Proposal for the Establishment of a New Undergraduate Major: International Studies (Bachelor of Science)

Undergraduate International Studies Program
3086 Derby Hall, 154 N. Oval Mall
Prof. Anthony Mughan, Director

December 9, 2005

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I. This proposal for a new undergraduate major is transmitted by the college to the Office of Academic Affairs. The proposal must be accompanied by a letter from the dean(s) that describes college resources committed to the program and the relationship of the new major to other priorities of the college. (See Appendix A: Letters of Support)

II. GENERAL INFORMATION

1. Give the name of proposed major:

International Studies

2. State what degree students completing the major will receive:

Bachelor of Science

3. State the proposed implementation date:

Spring 2006

4. Identify the academic units (e.g., department, college, etc.) responsible for administrating the major program.

International Studies is solely responsible for the administration of the major.

III. RATIONALE/GOALS/OBJECTIVES

5. Describe the rationale/purpose of the major.

Divided into 10 individual specializations, International Studies is a major in which regions of the world and challenges and trends transcending national and regional borders are studied from an interdisciplinary perspective. It is a major that is already offered as a B.A. and the courses that students take in it are largely drawn from foreign languages, history and the social sciences. The basic reason for offering a B.S. version of the undergraduate degree is to allow and encourage students to broaden, deepen and enrich their interdisciplinary training by adding to the analytical perspectives from which individual specializations are studied.

This proposal has been occasioned by a number of considerations. Principal among them is the recognition that a fruitful and innovative marriage can be arranged between the traditional disciplines found in international studies programs and a number of the relatively "hard" sciences. In allowing unprecedentedly systematic and detailed mapping, for example, Geographic Information Systems (GIS) can provide new insights into mainstream social science phenomena like population flows, economic investment patterns, and political conflict patterns. It also allows the mapping and exploration of such changes over time. Another example is the Geological Sciences student intent on a career in say, oil exploration; this new degree will give her the opportunity to improve her understanding of the language and culture of the world region to which her work takes her. Similarly, students seeking a career in government intelligence

would derive great benefit from the expertise in satellite exploration and imaging found in Geological Sciences.

A second consideration is equity. As things stand, a pre-med student choosing to major in International Studies cannot be awarded a B.S. despite having fulfilled all the GEC requirements for this degree. Similarly, a student declaring their major in a science and their second major in International Studies can gain a B.S. degree, but if that same student were to declare International Studies as his first major and the science as his second, he would not be eligible for the B.S. degree despite having completed the same course work for the two majors.

Finally, all the indications are that a stronger scientific background in a major program that is already recognized as being intellectually demanding will enhance the competitiveness of its graduates in a labor market that increasingly demands technical and technological expertise in addition to the language and culture skills traditionally associated with international studies majors. Perhaps the most eloquent articulation of this perspective is given by William C. Kirby, Harvard's Dean of the Faculty of the Arts and Sciences in his commentary on *A Report on the Harvard College Curricular Review,* which proposes "new emphases upon international studies and the sciences." He argued:

> Because science and technology are transforming our world at the practical and most philosophical levels, the report proposes that all Harvard College students receive an education in the physical, applied and life sciences that is as broadly shared as the humanities and social science components of a liberal education. "We need to assure all of our students of an education in – not just an introduction to – the physical, applied, and life sciences (*Harvard Gazette*, April 29, 2004).

Linkage to the University's Academic Plan

The introduction of a B.S. in International Studies is being proposed to further the University's Academic Plan, which calls for the maintenance and development of "…new initiatives that draw on university-wide strengths to attack major problems of the next quarter century,… create… interdisciplinary program[s], or link a range of disciplines for a coherent attack on a highly complex area." The proposed B.S. degree will break new ground in this endeavor in that it will encourage students to opt for courses across colleges as diverse as Agriculture, Biological Sciences, Business, Humanities, Mathematical & Physical Sciences and Social & Behavioral Sciences.

6. State the general and specific educational goals and objectives of the major.

Without in any way limiting students' ability to take the B.A. option, the overriding general goal of this proposal is to improve the intake and quality of the International Studies major by creatively adding to and enriching the options available to its majors. In the process, it is hoped, a larger and more diverse group of highly qualified students from within and without the state will choose to specialize in International Studies at Ohio State. The overriding specific goal is to provide graduates with the kind of empirically oriented, scientific training within each specialization that will help to make them more competitive in the labor market upon completion of their undergraduate degree or to prepare them well for a continuing demanding education in

professional or graduate school. Structural details of the B.S. major in International Studies now follow:

Differences in GEC Requirements for the B.A. and B.S. degrees:

The differences here are mandated by the University and they lie mainly in the Mathematics (where a two-course calculus sequence is required) and the Natural Sciences areas (where five courses with three labs are required). As well, B.S. students will complete Statistics 145 or 245 as a prerequisite to the major. (See Appendix B: Sample Four Year Plan)

Differences in IS Requirements for the B.A. and B.S. degrees:

The first difference is that majors in all ten tracks will have to complete a two-course sequence (10 hours) in Geographic Information Systems (GIS). Taught by the Geography Department, GIS combine several important tools for the analysis of spatial data. Students are enabled to examine geographic patterns in a body of data and to explore relationships between specific features of the data. The many social science applications of the technique include mapping income distributions, population densities and changes, election results, health statistics, real estate characteristics, and so on. At the more advanced levels, such exploratory analysis may be supplemented with inferential spatial statistics. There are also pathways to more technical topics in spatial data storage, retrieval, and display. (See Appendix C: Sample B.A. & B.S. in same major).

The second difference is that, with the B.S. being a 60-hour major, students taking the B.S. option will be required to select 10 hours, usually two classes, of course work from a list of science courses in addition to the 15 hours (maximum) that they have to take from the existing list of humanistic/social science courses. It should be noted that we expect the list of science electives to expand once the B.S. is implemented and science departments see the benefits of offering courses that attract enrollments among International Studies' current 750 or so majors. (see Appendix C: Sample B.A. & B.S. in same major).

7. Identify any unique characteristics or resources that make it particularly appropriate for Ohio State to offer the proposed major.

The size and academic diversity of Ohio State makes it an ideal location in which to offer an interdisciplinary International Studies degree that allows for choice between a B.A. and B.S. in the study of six world regions and four international themes. To expand beyond the current B.A. offering to allow students to opt for a BS also broadens the breadth of the University's expertise on which students can draw. Perhaps most important of all, though, is that it moves undergraduate education in the University in a truly interdisciplinary direction in that it promises to bridge departments and colleges that to this point have largely remained separate in their undergraduate offerings.

8. Cite the benefits for students, the institution, and the region or state.

The principal benefits to students of offering a B.S. degree are, one, it adds an additional dimension of rigor to an already challenging and first-class liberal arts education with an international focus and, two, it gives students a broader range of skills that they can exploit in the

labor market. For the institution, it is hoped that the attractiveness of a program that already draws to the University higher-than-average high school students will become as attractive to similarly talented students seeking a more empirically oriented and scientific undergraduate education. Finally, the benefits for central Ohio and the state more generally are that the additional range of choice in International Studies will help to stop some of our stronger high school students from moving out of state for their undergraduate education, that it will provide well-trained graduates for the local and national labor markets and that, through internships and general outreach, links between the University and government and business communities will be strengthened.

9. List similar majors offered in both public and private institutions in Ohio and the U.S. Explain how these majors compare to the one proposed.

An internet survey indicates the B.S degree would have no competition in Ohio. While Cincinnati, Cleveland State, Kent State, Ohio, Tiffin and Wright State University all offer some form of undergraduate International Studies degree, none offers one that culminates in a B.S degree.

Within the Big Ten, a specific B.S. option could not be found, although a number of sites failed to specify whether or not only a B.A. was offered. When International Studies is a secondary major (and can only be taken as such) to a primary science major, the B.S. degree is awarded at Iowa State.

A national search unearthed a B.S. in Global Security & Intelligence Studies at Embry-Riddle University, a B.S. in International Studies at Rochester Institute of Technology and B.A. and B.S for International Studies majors at the University of Utah.

In short, there are B.S. options out there, but none in this region of the country. When account is taken of the breadth of science education at Ohio State that could be linked with International Studies, the university could become a national leader in the provision of a B.S. education in International Studies. If it acts expeditiously, it will certainly be ahead of the curve.

10. Cite the enrollment patterns of similar majors in Ohio or in the United States.

None

11. Describe career opportunities and/or opportunities for graduate or professional study available to persons who complete the major.

12. Describe any licensure or certification for which this major will prepare students.

None.

IV. RELATIONSHIP TO OTHER PROGRAMS

13. Describe current major and minor programs in the department(s) and how they relate to the proposed major.

The proposed major is simply a B.S. version of the ten specializations that already exist in International Studies. They are the six area studies tracks – Africa, East Asia, Latin America, Middle East, Slavic and Eastern Europe and Western Europe – and the four thematic tracks – Development, International Relations & Diplomacy, Security & Intelligence and World Economy & Business.

14. Identify any overlaps with other programs or departments within the university. Append letters of concurrence or objection from related units.

The IS degree is by definition interdisciplinary in character so that there is some overlap with a large number of other programs and departments in several colleges. This overlap does not represent duplication, however, since students take courses in those departments and the departments in turn receive the FTE credit for the student enrollment. Put differently, IS does not compete with other programs or departments, but rather it complements them, and this is evident in the cooperation it has received from them in course and program development.

15. Indicate any cooperative arrangements with other institutions and organizations that will be used to offer this major.

None

16. Specify any articulation arrangements (direct transfer opportunities) with other institutions that will be in effect for the major.

None

17. Provide information on the use of consultants or advisory committees in the development of the major. Describe any continuing consultation.

IS does not have faculty of its own. The program's curricular responsibility is to the Colleges of the Arts & Sciences, the Executive Dean of which appoints an inter-collegiate Advisory Committee. Its current members come from the Colleges of the Arts, Biological Sciences, Business, Agricultural & Environmental Sciences, Humanities and Social & Behavioral Sciences. The Director of the Office of International Education and the Associate Provost for International Affairs are *ex officio* members. The IS Director initiated this B.S. proposal, discussed it extensively with the Advisory Committee and received its endorsement (See Appendix A: Letters of Support).

18. Indicate whether this major or a similar major was submitted for approval previously. Explain at what stage and why that proposal was not approved or was withdrawn.

No previous proposal

19. Indicate where students will be drawn from, e.g., existing academic programs, outside of the University, etc. Estimate the mix of students entering the major internally and externally.

An online survey of current IS majors suggest that a good number of them would take the B.S. option in preference to the B.A. It is also anticipated that the B.S. options will prove attractive to students currently in the sciences who would not have considered IS as a second major as long as it offered only a B.A degree. Our main intent, however, is to make IS a nationally competitive program that will attract high-ability students who would not otherwise have come to Ohio State (See Appendix D: E-mail Survey).

V. STUDENT ENROLLMENT

20. Indicate the number of students you anticipate will be admitted to the major each year.

	Year 1	Year 2	Year 3	Year 4
Full-time	15	20	30	40
Part-time	(none)			

Estimated Summer enrollments:

	Year 1	Year 2	Year 3	Year 4
Full-time	5-10	5-10	5-10	5-10
Part-time	(none)			

22. State the minimum number of credits required for completion of the major.

The B.S. in International Studies will be 60-hours for the major.

