this type of informal interdisciplinary curriculum. First, advice on course selection often comes from senior students and from graduate advisors, who may not be familiar with all of the options available to students. Another limitation is that students are not aware of the importance of certain technical areas until their research progress is slowed while they take the time to study the topic. Finally, the lack of structure in the unofficial curriculum hampers both the efficiency and coherency of instruction.

In order to provide coherent instruction and sound advice to OSU graduate students within an officially recognized geospatial curriculum, we propose creating a Graduate Interdisciplinary Specialization (GIS) in Geospatial Data and Analysis (GSDA). The GIS will supplement the graduate curricula in several of the core sciences as well the technically oriented degree programs, such as Geography, Statistics, and Engineering. The GIS curriculum will be comprised of relevant courses already existing on campus and will be flexible in order to be amenable to students with different backgrounds and interests. The administrators of the GIS will be available to help students and their advisors choose courses that are appropriate for the students' technical needs and backgrounds. The overarching goals of the GSDA specialization are to streamline students' training in the various aspects of geospatial technology and, consequently, improve the quality of research performed by Ohio State graduate students.

The proposed GIS will be administered by the Departments of Geography and Statistics since these two departments offer the majority of the required courses. It is expected, however, that the GIS will attract students from a wide range of departments (see Section IV), and the specialization will require that students take courses in additional departments. The Departments of Geography and Statistics have a strong curricular and research relationship, which has led to the recent hire of an assistant professor with a joint appointment, and are well poised to collaborate on the administration of this GIS.

II. DESCRIPTION OF PROPOSED CURRICULUM

The GSDA curriculum consists of both required and elective courses in the core areas of geographic information systems, spatial statistics, and remote sensing. Below is a listing of the courses offered in each of these areas, along with credit-hour requirements. It is anticipated that new courses in these areas may be offered in the future; students must obtain permission from one of the GIS administrators if they deviate from these requirements.

REQUIRED COURSES

Students must take *one* of the following courses in each of the three core areas.

Geographic Information Science	Geog 607	Fundamentals of GIS (5 credits)
	Geog 685	Intermediate GIS (5 credits)
	Geog 787	Advanced Applications in Geographic Information Systems (5 credits)
Spatial Statistics	Stat 662	Environmental Statistics (3 credits)
	Stat 829	Spatial Statistics (3 credits)
Remote Sensing	CivEn 603	Remote Sensing of the Environment (4 credit)
	CivEn 606	Quantitative Remote Sensing (4 credit)
	CivEn 808	Integrating Remote Sensing with Engineering Databases (5 credit)

ELECTIVE COURSES

Students may choose from the following courses to complete the required 21-23 hours of course work for the GIS. These elective courses must be from at least two different core areas, and a minimum of 14 credit hours must be taken outside the student's home department (may include required courses).

Geographic Information Systems	Geog 647	Location Analysis (5 credits)
	Geog 685	Intermediate GIS* (5 credits)
	Geog 687	Design and Implementation of GIS (5 credits)
	Geog 787	Advanced Applications in Geographic Information Systems* (5 credits)
Spatial Statistics	Stat 662	Environmental Statistics* (3 credits)
	Stat 656	Multivariate Analysis (5 credits)
	Stat 829	Spatial Statistics* (3 credits)
Remote Sensing	CivEn 606	Quantitative Remote Sensing* (4 credit)
	CivEn 694.05	Remote Sensing and Environmental Surveys (1-5 credits)
	CivEn 804	Water Resources Engineering Applications of Remote Sensing (5 credits)
	CivEn 808	Integrating Remote Sensing with Engineering Databases* (5 credits)
Digital Terrain Analysis	GeodSci/CivEn 604	Terrain Analysis (4 credits)
	GeodSci 629	Digital Photogrammetry I (4 credits)
	GeodSci 728	Digital Photogrammetry II (4 credits)
	GeodSci 787	Advanced Spatial Database Systems (4 credits)

* only if not taken as a required course

III. ADMINISTRATIVE ARRANGEMENTS

The GIS will be administered by the Program in Spatial Statistics and Environmental Sciences (SSES) within the Department of Statistics. An oversight committee consisting of SSES affiliated faculty will be appointed. Initially, this committee will be composed faculty from Statistics (Calder) and from Geography (Mark and Xiao). The oversight committee will be responsible for recruiting and tracking students in the specialization, advising students on course selection, and securing funds to support access to GSDA software for students enrolled in the specialization. In addition, the SSES Program Assistant will provide support to the oversight committee in terms of clerical work and maintaining the GSDA webpage.