23. State the average number of credits expected for a student at completion of the major.

As above (question 22)

24. Give the number of credits a student is required to take in other departments.

35 credit hours. Students have several choices of courses. See Appendix C: Requirements.

25. Give the number of credits a typical student might take as electives in other departments.

25 credit hours minimum of electives, within each specialization, are required. See Appendix C: Requirements for a list.

26. Describe other major requirements in addition to course requirements, e.g., examination, internships, final projects.

Students may participate in internships and study abroad, but this is not required.

27. Identify from which specialized professional association(s) accreditation will be sought. List any additional resources that will be necessary to gain such accreditation.

None.

29. Describe the number and qualifications of full-time and part-time faculty. List current faculty and areas of expertise. Describe the number and type of additional faculty needed.

The GEC requirements for the IS B.S. option are offered routinely by various departments. The major novelty of this option is the addition of two required courses in GIS and the Chair of the Geography Department has undertaken to see that these are regularly offered by Geography faculty. See Appendix A: Letters of Support.

30. Describe existing facilities, equipment, and off-campus field experience and clinical sites to be used. Indicate how the use of these facilities, equipment, etc. will impact other existing programs.

No additional facilities, equipment, or off-campus field experience required.

31. Describe additional University resources, including libraries that will be required for the new major.

None.

32. Describe the major as it would appear in the appropriate college bulletin.

The Undergraduate International Studies Program offers both a B.A. and a B.S. major. The core of the two degrees is similar in that each places a strong emphasis on the language and culture of world regions or transcendental problems in international affairs. The B.S. degree is designed to complement this basic knowledge with technical and analytical skills rooted in the additional empirical aptitude provided by a more scientifically oriented education in GIS, the anthropological, biological, environmental and geological sciences and statistics. Both versions of the degree are geared to students who see an international dimension in their future educational and career plans.

Form approved 3/2/88, Council on Academic Affairs

APPENDIX A: Letters of Support

ANTHROPOLOGY

Date: Tue, 25 Oct 2005 07:25:20 -0500
From: "Clark S. Larsen" <larsen.53@osu.edu>
Subject: Re: Int Studs BS proposal
To: Anthony Mughan <mughan.1@osu.edu>

Tony--

Yes, I approve inclusion of Anthropology 305, Introduction to Forensic Anthropology, in your proposal for a B.S. in International Studies. I also support the introduction for a B.S. option in the International Studies major. That major looks very interesting!

Best regards,

Clark

GEOGRAPHY

Date: Mon, 24 Oct 2005 15:44:32 -0400
From: Morton O'Kelly <okelly.1@osu.edu

Subject: Re: IS B.S. proposal
X-Sender: mokelly@pop.service.ohio-state.edu
To: Anthony Mughan <mughan.1@osu.edu

We continue to support and agree with the design of the proposed program for a B.S. in International Studies.

Please accept this e-mail as my endorsement on behalf of the Department of Geography including the inclusion of specific courses from this department.

Morton E. O'Kelly
Professor & Chair
Department of Geography
1036 Derby Hall Columbus OH 43210

Departmental Phone Number 614 292-2514
Departmental Fax Number 614 292-6213

ECONOMICS

Date: Thu, 03 Nov 2005 15:45:51 -0500
From: Masanori Hashimoto <mhashi@econ.ohio-state.edu>
Subject: Re: BS proposal
To: Anthony Mughan <mughan.1@osu.edu>

Tony, this is OK with us. Nori
Masanori Hashimoto
Professor and Chairperson
Department Of Economics
The Ohio State University
410 Arps Hall
1945 North High Street
Columbus, Ohio 43210-1172

(614) 292-4196 office
(614) 292-3906 FAX

http://economics.sbs.ohio-state.edu/Nori/nori.html
Email: Hashimoto.1@osu.edu

LINGUISTICS

November 1, 2005
TO: Professor Anthony Mughan
FROM: Peter W. Culicover
Humanities Distinguished Professor and Chair
RE: Proposal for B.S. in International Studies
On behalf of the Department of Linguistics, I endorse the proposal for the B.S. in International Studies and the use of our courses in the proposed course of study.

EVOLUTION, ECOLOGY & ORGANISMAL BIOLOGY (EEOB)

Date: November 14, 2005

From: Tom Hetherington, Chair, EEOB Curriculum Committee

To: Anthony Mugan, Director, International Studies

Re: inclusion of EEOB courses in the International Studies B.S. major

The EEOB Curriculum Committee has reviewed the proposal from the International Studies Program to include EEOB 370, 502, and 700 as optional electives in the International Studies B.S. major. The Committee fully supports the introduction of a B.S. option in the International Studies major and approves the inclusion of these EEOB courses in the major. Furthermore, we would suggest that International Studies consider adding more EEOB courses as possible electives. Specifically, the Committee recommends EEOB 661 (Conservation Biology) as an appropriate addition.

APPENDIX B: Sample Four Year Plan:

IS Major- *Security & Intelligence* Specialization

	Autumn	Winter	Spring
Year 1			
	English 110 (GEC)	**Math 150 (GEC)**	**Math 151 (GEC)**
	Bio 113 (GEC)	**Bio 114 (GEC)**	**Foreign Language 3* (GEC)**
	Foreign Language 1* (GEC)	**Foreign Language 2* (GEC)**	**Int Stds 350 (MAJOR)**
	ASC 100 (GEC)		
Year 2			
	English 367 (GEC)	**Chemistry 101 (GEC)**	**Chemistry 102 (GEC)**
	Math 152 (GEC)	**Stats 145 or 245 (GEC & Prereq to Major)**	**Psychology 100 (GEC)**
	Foreign Language 4* (GEC)	**Foreign Language 5* (MAJOR)**	**Foreign Language 6*(MAJOR)**
	Visual Performing Art (GEC)		
Year 3	**Geog 607 MAJOR)**	**History 112 (GEC)**	**Anthrop 200 (GEC)**
	Econ 200 (GEC)	**Econ 201 (GEC)**	**Poli Sci 544 (MAJOR)**
	History 111 (GEC)	**Geog 685 (MAJOR)**	**Geog 687 (MAJOR)**
		Free Elective	
Year 4	**Anthrop 305 (MAJOR)**	**Int Stds 553 (MAJOR)**	**INT STDS 555 (MAJOR)**
	History 584 (MAJOR)	**Psych 525 (MAJOR)**	Free Elective
	Free Elective	**Cultures & Ideas (GEC)**	**Literature (GEC)**

* Assumes no prior foreign language experience.

Total Major Hours = 60
GEC Hours = 116
Electives = 15
Minimum Total Hours = 191

APPENDIX C: BS/BA Comparison: International Studies, *Security & Intelligence* specialization

Security & Intelligence

International Studies

Prerequisites for Bachelor of Arts: Psychology 100
Prerequisites for Bachelor of Science: Psychology 100, Stats 145 or 245

✓ **Required Foundation BA & BS: 15 hours**

International Studies	350	Introduction to Intelligence
Political Science	544	International Security & the Causes of War
Psychology	525	Psychology of Personal Security: Global & Local Perspectives

✓ **Security & Intelligence Perspectives BA & BS** (Choose three)**: 15 hours**

AEDE / Int Stds	434	Food Security & Globalization
CS&E	494	Information Security
Economics	547	Economics of War
Geography	445	Geography of Transportation Security
History	380	History of War
History	584	Modern Intelligence History
Int Stds / Plant Path	355	Bio-terrorism
International Studies	553	Terror & Terrorism
International Studies	555	Development & Control of Weapons of Mass Destruction
Int Stds / Public Policy & Mgt.	670	Rebuilding Failed & Weak States
Political Science	552	U.S. Security Policy During & After the Cold War

✓ **Language BA & BS: 10 hours**

Two courses above the 104 level, not in translation (example: Korean 205, 206), OR completion of a foreign language minor. Students choosing the minor option will take two additional courses in the "Electives" section to complete the required minimum hours.

✓ **Required GIS (BS Only) : 10 hours**

Geography	607	Fundamentals of Geographic Information Systems (GIS)
Geography	685	Intermediate Geographic Information Systems (GIS)

✓ **Additional Science (BS Only) choose two (students are responsible for prerequisites): 8-10 hours**

Anthropology	305	Introduction to Forensic Anthropology
Evolution, Ecology, & Organismal Biology	370	Extinction
Evolution, Ecology, & Organismal Biology	502	Plants & People
Evolution, Ecology, & Organismal Biology	700	Principles of Biogeography
Economics	501.02	Intermediate Microeconomic Theory
Economics	502.02	Intermediate Macroeconomic Theory
Geography	H410	Global Climate Change
Geography	687	Design & Implementation of Geographic Information
Geography	694	Biogeography
Linguistics	601	Introduction to Linguistics
Linguistics	680	Formal Foundations of Linguistics

✓ **Electives BA & BS: 0-10 hours •**

Choose courses from unused courses in the above sections or from the elective list on the back of this document to complete the minimum required hours.

✓ **Minimum Hours:**
• 50 hours for BA (Honors BA 55).
• 60 hours for BS

Security & Intelligence Elective List

Choose electives from the list below and from unused courses in the previous sections. In any quarter courses may be offered that are not included in this list. These can be used to satisfy the elective requirement ***with*** prior advisor approval. Study abroad credit can also fulfill requirements with advisor approval.

Air Force Aerospace Studies	401	National Security & the Strategy Making Process	3
Air Force Aerospace Studies	402	Joint Military Operations & Area Studies	3
Anthropology	305	Introduction to Forensic Anthropology	5
Aviation	652	The International Aviation System	3
Geography	460	Political Geography	5
Geography	580	Elements of Cartography	5
Geography	645	Geography of Transportation	5
Geography	650	Urban Geography	5
History	307	World War II	5
History	308	The Vietnam War	5
History	504.01	War in the Ancient Mediterranean World	5
History	580.01	History of European Warfare from the Renaissance to 1870	5
History	582.01	American Military Policy, 1607-1914	5
History	582.02	American Military Policy, 1914 to 1995	5
Horticulture	597	Issues in Biotechnology	5
International Studies	356	Introduction to Globalization	5
International Studies	443	Data Analysis and Display	5
International Studies	501H	Selected Topics in International Studies	5-15
International Studies	551	Peacekeeping and Collective Security	5
International Studies	554	Science, Technology & the Cold War	5
International Studies	689	Student Internship Program	5
International Studies	697	Study Abroad	5-15
Natural Resources	201	Introduction to Environmental Science	5
Natural Resources	203	Society & Natural Resources	5
Naval Science	351	Evolution of the Art of War I	3
Naval Science	352	Evolution of the Art of War II	3
Political Science	245	U.S. in World Politics	5
Political Science	545	Foreign Policy Decision Making	5
Sociology	410 H	Criminology	5
Sociology	618	Police & Policing	5

Courses not listed with a focus on Security & Intelligence, including advanced foreign language and Area Studies courses, may be used to satisfy requirements with advisor approval.

Minimum Hours Required for the BA Major: 50 •
• 55 hours for Honors BA students.
• 60 hours for Bachelor of Science.
H **Honors section available.**

Security & Intelligence Minor

A minor in Security & Intelligence consists of 25 hours of coursework which includes International Studies 350 and Political Science 544. Then choose three electives from the front or back of this document. Only two courses at the 200 level may count towards the minor.

Sample S&I minor	***(Conflict & Intelligence Focus)***		
International Studies	350	Introduction to Intelligence	5
Political Science	544	International Security & Causes of War	5
History	584	Modern Intelligence History	5
International Studies	553	Terror & Terrorism	5
International Studies	555	Weapons of Mass Destruction	5
		Total:	**25**
Sample S&I minor	***(U.S. Foreign Policy Focus)***		
International Studies	350	Introduction to Intelligence	5
Political Science	544	International Security & Causes of War	5
History	582.01	American Military Policy 1607 to 1914	5
History	582.02	American Military Policy 1914 to 1995	5
Political Science	545	Foreign Policy Decision Making	5
		Total:	**25**
Sample S&I minor	***(Security Focus)***		
International Studies	350	Introduction to Intelligence	5
Political Science	544	International Security & Causes of War	5
CSE	494	Information Security	5
Geography	445	Transportation Security	5
Psychology	525	Psychology of Personal Security	5
		Total:	**25**

Complementary Minors

Students in Security & Intelligence may wish to consider a minor in a related field. Below are some examples. Students can discuss minor options with their advisor.

SAMPLE MINORS:

CHEMISTRY			
Chemistry	221	Analytical Chemistry I	5
Chemistry	231	Introductory Organic Chemistry	3
Chemistry	245	Organic Chemistry Laboratory	2
Chemistry	251	Organic Chemistry	3
Chemistry	252	Organic Chemistry	3
Chemistry	253	Organic Chemistry	3
Chemistry	254	Organic Chemistry Laboratory	3
Chemistry	255	Organic Chemistry Laboratory	3
		Total:	**25**
COMPUTER SCIENCE: Information Systems			
CS&E	201	Elementary Computer Programming	4
CS&E	214	Data Structures for Information Systems	4
CS&E	314	Business Programming with File Processing	4
CS&E	560	Systems Software Design	5
CS&E	570	Introduction to Database Systems	5
Math	366	Discrete Mathematical Structures I	3
		Total:	**25**
PERSIAN			
Persian	241	Persian Culture	5
Persian	371	Persian Literature in Translation	5
Persian	401	Advanced Persian I	5
Persian	402	Advanced Persian II	5
		Total:	**20**

APPENDIX D: Student Survey

April 13, 2005
Sent to First and Second majors.

Attention: International Studies Students
Re: A Survey of Your Opinions about the creation of a Bachelor of Science in International Studies

Currently all IS graduates earn a Bachelor of Arts in International Studies. We are exploring the possibility of offering a Bachelor of Science (B.S.) version of our major. We are seeking your opinions and wish to gauge student interest in such an option in your undergraduate studies.

In the GECs, the main differences are the Mathematics requirement (Math 151 and 152 are required) and the Natural Sciences (where five courses with three labs are required).

In the International Studies major itself, Geography 607 (Fundamentals of Geographic Information Systems), and Geography 685 (Intermediate Geographic Information Systems) will be required, with Statistics 145 or 245 as a prerequisite. The total hours for the BS in International Studies will be 55 hours. Two "Sample BS Majors" are listed below.

We would like to hear from as many of you as possible about this. You do not need to answer all of the questions below.

1.Do you believe this is a desirable option to be made available to IS students?
2.Would you seriously considering taking this option? If yes, why? If no, why?
3.What job and career implications do you anticipate this option may bring to you?

Sample BS—International Relations & Diplomacy (55 hours)
Prerequisite: Stats 145 or 245

Required: 25 hours

Geog 450 Making of the Modern World
Int Stds 201 Introduction to Peace Studies
Polit Sci 550 Theories of International Relations
Geog. 607, Geographic Information Systems (GIS)
Geog, 685, Intermediate GIS

Choose two: 10 hours

Econ 560 International Economic Relations
History 581.02 European International History
History 583.02 US Diplomacy, 1920-Present
Int Stds 551 Peacekeeping & Collective Security
Int Stds 552 Model United Nations
Poli Sci 545 Foreign Policy Decision Making
Poli Sci 554 Comparative Economic Diplomacy

Language: 10 hours

Two courses above the 104 level, not in translation OR completion of a foreign language minor.

Electives: 10 hours

Choose a course from the elective list.

Sample BS—Security & Intelligence (55 hours)
Prerequisite: Stats 145 or 245

Required: 25 hours

Int Stds 350, Introduction to Intelligence
Polit Sci 544, International Security
Psych 525, Psychology of Security (5)
Geog. 607, Geographic Information Systems (GIS)
Geog, 685, Intermediate GIS

Choose three: 15 hours

Int Stds 434, Food Security
CS&E 494, Information Security
Econ 547, Economics of War
Geog. 445, Transportation Security
History 380, History of War
History 584, Modern Intelligence History
Int Stds 335, Bio-terrorism
Int Stds 553, Terror & Terrorism
Int Stds 555, Development & Control of WMD
Int Stds 670, Rebuilding Failed & Weak States
Polit Sci 552, US Security Policy

Language: 10 hours

Two courses above the 104 level, not in translation OR completion of a foreign language minor.

Electives: 5 hours

Choose a course from the elective list.

STUDENT RESPONSES

1.

Do you believe this is a desirable option to be made available to IS students?
Yes

Would you seriously considering taking this option? If yes, why? If no, why?
Yes. If I were not graduating soon, I would definitely consider taking this option. Integrating technical understandings with the knowledge I have gained as an International Studies major would be helpful in understanding how the world works qualitatively, and I would be capable of visualizing/quantifying this knowledge with technology.

What job and career implications do you anticipate this option may bring to you?

First and, it likely gives students more job opportunities in areas like National Security Agency; an agency that likely favors students with highly technical backgrounds and qualitative knowledge of global politics. Second, as students with B.A. degrees, we are typically left with the knowledge resting on our brains and have only learned to disseminate that information through papers and discussions. Statistics coursework will help one to gather quantitative data. The ability to utilize GIS capabilities (as I have taken 607 and will be taking 685 as part of my geography major) is infinitely helpful in visualizing and analyzing this data in a way that might be more meaningful/helpful in policy creation/revision -- something which many IS courses allude to as necessary given the seeming inability for defense/security/diplomacy policy to keep up with increasingly "borderless, rogue enemies".

The only downside is the potential ineffectiveness that 3 GEC lab sciences might have, if students take Bio 101 and 102 and then Physics 111 for example. It might be necessary to require that certain lab courses be taken, perhaps in biochemistry, which would lead to a better understanding of WMDs, or something like this.

2.

I WANT A BS!!!!

3.

First of all, I feel that the proposal should be amended to include economics 200 and 201 as prerequisites. I think it is a great option for students who intend to pursue graduate work in the IS field, because many of the top schools in the country require a statistics and economics background that exceeds the requirements of the current curriculum. It is my regret
that I have not taken any economics coursework, since the subject is such an integral aspect of IR.

I would consider taking this option if I had more time at OSU because I feel that a B.S. is more analytical and marketable than a B.A. The B.S. shows that you have a grasp and expertise in more difficult and complex themes.

I anticipate that this option would be attractive for those who intend to work for the government. A statistics and economics background would serve anyone well who is desirous of an advanced degree in either political science or public policy.

4.

I'm not sure if many people would want to take it. Currently many IS majors double majoring in another BA within arts and sciences. I don't see what it would hurt, as long as the current BA options remained.

5.

I think offering the Bachelor of Science is a very good idea, and I would have been interested if I knew about it before I started this year. I don't think I will be able to pursue this because of the classes I've taken already and am planning on taking, but I think students in the future and even now will be very receptive to this idea.

6.

I think a BS option would be great. Although I personally would be unlikely to have selected that (because of the additional math and science GEC requirements, not the IS requirements), I really think it's very much in keeping with the upcoming needs and demands in the international fields. The GIS classes would be especially interesting and useful.

Something that I thought was particularly fabulous and hope will apply for both a BS and a BA is the foreign language requirement - the option of 10 hours or a minor (as a German minor, I had to take the extra hours, which was probably helpful in the long run but could have been potentially tricky in graduating on time).

7.

I'm strongly interested in pursuing a BS in International Studies. One man, I believe his name is Mark, came to my survey class and discussed the BS he was hoping to put together in the next year or two and since then, I've been slightly planning my courses for it (at least, as much as I can while just knocking out GEC's). I can't really address what the benefits are
as far as a career is concerned, however I don't think having a more strenuous degree would hurt too much.

8.

1) Though I fully support the expansion of the IS program at OSU, I don't feel that the creation of a B.S. option is really a desirable way to do so. Of course, I am not personally familiar with the composition of the undergrad IS program, nor the cross-section which chooses to focus more heavily on the non-social sciences, but perceive them to be in the minority.

2)Personally, I would not consider taking this option. As someone who wishes to focus on the Humanities, I feel that the GEC math and science requirements are already far too excessive, and would abhor any additional classes in these areas.

3)However, I think that there could be some further career implications as a result of this degree path. Especially with the Security and Intelligence focus in the government arena. This could provide someone with the tools to enter the developing area of counter-terrorism/bio-terrorism, by preparing them with a solid scientific background upon which to base sound political decisions. I think this could also prepare someone well for the political arena in the area of environmental science.

9.

I think offering a bachelor of science would be a great idea. If I wasn't so close to graduation I would definitely consider this option if it was available. As a double major with a foreign language, I believe a BS would open many doors for me and would make me more desirable in the employment market.

10.

I think the BS degree would be worthwhile. This says a lot considering my hatred of chemistry ... *cringe* ... but it would be beneficial to have the science background. A lot of job openings request some kind of science background, and the stronger this background is, the more valuable students would be for future employers. A computer science requirement might help build on the Geography requirements too.

11.

I think that this would possibly be desirable to IS students, especially those who are interested in the National Security branch. It would be good to offer a sort of BS computer science major. I would personally not be interested because I am more interested in language and culture and the math and sciences branches would not be of great worth to my goals.

12.

I think it would be a good idea, but I personally wouldn't choose either option because I'm not as interested in science. I think it would be beneficial because many people who are interested in international studies are also interested in applying sciences to their major, but don't have the option currently.

13.

1.Do you believe this is a desirable option to be made available
to IS students?

I could see that some students would be interested in a BS in international studies. it could also draw in more people that are looking for a BS.

2.Would you seriously considering taking this option? If yes,
why? If no, why?

No because for me I choose international studies because I liked the option of being able to study abroad and put it towards a major and it was more something I enjoyed studying and being involved in and not as a career choice per se.

3.What job and career implications do you anticipate this option
may bring to you?

I personally will be going into Speech- Language Pathology and intend to use my international studies degree towards working with people with various cultural backgrounds. currently, I believe it is very easy to double major as I have done and if someone is interested in the science aspect of international studies chances are that they will double major in their science of choice, i.e. chemistry and international studies. although a BS in international studies may help others on that tract because I don't know if being a BA if there are more arts requirements than sciences for gecs.

14.

Personally I do not desire a BS degree; I would be turned off by the higher requirements in the science and math GEC categories. But I do think that there would be students interested in this track and I could see how it might have different implications for more research/analytical/statistical work. I think the inclusion of more geography classes would also be a
benefit though.

15.

I think that there may be many people who are interested in getting a BS in int Stds, I'm not one of them. I am a more language-based person and I prefer humanities type classes to math and science classes. I do think that it might be good for the terrorism track and maybe development track, which have more emphasis on science. I think student in these tracks may have more interest in math and science and really might enjoy a BS option.

16.