IV. PLANS TO ENROLL STUDENTS AND PROSPECTIVE ENROLLMENT

Beyond the Departments of Geography and Statistics, we envision that graduate students from the following departments and graduate programs may be interested in enrolling in the interdisciplinary specialization: Civil and Environmental Engineering and Geodetic Science (CEEGS); Ecology, Evolution and Organismal Biology (EEOB); Electrical Engineering; Environmental Science; Geological Sciences; and Public Health. The Graduate Studies Chairs in these departments and programs will be sent information about the specialization. In addition, faculty whose research involves the collection and/or analysis of spatial data will also be informed about the new specialization. Finally, the GSDA webpage will be linked from several appropriate websites.

Initial enrollment in the specialization is expected to be approximately 5-10 students, given the number of students already taking several courses in the core areas. After the first few years, it is expected that the program have on average approximately 30 students.

V. REQUEST FOR SEED FUNDING

We request a $15,000 seed grant from the Graduate School to cover some of the initial costs of creating, advertising and administering the proposed GIS.

To provide students with sufficient and cutting-edge training in the field of geospatial data and analysis, we request $10,000 that will be used to cover the initial cost of purchasing software for performing geospatial data analysis. These software packages are used in several of the courses above and will available for students to use for their own research. Although some of these software packages are licensed by different departments, they are currently not conveniently accessible to students from other departments.

We plan to use the seed funding to purchase the following software licenses:

- ERDAS/IMAGINE: 10 seats in both Geography and Statistics departments for a total of $7200 for three years.
- ESRI ArcGIS: 25-49 seats in statistics department for a total of $1600 for three years.

These software packages will be installed on computers in both the Geography and Statistics departments. Both departments will use the remaining funds to cover their respective system administrators' time spent learning to install and maintain the new software. Students from Civil Engineering already have access to computers/software in their own department.

We request an additional $5,000 for administrative costs associated with the GIS. These funds will be divided equally between Geography and Statistics. We recognize that there are many different units and centers on campus that might be interested in this GIS, and we want to constructively build consensus among them. Therefore, we propose devoting resources towards advertising this GIS and soliciting feedback from interested parties. Toward this end, Geography will hold a series of events to advertise the new GIS (*i.e.*, pizza lunches), and Statistics will use the funds for administrative projects including webpage development and creating databases to track students' progress in the GIS.

V. LETTERS OF SUPPORT FROM THE DEANS OF SBS AND MAPS

See attached.

REFERENCE

Gewin, V. (2004) Mapping Opportunities. *Nature* **427**, 376-377.

Elliot E. Slotnick, Associate Dean
The Graduate School
The Ohio State University
250 University Hall
230 N. Oval Mall
Columbus, Ohio 43210

Dear Elliot:

I am very pleased to give my most enthusiastic support to the joint proposal from the Departments of Geography and Statistics to the Graduate School for the creation of a Graduate Interdisciplinary Specialization (GIS) in Geospatial Data and Analysis (GSDA). I am confident that the successful collaboration between the departments in recent years, manifested most recently in their joint recruitment and attraction of a new hire from Berkeley, will lead to successful joint efforts between these departments in this area.