As long as I don't have to change over than I think that this is a good idea. I am not good in upper-level math and I have no desire to take five sciences. However I do feel that others who have the desire and the capability should do this. However I do think that this would open up a lot of jobs and careers for students. Maybe if I were a freshman I would consider doing this, but since I am so deep in university I don't think it wise to change over.

17.

Depends on the student I suppose. I would not like to take more science and math classes for I do not really believe it relates that much to our field as some other courses would. but then again it may relate more than I think it just really depends on the focus. If my focus concentrated more on nuclear warfare and terrorism and types like that perhaps a good understanding of science and math is needed (to understand the nature of weapons and such). I guess it would be great to have that as an option though.

I would not consider it since I do not really enjoy the "hard sciences"

What job and career implications do you anticipate this option may bring to you?

I actually have no idea. But you never know when your knowledge of GEC or major requirements may actually come in handy. I have found that both of my major requirement classes in addition to some of the GECs relate very well and I was able to use what I learned in those classes and relate them or apply them. Now was I am looking to the sample requirements having Int'l Stds as a Bachelor of Science may be very beneficial because I will gain a better understanding of things that I am unfamiliar with and might be introduced to depending on the career I follow.

18.

I think the creation of a BS in IS would be GREAT! It most certainly would be desirable for some students who may seem more mathematically and scientifically inclined. It would also be good for those student who change his or her majors and have already met some of these prerequisites. This would be a great opportunity to entice other students to also pursue IS as a degree and combat the stigma that IS is an "easy out" for a degree. By adding some more math and science classes you could then analyze international issues in a different and more analytical (math oriented) manner, such as statistics on IS issues. Please do implement this BS proposal, it would help many who want something unique from the next IS major.

19.

No
No
No

20.

I read the email you sent and I think this is a great idea. I am on my own path right now and would not be interested in changing but I think many students will find this to be a good option. Science and technology are of utmost importance in our world and offering a B.S. in Int'l Relations would raise a new crop of technocrats in a field that is dominated by prospective diplomats. I say "Go for it."

21.

I definitely think this is a desirable option for IS students. I would seriously consider taking this option. It would strengthen my degree and give me a reason to take more math and science courses which would result in my degree being much stronger. I think that a B.S. would give me the skills and the degree to pursue things other than higher thought AKA I wouldn't just be another liberal arts student. In a world where a college degree is starting to mean less and less and doesn't guarantee anything, especially a degree in the Liberal Arts, I think a B.S. would set OSU students a step above everyone else.

22.

Yes! I think a BS in International Studies is definitely something the University should offer. If I weren't a year away from graduating, I would certainly have taken this avenue.

23.

I believe that this is a great option to provide. I personally would like to work toward a BS instead of just a BA because I think it will provide me with better skills to do statistical computations, which I have only learned to a limited extent in my stats 145 equivalent. I would seriously consider working toward this goal if it were offered.

24.

I believe that the possibility of a Bachelor of Science (B.S.) option within the department would be an excellent alternative/option to offer. As is true in many cases, students jump from one major to another and therefore have previously completed some B.S. major requirements. By making this option available to IS majors the department would hopefully attract more students. The department would then be on both sides of the Humanity and Logic continuum. This move could possibly help the students with math and science skills show future employers that they have an extremely capable analytical thought process as well.

In my own personal opinion: I think that by possessing a B.S. in a mainly humanitarian field of study, the student upon completion of their degree would immediately show the world that they are capable of analyzing independent variables scientifically, humanely or both at the same time. Either way, the B.S. in the department would be a valuable option to present to students. If this option is available at the time of my own graduation then I will make use of the real world adeptness that I believe a B.S. would hand graduates.

25.

I think opening up a BS for IS majors would be valuable. It would open up the possibility of obtaining a job in the analytical field as well as become more relevant for obtaining a position in an alternate government agency (i.e. not CIA) for those students who are interested in other agencies. If this was offered right now, I would consider it because it would make me more versatile when I begin looking for a job. I hope this helps.

26.

Do you believe this is a desirable option to be made available to IS students?
-Yes

Would you seriously considering taking this option? If yes, why? If no, why?
-No, because personally science and math are not my best subjects.

What job and career implications do you anticipate this option may bring to you?
-To me, BS could bring the same results as a BA. BS may have more opportunities or experience to obtain a career involving the extra math or science. It definitely could be an option for a student to look into.

27.

1. I think this is a great opportunity for IS students.

2. Yes, I am currently pursuing an IS and a Humanities major, this option may mean that I can earn a dual-degree.
3. I do not yet know what my future holds, but I do believe this option would make me more appealing to employees.

28.

As a senior it to late for me to switch to this options. However, I think it should be offered and if it had been offered I would have been more inclined to pro-sue this over a BA. I can see many opportunities opening up in working with foreign and domestic business that work in the science industries.

29.

I think it would be desirable to incoming students, but I think that offering the major to anyone over sophomore standing would not have much success.

Would you seriously considering taking this option? If yes, why? If no, why?

No, I am just about finished with my IS major in International Relations.

What job and career implications do you anticipate this option may bring to you?

Since I do not wish to participate in this program I can only speculate that the program would help individuals on the Securities track and possibly someone doubling in Computer Science as an intelligence job somewhere down the line.

30.

1.Do you believe this is a desirable option to be made available to IS students?

Definitely.

2.Would you seriously considering taking this option? If yes, why? If no, why?
If I were not a soon-to-be graduating senior I would have seriously considered taking this option. The IS major is liberal arts based, and having the BS in combination with a liberal arts major would be more well rounded.

3.What job and career implications do you anticipate this option may bring to you?
Like stated above it would just broaden your educational experience to both sides of a bachelor's, some agencies/orgs/corps like to see a BS instead of a BA. I think that an IS BS would combine the right amount of qualitative and quantitative thinking.

31.

1.Do you believe this is a desirable option to be made available to IS students?
No, I don't see how GIS relates to IS

2.Would you seriously considering taking this option? If yes, why? If no, why?
No. It's not my interest.

3.What job and career implications do you anticipate this option may bring to you?
Working with maps, GIS systems, satellite mapping...

32.

Yes I believe this is a desirable and better degree program to offer IS majors.
Yes I would take this option because I feel that in comparison of what it was before simply a Liberal Arts major, this degree program would be viewed as more competitive both in the job world and higher education.
I think it will bring me higher opportunities for governmental jobs, graduate school acceptance, etc.

33.

I think for double majors who have a second major in Humanities or another BA field this would be good because it would allow them to get a BA and a BS. It is definitely an option I would have considered because I think having a BA and a BS could be an attractive asset to future employers or grad programs.

34.

I like the idea of a BS, because it gives a bit more weight to the degree and provides more scientific training in the respective major. Also provides another choice for the students. The department of Homeland Security would be more receptive to people with more scientific background.

35.

1.Do you believe this is a desirable option to be made available to IS students? I'm not sure why it would be desirable. That hasn't been stated clearly by the IS office.

2.Would you seriously considering taking this option? If yes, why? If no, why? NO because I don't want to take more natural science and statistics courses than I already have to.

3.What job and career implications do you anticipate this option may bring to you? I have no idea because that information hasn't been made pertinent.

36.

I think that this should be an option made available to IS students. I would seriously consider this option because I have considered geography as a major and the GIS skills would just be one more skill that would make me employable after college

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37.

1.Do you believe this is a desirable option to be made available to IS students?
I don't know if it is desirable, but options are always good. It would be interesting and attract more students who want a BS degree.
2.Would you seriously considering taking this option? If yes, why? If no, why? I would consider it because I have already completed the math portion and I have not yet started the science. However, I have completed a few required courses for my major, which are not required for the BS degree, so that would be the reason I would not do it.
3.What job and career implications do you anticipate this option may bring to you?
I have no idea to be completely honest, I don't really see a difference.

38.

This may be a desirable option for IS majors depending on what career path they intend to follow. The required geography courses would definitely be beneficial to take, but I would not seriously consider this type of degree for several reasons. The first being that I am a third year student and do not have the time to readjust my schedule to incorporate the new classes. The second is that I would rather take more interesting IS classes than another Statistics (I have already taken 443) or geography courses. The third reason I wouldn't consider it is because I am not aware of any benefits that will be gained from obtaining a BS rather than a BA. I am not aware of what additional career options this degree would bring. If they were a lot of advantages, I would reconsider my thinking.

39.

1) I think this option is desirable.
2) I would take it because this type of IS major requires more than persuasion skills; it requires the IS to actually study and know about facts. It's a bit of both technocratic and intellectualism.
3)Definitely something in the military, or even intelligence.

40.

yes I think that is very valuable that we receive a BS instead of a BA. I think it will be more useful.
I would consider taking this option because I think I would have more options once I graduate with a BS instead of a BA
More opportunity not only in the government field but also in perhaps in the business field as well.

41.

I think this option might be desirable for people wanting to do the Security and Intelligence track or the Development track, just because it might give more of a chance to focus on technology. However, as an International Relations student, I would not consider taking it. I already feel like I'm taking way too much science that is unrelated to my interests.

42.

The idea of a B.S. IS major seems beneficial, because it offers students with intelligence/governmental/stastical type career goals a more practical course of study.
It seems that it would also benefit students who are planning to go to graduate school, because of some of the math/science related courses.

43.
Do you believe this is a desirable option to be made available to IS students?
Yes

Would you seriously considering taking this option? If yes, why? If no, why?

Yes, I would choose this option over BA, because I think BS seems to be a more powerful degree.

What job and career implications do you anticipate this option may bring to you?

Not sure but I think getting a BS would def make it easier to find a job in pretty much any where, due to its emphasis on sciences and stats.

44.

I do not understand the purpose of this option at all. Geographic Information Systems? I don't even know what that is, and after reviewing the course description I don't understand any better why it would be required. This major seems to be trying to blend areas of expertise that are too divergent to be of use in the brief term of an undergraduate program. I do not see why anyone would take this major.

45.

This would be a good option for some people but not me. I would have to ask what the difference between this and a geography major would be. The job opportunities with GIS are plenty.

46.

Do you believe this is a desirable option to be made available to IS students?
Yes, I think a lot of people would benefit from this option.

Would you seriously considering taking this option? If yes, why? If no, why?
No, I like the BA option and since I am already going toward this option I would not want to change.

What job and career implications do you anticipate this option may bring to you?
Not sure.

47.

Do you believe this is a desirable option to be made available to IS students?
Yes.

Would you seriously considering taking this option? If yes, why? If no, why?
Personally would probably not take this option. I'm not very good at math and science.

48.

Yes, I do find this a VERY desirable option for me as an IS student. 2. I would with out a doubt follow this track as an option. I am pursuing a double major in BUS Admin and IS. I know that a degree in a science/business will be more beneficial to my career than a business/arts degree. I will be continuing my service with the DHS or transferring to the DOS. Both agencies look favorably upon applicants with an education that includes both the sciences and the arts.

49.

I would definitely pursue a BS option for international studies - as it is the world economy and business specialization has some of heavy economics requirements. I think having a science background in any major versus and arts background implies that the individual has the capacity to reason through relevant theories on both the numerical and the conceptual level. I wish there had been a BS option 2 years ago! As far as jobs go - I think its easier to prove to potential employers that you are a well rounded person with the ability to see many sides of any given issue - its far more difficult and requires the evidence of a BS degree to demonstrate that numbers wont be an issue for you.

Go for it.

50.