The GIS is GSDA will promote Ohio State's reputation as a leader in quantitative geography, geo-computation, and spatial statistics. By linking a number of existing courses, a formal geospatial interdisciplinary curriculum will not only attract top students to Ohio State, but it also will bring students from other departments into courses in Geography and Statistics. In addition, as a valuable side benefit, the interdisciplinary training program will enhance research activities in both Geography and Statistics. This is a low-cost initiative to make a collection of courses that are already on our (Geography and Statistics) books more visible to interested students across campus and better integrated in producing highly trained students. The GIS in GSDA is likely to attract enrollment in excess of the current numbers in the required existing courses, and the departments have the capacity to handle that increase.

Finally, in terms of department resources to accomplish this initiative, the Chair of Geography has assured me that the people working on this idea have both the interest and energy to develop a feasible collaboration within the spirit of the GIS program.

Sincerely yours,

Paul A. Beck, Dean

Dutta, Lakshmi

From: Elliot Slotnick [slotnick.1@gradsch.ohio-state.edu]
Sent: Friday, February 02, 2007 2:06 PM
To: Dutta, Lakshmi
Cc: Dena Myers
Subject: FW:

End of trail...

e

From: Doug Wolfe [mailto:daw@stat.ohio-state.edu]
Sent: Wednesday, November 29, 2006 4:15 PM
To: Elliot Slotnick
Subject: RE:

P.S. You didn't say....did the Graduate School find any additional funds to help support the startups of these new GIS programs?

>Thanks, Elliot, for the good news. We will be sure to have someone at the >Research and Graduate Council meeting on December 5.

>Doug

> Dear Doug and Morton,
>
> Just a brief note to let you know that your proposal for the development of a GIS in Geospatial and Data Analysis was approved at the meeting of our Curriculum Committee earlier this week. The proposal will now be brought to the next meeting of the Research and Graduate Council to be held from 3:30-5:30pm on Tuesday, December 5th. Susan Reeser will be in touch with you regarding the specific scheduling of your proposal for a discussion and vote. It would be very helpful if one of you, or your representative, are able to attend the relevant portion of the meeting to say a few words about the proposal and to answer any questions that are raised from the floor. I will be out of town next week, but Assistant Dean Kathy Wallace will introduce the proposal reporting for the Curriculum Committee.
>
> Following the approval of your proposal by the full Council, we will forward it to Randy Smith for continued processing by CAA.
>
> Best,
>
> elliot

From: Elliot Slotnick
Sent: Friday, August 04, 2006 10:59 AM
To: wolfe.9@osu.edu; okelly.1@osu.edu
Cc: Dena Myers; Jo Wittenauer
Subject:

Dear Doug and Morton,

Just a brief note to let you know that I am in receipt of your GIS proposal. It will go to our Curriculum Committee as a first agenda item in the Fall. Two caveats. It is most helpful to have the proposal inn electronic form for distribution purposes. Can one of you please send me the document electronically? Second, on the funding matter, it is unclear whether we have any remaining money to fund these initiatives. Jo is still in discussion with OAA about a second year of funding that we thought we were going to receive, but it appears that we may only have received one year of funding which, I think, is now exhausted. I'll keep your budgetary request on hold until we have a definitive resolution of this matter.

Best,

elliot

Elliot E. Slotnick

Associate Dean

The Graduate School

250 University Hall

230 N. Oval Mall

The Ohio State University

Columbus, Ohio 43210

(614) 292-6031

(614) 292-3656 (FAX)

Dutta, Lakshmi

From: Elliot Slotnick [slotnick.1@gradsch.ohio-state.edu]
Sent: Friday, February 02, 2007 2:05 PM
To: Dutta, Lakshmi
Subject: FW: Electronic materials for the proposed GIS in GSDA
Attachments: Beck GIS GSDA letter.806.doc

From: Beck, Paul [mailto:Beck.9@osu.edu]
Sent: Tuesday, November 28, 2006 10:10 PM
To: Elliot Slotnick
Subject: RE: Electronic materials for the proposed GIS in GSDA

Elliot:

Here it is.