I think having a BS is a nice option to have, BA are so common anymore, I think people would like to go that route just so they can have a credential that most don't have. I think people choosing this would be more inclined to go into foreign affairs directly instead of working their way there. If this was an option when I started I think I would have gone for it instead of the BA.

51.

I would be in favor of the Bachelor of Science option.

52.

I think it would be a good idea to offer a BS so that students can have more options. I personally would not take this option at this point because I have already met many of the requirements for the BA, but I would consider it if I were just starting.

53.

Personally, I would not take this route simply because I am a liberal arts kind of gal. That doesn't mean that I do not think that the BS option would be both desirable and beneficial to a lot of students. Go for it.

54.

Coming from an ROTC perspective, this option would be very desirable. In Naval ROTC if you are a Navy option on scholarship, you already have to fulfill just about all the science requirements for a B.S. Adding a couple Geography courses wouldn't be that big of a deal. If I was not graduating this quarter, I would probably would have opted for this. It could end up being an advantage later on in the same way that having a BS in Economics is a big advantage over having a BA. Employers seem to take a BS more seriously in other areas of SBS so I assume the same would apply to International Studies.

55.

1. Yes, I think it is a great option for people to have, as it could open up some career opportunities that might not be as readily available without a BS.
2. I would not consider taking it, because it does not pertain as much to my interests and I don't think that I would actually enjoy those particular classes.
3. I don't really know of the career opportunities that a BS would hold, although I can see it being more beneficial for a job related to geography. Maybe, though, if I knew more specifically how it could advance a career that I may want to choose, then I would be more interested.

56.

I believe a Bachelor of Science could be extremely beneficial to an IS major. After taking Professor Cox's Geography 450, I realized how important geography is to understanding international issues, whether regarding resources, weather patterns, trade issues, etc... I am a senior, so the BS cannot come into play for me, but had this major been available two years ago, I believe I would have taken a keen interest in it. Ohio State has such a strong Geography Department, it would be a shame of IS students to miss the sturdy scientific background the BS could offer.

57.

I think the BS option for the IS major would be a great option for students to have. Personally I am more science oriented than "artsy" and I would personally prefer a BS than a BA. I currently have a math minor as well and think the BS would help me more in that respect as well. I think the more options a student is provided with, the better experience he/she will have. Since the minimum number of hours increased to 55 would the honors requirement also increase? I do not see this as a problem though. Hope this helps.

58.

I think this is a very desirable option for IS students. IS students are interested in the whole gamut of subjects, so giving them more options only seems natural. I would be eager to pursue a BS. I really value the sciences and don't think that they're stressed enough in our society. A BS would be more applicable to the technical aspects of relations, development, and trade, just to name a few.

59.

1.Do you believe this is a desirable option to be made available to IS students?

sure, I don’t see why broadening the potentials of the program could ever hurt anyone.

2.Would you seriously considering taking this option? If yes, why? If no, why?

I wouldn't because the reason I switched to IS in the first place is because I am not a math/science person and it provided a better (more artistic) way to go about reaching my career goals than Intl Business

3.What job and career implications do you anticipate this option may bring to you?

I imagine there would be a lot of career opportunities in technological multinational corporations, such as IBM or Microsoft maybe.

60.

I don' t like all the math requirements. I already have enough with GECs. I don't really think a BS is necessary. The amount of effort does not equal the rewards.

61.

From the time I was a freshman until now, I have been complaining how there was no BS option in IS. I think this is a wonderful idea and opens up the major to those who are more science minded or who would like to apply IS concepts to the field of science or vice versa. I myself have picked up a minor in crop science so perhaps someday I can work in 3rd world developing countries bettering their means of crop production, or something like that. There are many options available to those who want to pursue a more science focused IS degree. This is a great idea. I only wish I had this option.

62.

I do not believe that it is a desirable option. I also am not too enthralled with the idea that students would have to take statistics as a prerequisite. Overall, I would not be too happy if I had to take this as part of my curriculum.

63.

I am not sure what the difference is between a BS and a BA other than the required courses. Does it really make a difference? For me, I would not consider that option mainly because it would add two extra quarters onto my anticipated graduation date (Five sciences instead of three). Perhaps if the career opportunities changed drastically from those offered with a BA to those with a BS but if not I don't think it would be worth it.

64.

If I wasn't on a time crunch to graduate, I would seriously consider a BS in international studies. I think a BS can be a lot more competitive in the real world. It's more challenging. It has that science/technical element that BA's lack sometimes. The sample BS security and intelligence major you suggested, for example, has all the stuff that the regular BA has plus those additional classes to make it even better rounded. I think it's a great idea.

65.

1. I think the BS option sounds like a fantastic idea for the IS majors. I think many people would find the more science-based approach to their liking.

2. I would definitely talk to a counselor about the BS option, but I am not very strong in upper level math or science. Still, the challenge is inviting to make myself more marketable for the future.

3. I really am not sure the different career options that would be open to me with the BS rather than the BA. I would be interested to see what schools with similar majors have found out.

66.

Hello, in response to your e-mail about a bachelor in science option for international studies, I believe that it might be an amicable option to some, but for me, personally, I have no interest in taking more science options than I already have to. I personally chose international studies partly because I liked the curriculum from an arts perspective. I would not seriously consider taking this option, but others might. Options are always good.

67.

1. Yes I do believe that is a desirable option.

2. I would have to say yes and no to this question. I really enjoy science so yes I would consider taking this major, but no because of the fact that I am to close to graduation to take on something like that right now. But, had it been an option earlier I would have seriously considered taking it.

3. There is such a wide array of job opportunities available for both science and International studies, so I cannot specifically name which job opportunities and career implications that would become open. But I am sure that it would open many doors in many different fields.

68.

I'm sure a BS in International Studies would be very beneficial for many students. I personally would not be interested in pursuing it, but for careers involving analytical positions or preparation for law school, a BS would be great!

69.
Yes, I think that the BS in international studies is a desirable major. I would probably have gotten both the BS & BA for the double... Anyway yeah, I think others would want it to.

70.

1.Do you believe this is a desirable option to be made available to IS students?

Yes.
2.Would you seriously considering taking this option? If yes, why? If no, why?

Yes. A BS is usually regarded as more prestigious than a BA. Plus, those of us who transferred out of engineering/sciences would already have most of the requirements done.

3.What job and career implications do you anticipate this option may bring to you?

I believe it would give people an advantage especially in a business climate that is becoming increasingly technologically oriented.

71.

1.Do you believe this is a desirable option to be made available to IS students?
YES
2.Would you seriously considering taking this option? If yes, why? If no, why?
Yes - It would open up new opportunities and challenge me in a number of beneficial ways
3.What job and career implications do you anticipate this option may bring to you?
it would open up the door to applications that may extend beyond what the BA could bring...i.e. international development with a focus on something scientific, like the extension of knowledge on agriculture, technology, etc. I could see this extra challenge to IS majors to be very beneficial...just in showing our capacities with the sciences and quantitative material beyond the already challenging qualitative stuff.

73.

1. This would be a great opportunity for potential IS majors to explore their interests in a truly unique matter.

2. Probably not, because of the science involved, and science not being one of my stronger suits.

3. With the state of the world today, the number of job opportunities in this area has gone up significantly. This would only add to it.

74.

1. I think that the BS program would be greatly desirable for undergrad students.
2. I would probably pursue this option because I already have most of the requirements because of my previous major. I also wanted a bachelors in Science before I chose IS, and this way, I could have the best of both worlds.
3. I am actually unsure about the third question, because I have absolutely no clue as to what I want to do later in life.

75.

Although I personally would not be interested in a BS in Int'l Studies, I know that for any students interested in a double degree it might be good. Since most of us double major in a language, we already graduate with a BA. My honors advisor actually asked if I would like to go for the double degree, but I thought a BA and another BA is a bit pointless. Maybe, for those of us who'd like to pursue that option, a BS would help a lot.

76.

1. I think this option should definitely be available for students, because different students have different tastes. This could lead them more into the areas they wish to study.
2. I personally would not have considered going that route simply because the idea of taking more science courses than I need makes me cringe, but I know that many students out there would readily decide for a Bachelor of Science in I.S.
3. It might help the student get a job in other countries to help the country further develop their Science industry?

77.

1. I think it is good to give students the option of earning a BS.
2. I would not consider this, because I would not want to take two geography classes due to the fact I am not very interested in geography.

78.

Although I think that this would be a great option for students who choose to continue International Studies in graduate school, or to pursue a career in the field following their undergraduate work, I personally would not consider this option, as I hope to pursue a career in law. I would imagine that a BS in International Studies would be a useful option for those students who choose to focus on a career that emphasizes the analysis of data, such as certain positions within the government.

79.

1.Do you believe this is a desirable option to be made available to IS students?

YES

2.Would you seriously considering taking this option? If yes, why? If no, why?

YES, I began my student career at OSU as an undecided student and I took higher-level math courses than required for a BA so that I could keep my options open when I decided on a major. If there was a BS offered in international relations when I decided to major in it, I would have rather gone for a BS than a BA.

3.What job and career implications do you anticipate this option may bring to you?

I am going into the military, so I really haven't considered in depth what other careers exist for IS majors. Offering a BS in IS would generate a similar interest as a BS in other majors by catering to those with a more math and science oriented background. This may make IS majors more appealing to certain organizations or agencies

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80.

1. yes, I believe it would be a popular option for some

2. personally, no, I would not consider this option because taking additional science classes is not something in which I am particularly interested.
3. resulting career options might be useful to someone interested in foreign agriculture or environmental sciences

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81.

1. I think this would be a desirable option.
2. I would seriously consider taking this option because it might give me more options with IS majors.
3. I think if would look better for any jobs that I might want.

82.

I think offering a BS in International Studies is a great idea. If this was an option for me that allowed me to graduate on time I would definitely consider it. I like it because it offers another option for students who are interested in IS. Also for people who are ROTC in looks like there may be more of an overlap with classes, which could certainly help. For anyone else who is would prefer graduating with a BS rather than a BA it would be a perfect option. I am not sure that this would necessarily land in me in a different job but I am interested in government work where I am sure a BS would not hurt.

83.

I do think that this is a desirable option for students. It would provide more a more rigorous course-load, and create better-informed students. Under different circumstances, I would definitely be interested in this. However, I feel that I am too far along in my studies here at OSU to change things and take so many additional courses. Although a BS would look better on applications, I don't think that my having a BA will hold me back. Since I plan to compliment both of my BA
degrees with outside study and work, I feel that a BS would not be incredibly necessary.

84.

YES I think that creation of a Bachelor of Science in International Studies is a great idea. Students that are interested in science as well as the IS can finally find something that fulfills both their interests. I also think it is a great idea to add a geography requirement since unfortunately most of the American Students are not familiar with the geography of other countries. I believe an IS major must be able to locate most of the countries. At the same time, to answer question #2 coming from another country I personally like the way IS major is right now for myself.

85.

I think it's a great idea and I would definitely have considered it. I think it would give a little bit of diversity to the majors, opening up more options for grad schools or even various types of employment. I was looking into going into an international conservation- sustainable development type of grad school program, and I think a little more math and science during undergrad could help for understanding that type of material.

86.

I am not understanding the question. Will both the BA and BS option be available to IS majors? Or is it that it will become a BS only. If so then no I am against it, for the part that the Math 150 sequence will be required of one to take. Also the five sections of sciences. I personally feel that it will be a good option if one had the choice of getting a BA or BS in the major, strictly if one changes their major from a BS to a BA (which is the current system) then they would have to start at square one, whereas if the BS option were available then they would not be so far in the hole. I am indifferent to it because I plan on one day working for the World Health Organization. But if someone wanted to go to Medical School (via the non-traditional route) then a BS would be something of interest to them. Note that some people specifically choose majors that do not have a "math" focus on it (whether it be math, stats, or econ).

87.

1. Yes, I think it is a desirable option to make available. Some students enjoy the scientific aspect of homeland security and world economics and the other majors. It opens doors to students and allows for opportunities to expand the effectiveness of the major not to mention the graduate.
2. No, I am not considering taking this opportunity because I do not feel strong enough in the sciences and maths to perform to my top potential. I think it is important to find an area that you excel in and hone those capabilities in an efficient manner.
3. If I decide to seek this option, I believe it will round out my experience. It gives the international studies student an opportunity to contribute more to the workforce than a liberal-based education. It helps develop an emphasis on factual and substantial knowledge with a humanistic goal in mind. That is a unique background to bring to the table

when you are seeking a job with a research firm or a government agency. It expands the scope of the job arena international studies students will have open to them.

88.

1.Do you believe this is a desirable option to be made available to IS students?

Yes

2.Would you seriously considering taking this option? If yes, why? If no, why?

No.

89.

I think if you are going to give both possibilities to future students then I think it is okay. I am not sure that changing it to a Bachelor of Science will not chase some away while enticing others so if both are offered everyone will be happy.

90.

Yes, a Bachelor of Sciences in International Studies makes students more competitive. The curriculum would be more rigorous (by objective standards) and give the major more credibility. I do not see the two sample majors listed below? Were they pasted into the email? I do not know enough about the content of the Geography courses that would be required to gauge whether or not those would be useful courses. If Statistics is a pre-requisite, it seems these are the courses that prepare students for scholarly research and policy analysis.
2.Would you seriously considering taking this option? If yes, why? If no, why?

I would not because I am terrible at math and science-related courses. They also do not interest me. I prefer to read, write, and analyze texts.

3.What job and career implications do you anticipate this option may bring to you?

It would probably help me in my career - it's a great idea.

91.
yes i would be interested in a bs in international studies!

APPENDIX E: Syllabi

Introduction to Forensic Anthropology
(Anthropology 305)
W05

Instructor: Sam D. Stout
Office: 217A Lord Hall
e-mail: stout.126@osu.edu

Required Texts:

Byers, S.N. 2005 Introduction to Forensic Anthropology (2nd Edition), Allyn and Bacon, Pub.
Steadman, D.W. (ed.) 2003 Hard Evidence: Case Studies in Forensic Anthropology. Prentice Hall, Pub.
[The purpose of this book is text provide case studies that exemplify the material and methods covered in the main text.]

Course Description:

Forensic Anthropology is an applied area of physical anthropology. It employs methods developed in osteology, skeletal biology, bioarchaeology, and paleopathology to the recovery and identification of human remains in a medico-legal context. Forensic anthropologists are usually called upon when human or suspected human remains are skeletonized or are too fragmented or decomposed to identify through a normal autopsy. This course will introduce students to the field of forensic anthropology. Specifically, it will survey the basic methods employed by forensic anthropologists to recover and analyze human skeletal remains. More generally, this course will also acquaint students with the broader field of forensic science.

SCHEDULE OF TOPICS AND READING ASSIGNMENTS
{The reading assignments listed first refer to chapters in the Byers [B] text, followed by assigned readings in the Steadman reader [S].}

Week 1 (Jan. 4 & 6)

Tues. Introduction, course organization, and historical background
[B] Ch. 1.

Thurs. A survey of human osteology and odontology
[B] Ch. 2
[S] Ch. 1,"Introducing Forensic Anthropology" by Steadman

Week 2 (Jan. 11 & 13)

Tues. Establishing the forensic context. {Quiz 1}
[B] Ch.3
[S] Ch. 16,"The Pawn Shop Mummified Head: Discriminating among forensic, historic, and ancient contexts," by DW Steadman

Thurs. Recovery scene methods
[B] Ch. 4
[S] Introduction to Section II, Search and Recovery, pp. 87-96
Ch. 7 "Love Lost and Gone Forever", by DM Glassman
Ch. 8 "Unusual 'Crime' Scenes: The Role of Forensic Anthropology in Recovering and Identifying American MIAs," by RW Mann et al.
Ch. 9 "The Contributions of Archaeology and Physical Anthropology to the John McRae Case," by NJ Sauer et al.

Week 3 (Jan. 18 & 20)

Tues. Estimating time since death {Quiz 2}
[B] Ch. 5
[S] Ch. 12 "Taphonomy and Time: Estimating Postmortem Interval," by JC Love and M.K. Marks
Ch. 13 "The Skull on the Lawn: Trophies, taphonomy, and Forensic Anthropology," by P Willey and P Leach

Thurs. Methods, Initial treatment, and examination of human remains (evidence)
[B] Ch. 6
[S] Ch. 15 "Mitochondrial DNA: Solving the Mystery of Anna Anderson," by T Melton
Ch. 17 "An Incidental Finding," by H Gill-King (video superimposition)
Ch. 18 "Small Bones of Contention," by SD Stout (histology)

Week 4 (Jan. 25 & 27)

Tues. Attribution of ancestry and the issue of race {Quiz 3}
[B Ch. 7]
[S] Ch. 6, Case 2, p.83

Thurs. Attribution of sex
[B] Ch. 8
[S] Ch. 2 "The Herring Case-An Outlier," by KR Burns
Ch. 3 "Multidisciplinary Approach to Human Identification in Homicide Investigation: A Case Study from New York," by DH Ubelaker et al

Week 5 (Feb. 1 & 3)
Tues.-Thurs. Estimating age at death
[B] Ch. 9

Week 6 (Feb. 8 & 10)
Tues. **EXAM 1**
Thurs. Death, trauma, and the skeleton {Quiz 4}
[B] Chs. 10-12
[S] Introduction to Section III, Interpretation of Trauma and Taphonomy, by DS Steadman
Ch. 10 "Look Until You See: Identification of Trauma in Skeletal Material," by OC Smith et al.
Ch. 11 "The Interface of Forensic Anthropology and Forensic Pathology in Trauma Interpretation," by DH Ubelaker and SE Smialek
Ch. 14 "Death in Paradise: Human Remains Scavanged by a Shark," by B Anderson et al.Projectile trauma
[B] Ch. 11

Week 7 (Feb. 15 & 17)
Tues. Antemortem skeletal conditions, and postmortem changes to bone
[B] Chs. 14 & 15{Quiz 5}
Thurs. Aspects of individualization and human identification
[B] Ch. 16 & 17
[S] Ch. 5 "Multiple Points of Similarity," DW Steadman and LW Konigsberg

Week 8 (Feb. 22 & 23)
AAFS meetings (Guest lectures and video)

Week 9 (March 1 & 3) [Book Reviews Due]
Tues. The courtroom, expert testimony
[B] Ch. 18
[S] Ch. 6 "Trials in Court: The Forensic Anthropologist Takes the Stand," by KAR Kennedy
Thurs Applications and ethics in forensic anthropology
Ch. 19 " Corpi Aquaticus: The Hardin Cemetery Flood of 1993," by PS Sledzik and AW Willcox
Ch. 20 "Planes, Trains, and Fireworks: The Evolving Role o the Forensic Anthropologist in Mass Fatality Incidents," FP Saul and JM Saul
Ch. 21 "Science Contextualized: the Identification of a U.S. MIA of the Vietnam War from Two Perspectives," by AW Bunch and CC Shine
Ch. 22 " Forensic Anthropology and Human Rights: The Argentine Experience," by M Doretti and CC Snow

Week 10 (March 8 & 10)
Tues. Wrap-up and review for last exam
Thurs. **EXAM 2**

STUDENT EVALUATION AND GRADES:

Quizzes [35%]: Beginning with the second week of classes, there will be short (≤ minute), weekly quizzes (N=5) over reading and lecture material relating particular topic(s) that have been covered up to that date. There will be no quiz during the weeks in which a regular exam is scheduled, Week 8, or the last 2 weeks of classes.

Exams [60%]: There will be two regular exams. The second exam will be comprehensive, since much of the material covered in the second exam builds upon material covered earlier.

"Book Review"[5%]: As soon as possible, within the first two weeks of class, each student must identify a book (not an article) of their own choosing that relates to both this course and their individual interests. A short (≤ 1 page), typed review of this book is to be handed in on or before the **Tuesday, March 1st class**. Reviews should include proper bibliographic information and primarily include a discussion of how this book relates to biological anthropology and your academic interests. It is meant for your enjoyment and enrichment. The book you choose can be of any kind, as long as it relates to **forensic science**, and your interests. Some examples include:

Ferllini, R. (2002) *Silent Witness: How Forensic Anthropology Is Used To Solve The World's Toughest Crimes*, by Roxana Ferllini (2002), Firefly Press; Rhine, S. (1998) *Bone Voyage: A Journey in Forensic Anthropology*; W.R. Maples and Michael Browning (1994) *Dead Men Do Tell Tales*; D.D. Scott, P. Willey, and M.A. Connor (1998) *They Died With Custer: Soldier's Bones of the Little Bighorn*; Aaron Elkins (1991) *Make No Bones*; and any of the works by the practicing forensic anthropologist Kathy Reichs.

ATTENDENCE:
Class attendance is required. **Two (2)** or more unexcused absences will result in a **reduction by one letter grade**, and any student who accumulates **four (4)** unexcused absences will be assigned a failing grade for the course.

Academic Dishonesty
Academic honesty is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person's work has been responsibly and honorably acquired, developed, and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards academic dishonesty as an extremely serious matter, with serious consequences that range from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, or collaboration, consult with the course instructor.

Special Needs
STUDENTS WITH DISABILITIES ARE RESPONSIBLE FOR MAKING THEIR NEEDS KNOWN TO THE INSTRUCTOR, AND ARE RESPONSIBLE FOR SEEKING AVAILABLE ASSISTANCE, AS SOON AS POSSIBLE, AND CERTAINLY PRIOR TO THE FIRST EXAMINATION

ECONOMICS 501.02: INTERMEDIATE MICROECONOMICS
Professor Bruce A. Weinberg

CONTACT INFORMATION

E-mail: weinberg.27@osu.edu
Telephone: 292-5642
Office Address: 446 Arps Hall (1945 N. High)
Office Hours: Tuesday 1:30-3:30 and by appointment
supplementary office hours will be announced in class
Virtual Office Hours: I am available 24/7 at weinberg.27@osu.edu.
The web site for the course is http://economics.sbs.ohio-state.edu/weinberg/501.
Many of the course materials will be posted at that site.

INTRODUCTION

This is a calculus-based course in intermediate microeconomics. Throughout the course we will focus on the efficiency and equity (or fairness) of markets and the effects of government regulations. For example, we will ask whether the market can be relied upon to produce the right goods in the most efficient manner and whether these goods will wind up in the hands of the people who value them the most. To do this, the first part of the course starts by modeling the consumption decisions of individuals and the production decisions of firms. We will see that free markets lead to economic efficiency but not necessarily to an equitable distribution of goods or income. Government intervention generally interferes with the workings of the market.

This material is the heart of classical microeconomics, however it is an over-simplification in many ways. After the mid-term, we move beyond the framework developed in the first section to look at some problems with a free market. Among the topics we will cover are monopolies and environmental pollution. When these problems are important, government involvement in the economy can improve economic efficiency.