Paul

Paul A. Beck, Dean
College of Social and Behavioral Sciences
1010 Derby Hall, 154 N. Oval Mall
The Ohio State University
Columbus, OH 43210
PHONE: 614-292-7689
FAX: 614-292-9530

From: Elliot Slotnick [mailto:slotnick.1@gradsch.ohio-state.edu]
Sent: Tuesday, November 28, 2006 5:34 PM
To: Beck, Paul
Subject: FW: Electronic materials for the proposed GIS in GSDA

Hi Paul,

Somehow this fell through the cracks. Can I have something electronic, for the record, indicating your support for this? I'd like to get tit to Council next week.

Thanks,
elliot

From: Doug Wolfe [mailto:daw@stat.ohio-state.edu]
Sent: Friday, August 11, 2006 7:35 AM
To: Elliot Slotnick
Cc: Dena Myers; Jo Wittenauer; okelly.1@osu.edu; calder@stat.ohio-state.edu; ncressie@stat.ohio-state.edu
Subject: Electronic materials for the proposed GIS in GSDA

Dear Elliot,

Sorry to be a bit slow in getting back with you. I have been out of town for vacation and professional meetings and am

Dutta, Lakshmi

From: Elliot Slotnick [slotnick.1@gradsch.ohio-state.edu]
Sent: Friday, February 02, 2007 2:04 PM
To: Dutta, Lakshmi
Cc: Dena Myers
Subject: FW: Electronic materials for the proposed GIS in GSDA

From: Doug Wolfe [mailto:daw@stat.ohio-state.edu]
Sent: Wednesday, November 01, 2006 8:03 AM
To: Elliot Slotnick
Subject: Fwd: Electronic materials for the proposed GIS in GSDA

Hi, Elliot,

I know things are in a bit of flux and turmoil in the Graduate School, but I just wanted to check on whether there had been any progress on our proposed GIS in GSDA.

I am sure that you are all glad to have the Dean search behind you. Too bad the university won't wait for a few catch up breaths for everybody now.

Take care,

Doug

> Date: Fri, 11 Aug 2006 06:35:07 -0500
> To: Elliot Slotnick <slotnick.1@gradsch.ohio-state.edu>
> From: Doug Wolfe <daw@stat.ohio-state.edu>
> Subject: Electronic materials for the proposed GIS in GSDA
> Cc: myers.663@gradsch.ohio-state.edu, wittenauer.1@gradsch.ohio-state.edu, okelly.1@osu.edu, calder, ncressie
> Bcc:
> X-Attachments: :Macintosh HD:748577:GIS GSDA CoverLet 8/2/06: :Macintosh HD:748577:GIS GSDA Freeman Letter.doc: :Macintosh HD:2375:GSDA-GISproposal.pdf:
>
> Dear Elliot,
>
> Sorry to be a bit slow in getting back with you. I have been out of town for vacation and professional meetings and am just getting my email back under control.
>
> Thanks for the update on the funding situation for GIS proposals. I very much hope that the Graduate School is able to convince OAA that these interdisciplinary initiatives are worth their weight in gold! :) But I do understand the situation. I have attached electronic copies of the proposal itself, including our request for the seed money, the cover letter from Morton and me, and the support letter from Rick Freeman. I do not have an electronic copy of the support letter from Paul Beck. If you need that as well,

please let Morton know.

I look forward to hearing on the progress of the proposal in the fall.

Take care,

Doug

Dear Doug and Morton,

> Just a brief note to let you know that I am in receipt of your GIS proposal. It will go to our Curriculum Committee as a first agenda item in the Fall. Two caveats. It is most helpful to have the proposal inn electronic form for distribution purposes. Can one of you please send me the document electronically? Second, on the funding matter, it is unclear whether we have any remaining money to fund these initiatives. Jo is still in discussion with OAA about a second year of funding that we thought we were going to receive, but it appears that we may only have received one year of funding which, I think, is now exhausted. I'll keep your budgetary request on hold until we have a definitive resolution of this matter.
>
> Best,
> elliot

Elliot E. Slotnick
Associate Dean
The Graduate School

250 University Hall
230 N. Oval Mall
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