As indicated this is a calculus-based course, and you will need a strong background in differential and integral calculus

GRADING

Your grade for this course will be based on six problem sets, one mid-term exam, and a final grade. The fraction of the points allocated to each is shown below. The problem set with the lowest score will be dropped. Thus, your score on the problem sets will be calculated from your score on your five best problem sets. An alternative grade breakdown is provided for students who do poorly on the midterm but who do better on the final. Your score will be calculated using both point allocations, and the highest score will be chosen automatically.

	Grade Breakdown	Alternative Grade Breakdown	Best 5 Problem Sets
(4% each)	20%	20%	
Midterm	30%	20%	
Final Exam	50%	60%	

You are responsible for all materials in the classes and book. The midterm will cover chapters 2, 3, 4, 6, 7,and 8. The final exam will be comprehensive with an emphasis on new material (chapters16, 10, 11, 12 and 18) Exams will contain multiple choice and

written questions. Notes and calculators are not permitted during the exams.

MAKE UP POLICY
No make up exams will be provided for the midterm. Students missing the midterm for unavoidable and formally verifiable reasons will be graded on the alternative grade breakdown (out of a total of 80 points.) Students missing the final for unavoidable and formally verifiable reasons will be given a make up exam. Exams missed for avoidable or for unverifiable reasons will be assigned a grade of 0.

PROBLEM SETS
Problem Sets will be distributed in class. The due dates indicated are subject to modification depending on the progress of the course. Problem sets are due at the beginning of class. Problem sets may be turned into my mailbox in the office of the Department of Economics (410 Arps Hall) between 8:00am and 5:00pm (when the office is open) and at least one half hour before class begins. No credit will be given for late problem sets. As indicated above, your lowest scored problem sets will be dropped. You may work together on the problem set, but your answers must be written up individually.

Syllabus – Economics 501.02 **Weinberg**

READINGS
The textbook for this course is Robert S. Pindyck and Daniel Rubinfeld, *Microeconomics,* 5th Edition, Prentice Hall, 2001. The textbook has been ordered at the major campus bookstores.

All readings are in Pindyck and Rubinfeld. All readings should be completed prior to class on the date indicated. The homepage for the book is:
http://myphlip.pearsoncmg.com/cw/mpbookhome.cfm?vbookid=152

PRACTICE QUESTIONS
The following problems are provided for students interested in additional practice. Of the questions in the book these are the closest in nature to the ones that will be on the exams. You are **not** required to do these problems, and they will **not** be collected. Chapter 2 Review #1, 3, 6;Exercises #1, 4. Chapter 3 Review #2, 4, 5; Exercises #1, 6, 8, 9, 10. Chapter 4 Review #1, 2, 4, 5;Exercises #4, 5. Chapter 6 Review # 1, 3, 5, 6, 7. Exercises #5. Chapter 7 Review #1, 2, 5, 6, Exercises #1, 3, 4. Chapter 8 Review #1, 2, 3,5 ; Exercises #6, 7, 8. Chapter 9 Review #1, 3, 9;Exercises #1a, 2a,b. Chapter 10 Review # 1, 4, 5, 7, 8.Exercises #2, 4a, 8, 9. Chapter 11 Review # 1,2,3,4,6;#1,2,3, Chapter 12 Review #1,2,3,4; Exercises #3. Chapter 16. Review #2, 3, 4, 5, 9, 10 Exercises #4.
Chapter 18 Review #3, 5, 7;Exercises #1,3,4. Answers to some questions are provided in the back of the book.

Calculus questions in Appendices. Chapter 4 #2, 4. Chapter 7 #1, 2, 3, 4.

STUDENTS WITH DISABILITIES

Students with disabilities that have been certified by the Office for Disabilities Services will be appropriately accommodated, and should inform the instructor as soon as possible of their needs.

Syllabus-Economics 501.02 **Weinberg**

COURSE SCHEDULE

Wed., Sept. 21 – Overview

Mon., Sept 26 – Optimization-Appendix to Chapter 4, pp.139-144
Wed., Sept.28 – Chapter 2 (skip2.5 & 2.6) and Consumer Behavior – Chapter 3

Mon., Oct.3 – Consumer Behavior (continued)
Wed., Oct.5 – Individual & Market Demand – Chapter 4 (skip 4.6 & Appendix)

Mon., Oct. 10 – Individual Y Market Demand (continued) – **PS 1 Due**
Wed., Oct. 12 - Production – Chapter 6. Sections 6.1 and 6.2 only and Costs of Production – Chapter 7 & and Appendix (skip 7.5, 7.7)

Mon., Oct. 17 – The Costs of Production (continued) – **PS2 Due**
Wed., Oct. 19 – Profit Maximization and Competitive Supply – Chapter 8

Mon., Oct. 24-Profit Maximum and Competitive Supply (continued) – **PS 3 Due**
Wed., Oct. 26 - **Midterm**

Mon. Oct. 31 – General Equilibrium and Economic Efficiency – Chapter 16
Wed. Nov. 2 – General Equilibrium and Economic Efficiency (continued)

Mon., Nov. 7- Market Power: Monopoly & Monopsony- Chapter 10(skip 10.5, 10.6)
Wed., Nov. 9- Market Power: Monopoly & Monopsony-(continued) **- PS 4 Due**

Mon., Nov.14 – Monopolistic Competition & Oligopoly – Chapter 12
Wed., Nov.16 - Monopolistic Competition & Oligopoly (continued) – **PS 5 Due**

Mon., Nov.21 – Pricing with Monopoly Power – Chapter 11 (skip 11.5, 11.6,& Appendix)
Wed. Nov. 23 – No class, Thanksgiving

Mon., Nov. 28 - Externalities and Public Goods – Chapter 18
Wed., Nov. 30 – Review session – **PS 6 Due**

Thursday, December 8, 7:30-9:18 AM – **Final Exam-Held in Normal Class Room.** Cumulative, but emphasis on new material.

Syllabus – Economics 501.02 **Weinberg**

Economics 502A

Intermediate Macroeconomic Theory

Spring 2002

TR 1:30-3:18, Evans Laboratory

Professor Pok-sang Lam

- Office: Arps Hall 442
- Office Hours: Tuesday and Wednesday 11:30-1:00, and by appointment.
- Phone: 292-6567
- Email-pslam@ecolan.sbs.ohio-state.edu

Scope

The course covers the theory and performance of unemployment, inflation, production, interest rates, and other variables that are central to short-run economic fluctuations and long-run economic growth. The roll of fiscal and monetary policy is discussed in light of the theory and facts.

Prerequisites

This course assumes basic knowledge in microeconomics and macroeconomics at the introductory level (Economics 200 and Economics 201). It also assumes fluency in algebra and knowledge in calculus at the level of Math 132.

Grading Policy

There will be two midterm exams and a final exam. The dates of the exam are as follows:

- Ist Midterm: April 25, Thursday, 2002, in class.
- 2nd Midterm: May 23, Thursday, 2002, in class.
- Final Exam: June 13, Thursday, 2002 1:30-3:18pm

There will be three homework sets. They are due the Thursdays before the exams, and they will be distributed at least one week before the due dates. The purpose of the homework sets is to deepen your understanding of the material presented in class, and to help you prepare for the exams. Solution sets will also be distributed.

The final grade will be determined by the outcome of the three exams and the homework sets, according to the following formula:

Final Exam	35%	
Two Midterms (25%) each	50%	
Three Homework Sets (5% each)		15%
Total		100%

The exams will include multiple choice, short questions and numerical problems. The material for these questions will be drawn from four sources (in descending order of importance): (1) course lectures, (2) the textbook, (3) homework and (4) material handed out in class. The first midterm will be based on material covered in the first 4 weeks of the course, while the second midterm will be based on material covered between the fifth and seventh week of the course. The final exam is comprehensive, but will emphasize material covered in the last two weeks of the course.

I will assign final grades according to a curve appropriate for Economics 502.

Required and Supplementary Readings

The textbook is Robert E. Hall and John B. Taylor, *Macroeconomics*, Fifth edition, W. W. Norton, 1997. Lectures will closely follow the textbook.

The reading list also provides supplementary readings. Occasionally, these readings will be discussed in class. These readings will be put on reserve at the Mason Hall Business School Library. The study guide accompanying the text is optional. It is however useful for reviewing the class material and it is a good preparation for the exams. A copy of the study guide will be put on reserve in Mason Hall Business School Library.

Other Policies

I request 7 days prior knowledge of any expected absence from an exam. If you document a valid reason for missing a midterm, the weight of the midterm exam you missed will be transferred to the other midterm and final exam. For example, if you miss the second midterm, your final and the first midterm will, respectively, carry the weights of 49.58 (35 x 1.4167) and 35.42 (25 x 1.4167) percent. In the case of a valid reason for missing the final, I will provide a makeup exam. Unexcused absences on any exam will result in a grade of zero on the exam involved. Dishonesty in seeking an excused absence or in the examination process will result in a grade of zero on the exam involved and in University discipline.

The three homework sets are due Thursday in class. Homework turned in after class will be considered late. Late homework will be accepted within 24 hours of the due dates, but

a 20 percent penalty will be assessed. For example, a perfectly done homework will receive only 80 percent if it is turned late. Similarly, a homework that is only 20 percent correct will receive no credit if it is turned in late. Late homework must be turned in to me in person, and it is your responsibility to reach me within the 24 hours limit.

1. Introduction (Weeks 1 and 2)
- Motivation, Hall & Taylor Chapter 1
- Measuring Performance, Hall & Taylor Chapter 2
- Measuring Unemployment, Hall & Taylor Chapter 5
- Allan H Young and Helen Stone Tice, "An Introduction to National Income Accounting", Survey of Current Business March 1985.
- Oliver J. Blanchard and Lawrence Katz, "What Do We Know and Do Not Know About the Natural Rate of Unemployment", The Journal of Economic Perspective, Winter 1997, 51-72.

2. Long Run Fundamentals (Weeks 3 and 4)
- Economic Growth, Hall & Taylor Chapter 3
- Richard Easterlin, "The Worldwide Standard of Living Since 1880", The Journal of Economic Perspective, Winter 2000, 7-26.

3. Economic Fluctuations (Weeks 5, 6, and 7)
- Short-Run Fluctuation, Hall & Taylor Chapter 6
- Financial Market and Aggregate Demand, Hall & Taylor Chapter 7
- Adjustment Process, Hall & Taylor Chapter 8

- Macroeconomics Policy, Hall & Taylor Chapter 9
- Milton Friedman, "The Role of Monetary Policy", American Economic Review. March 1968, 1-17
- John B. Taylor, "Reassessing Discretionary Fiscal Policy". The Journal of Economic Perspective, Summer 2000, 21-36.

4. Micro-foundations of Macroeconomics (Week 8, 9, and 10)

- Consumption Demand, Hall & Taylor Chapter 10
- Investment Demand, Hall & Taylor Chapter 11
- Foreign Trade and Exchange Rate, Hall & Taylor Chapter 12
- Government Spending, Hall & Taylor Chapter 13
- The Fed and Monetary Policy Rule, Hall & Taylor Chapter 14
- Price Rigidity, Hall & Taylor Chapter 15
- Franco Modigliani, "Life Cycle, Individual, Thrift and the Wealth of Nations", American Economic Review, June 1986, 297-313.
- George Kahn, "Investment in Recession and Recovery: Lessons from the 1980's", Economic Review, Federal Reserve Bank of Kansas City, November 1985, 25-39.

This syllabus and other class materials are available in alternative formats upon request. Students with disabilities are responsible for making their need known to the instructor and seeking assistance in a timely manner. For more information, please contact the Office of Disability Services at 292-3307.

COURSE OUTLINE – EEOB 370 (EXTINCTION), Spring 2005

Instructors:

Tom Waite
Office: 382 Aronoff
Office hours: by appointment
Phone: 292-5549
e-mail: waite.1@osu.edu

Katy Greenwald (TA)
Office: 356 Aronoff
Office hours: by appointment
Phone: 292-9635
e-mail: greenwald.35@osu.edu

Course requirements –
Required CD: Wilson, E. O. and D. L. Perlman. 2000. *Conserving Earth's Biodiversity. Island Press.* (Other required readings will be assigned throughout the course.)
Additional required reading: available on course web page as SYNOPSES & PDF files

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Who can explain why one species ranges widely and is very numerous, and why another allied species has a narrow range and is rare?

— C. Darwin (1859)

Suddenly, as rare things will, [the species] vanished.

— R. Browning (1855)

"The balance of nature" does not exist and perhaps never has existed.

— C. Elton (1930)

There is unfortunately no precedent for [6] billion human beings suddenly sharing an enlightened vision of the future.

— N. R. Flesness (1992)

There are no hopeless cases, only people without hope and expensive cases.

— M. E. Soulé (1987)

Course goals –
Tropical deforestation is thought to be causing species extinctions at a record-setting pace. Familiar estimates are on the order of several extinctions per hour — in tropical forest ecosystems alone! These "guesstimates" are based on species-area relationships combined with estimates of current rates of deforestation. These gloomy predictions serve the purpose of catching the public's attention. But do they make us skeptical and jaded or do they galvanize our joint interest in retarding the rate of global extinction.

We will explore some of the causes of, and potential remedies to, the loss of biodiversity on Earth today. We will also explore ways of improving estimates of current (and future) extinction rates. Throughout the course, we will discuss the underlying ecological and evolutionary basis of extinction, the role of humans as causal agents, and the prospects for conserving biodiversity in the face of a burgeoning human population.

We will address the following questions. If almost all species that have ever existed are now extinct, do we really need to worry about extinction? If human activity is causing, say, 30,000 global species extinctions per year, why is it that we can account for only a few of these species by name? Why are so many current extinctions cryptic? Are they really occurring? How does today's global extinction event compare with historical extinction events? Should we console ourselves with the extinction-is-inevitable argument? Will the global biota rebound? Will we humans still be here if and when it does? What are the ethics of extinction? What makes some species so rare in the first place? Are some species and ecosystems especially vulnerable to extinction? Are some taxa especially vulnerable? Do local extinctions really lead to ecosystem decay? Is biodiversity conservation really "all about real estate"? What are the problems facing small populations? Which kind of random element — demographic, environmental, or genetic — pushes dwindling populations into the extinction vortex? Do "bad genes" cause extinction? How are extinction rates assessed? To what degree can we improve these assessments? What is the role of extinction in the evolutionary process? What do population dynamic principles tell us about extinction risk? How should endangerment be assessed and how should such assessments be translated into conservation plans? Can we really bring species back from the brink? Which species should we save? Why do assessments of species endangerment ignore >99% of all species? What is the role of the human "population bomb" in the endangerment of species? How large is our ecological footprint and how can we tread lightly? Why do attempts to exploit populations sustainably routinely fail? Why is the overexploitation of communal resources so pervasive? Is there an evolutionary basis for the failure of so many conservation efforts? If so, how can we exploit this insight? Why save biodiversity? How can you contribute toward solving the global extinction crisis?

Organizational details –
Class will be held biweekly, 3:30-4:48 PM. During these sessions, we will participate in:

- Participatory quasi-lectures
- Seminar-style discussions, debates, town hall meetings, stakeholders meetings, etc.

During the early portion of the course, we will rely primarily on the quasi-lecture mode. However, as the class gains a general level of proficiency, we will explore recent advances in the biology of extinction through alternative approaches (listed above). We will discuss primary literature, which will require careful preparation by each of us. Readings and assignments will be posted on the course webpage.

Statement on diversity –
We the instructors embrace the university's mission regarding diversity. We are committed to the goals of creating a welcoming climate for all students and promoting a shared, inclusive understanding of diversity. We will gladly attempt to accommodate any student who may have special needs or concerns.

Grading Procedures –
Grades will be based on the following scheme. Final grades may be adjusted based on relative performance, but students with a composite score equaling or exceeding 90, 80, or 70% can expect to receive a grade no lower than A-, B-, or C-, respectively.

Required components –

100 points:	Midterm Exam
100 points:	Final Exam
50 points:	Class participation (includes attendance, formal preparation, and verbal contribution)

Notes on these components:

Exams will be given in class and may cover material from lectures/quasi-lectures, reading assignments, and in-class discussions. Exams may include a take-home component, which may include any or all of the following: assessment of extinction rates, written critique of primary literature, and analysis/interpretation of extinction risk.

Class participation refers to *meaningful* participation in all in-class activities and may include *written preparation* for in-class discussions. (Detailed explanation to be given in class.) Perfect attendance as well as consistent preparation and active participation are expected.

Course schedule

Week	Date	Topic	Readings
1	T (3/29)	The biodiversity crisis: fact or fiction?	Synopsis 1; Introduction (CD*)
	R (3/31)	Estimating the extinction event	Synopsis 1; Diversity of Life (CD), Biodiversity over Time (CD)
2	T (4/5)	Estimating the extinction event	Synopsis 1, Threats to Biodiversity (CD)
	R (4/7)	Extending the species-area approach	Synopsis 1; Brooks et al. 1999
3	T (4/12)	How much green stuff do we use?	Synopsis 1
	R (4/14)	Our ecological footprint and biodiversity conservation	Synopsis 1; Social Issues (CD)
4	T (4/19)	Biotic holocaust and eternal optimist	Synopsis 3
	R (4/21)	Can we defy Nature's end?	N/A
5	T (4/26)	New methods for estimating extinction; Review for Midterm	
	R (4/28)	**MIDTERM EXAM** (in-class portion); **Take-home assigned**	N/A
6	T (5/3)	Population dynamics and extinction risk	Synopsis 4
	R (5/5)	Population viability analysis **Take-home portion of MIDTERM EXAM due** (in class)	Conservation Practice (CD)
7	T (5/10)	Population loss and the extinction crisis	Ceballos and Erhlich 2002
	R (5/12)	Biodiversity and ecosystem function	Naeem et al. 1999; Wardle et al. 1999; Naeem 2000
8	T (5/17)	Biodiversity and ecosystems: revisited	Loreau et al. 2002; Pfisterer and Schmid 2002; Naeem 2002
	R (5/19)	Global hotspots and evolutionary history	Sechrest et al. 2002
9	T (5/24)	Inbreeding and extinction	Saccheri et al. 1998
	R (5/26)	Guest lecturer: Troy Wilson A geographic approach to biodiversity planning	Midgley et al. 2002; Global Biodiversity (CD)
10	T (5/31)	Sustainable consumption and biodiversity conservation **Take-home portion of Final Exam assigned**	Myers 2000
	R (6/2)	Economic reasons for saving wild nature The conservationist's cause for optimism Biodiversity conservation: getting involved	Balmford et al. 2002 [Recommended: Learning More (CD)]
Finals week	T (6/7)	**FINAL EXAM** (in-class portion, usual time & place; take-home due)	N/A

*E. O. Wilson and D. L. Perlman's CD, *Conserving Earth's Biodiversity*.

PLANTS AND PEOPLE
The botany and history of the world's food, spice, drug and industrial plants
EEOB 502, Winter Quarter 2005

Instructor: Dr. Peter Curtis
Dept. EEOB
292-0835, room 276 Aronoff Laboratory

Lectures: Mon, Wed, Fri 10:30 – 11:18,
Rm 014 Jennings Hall, Call # 19186-6, 4 credits
Email: curtis.7@osu.edu

Office Hours: Wednesday 11:30-12:30,
Thursday 2-3 or by appointment

Prerequisites: 5 credits hours in biological sciences or consent of instructor

Textbook:
ECONOMIC BOTANY: PLANTS IN OUR WORLD Third Edition. By B.B. Simpson and M. Conner-Ogorzaly, 2001, McGraw-Hill.

Other Assigned Readings:
On reserve in the Biological Sciences/ Pharmacy Library:
Diamond, J.M. 1997. Guns, germs, and steel: the fates of human societies. W.W. Norton, N.Y. Chapters 6, 7, & 9.
Kahn, E.J. Jr. 1992. Profiles. Jungle botanist (Richard Evans Schultes). The New Yorker 68(15): 35-58.
Furst, P.T. 1975. Introduction. In, In the magic land of peyote, by F. Benítez. Univ. Texas Press, Austin.
Mintz, S.W. 1991. Pleasure, profit, and satiation. In, Viola, H.J. and C. Margolis. Seeds of Change. A quincentennial commemoration. Smithsonian Inst. Press.

Grading:

Research project outline	10 points
Midterm examination	50 points
Project first draft & peer review	40 points
Project oral presentation	20 points
Project final draft	40 points
Final examination	75 points
Total	235 points

Ethnobotanical Project:
The ethnobotanical project combines library-based research with hands-on experience of a particular plant and its derived product. The 'hands-on' component is to locate, in area stores or elsewhere, the unprocessed (or as close to that as possible) form of the selected plant and then to process or transform it into an edible or otherwise useful product. The 'research' component involves writing a paper (~ 8 pages) that presents the relevant botany of the plant including its geographical origin and history, describes exactly how the plant was transformed, and discusses the importance of the final product to some cultural group. First drafts of this report will be peer reviewed by class participants. Ethnobotanical products will be displayed to the entire class at an end of quarter symposium, with each student giving an oral presentation.

Course grade will be assigned on the basis of the percentage of the total points earned where: 93% or greater = A, 90-92% = A-, 87-89% = B+, 83-86% = B, 80-82% = B-, 77-79% = C+, 73-76% = C, 70-72% = C-, 67-69% = D+, 60-66% = D, less than 60% = E.

Goals for this Course

- The study of the direct interrelations between humans and plants, and their evolutionary (for plants) and cultural (for humans) consequences.
  - Gain an understanding of the process of plant and animal domestication, from both an evolutionary and an ecological perspective.
  - Study the origin and subsequent dispersal of the major food and beverage plants appearing in our diets today.
  - Appreciate the importance of plant biodiversity in our cultural history as well as in our culinary history.
  - Explore alternative world views as experienced by aboriginal peoples and mediated through their use of plants.
  - Continue to develop skills in written and oral communication.

Recommended Resources

A useful web site directory of links to ethno-botanical and related resources.
http://www.rbgkew.org.uk/scihort/eblinks/

Texts: (All on reserve in Bio Sci/ Pharm library)

Diamond, J.M. 1997. Guns, germs, and steel: the fates of human societies. W.W. Norton, N.Y. HM206 D48 MAIN.

Harris, D.R., and G.C. Hillman. 1989. Foraging and Farming: the Evolution of Plant Exploitation. Unwin Hyman. GN799 A4 F67 MAIN

Heiser, C.B.Jr. 1990. Seed to Civilization. The Story of Food. W.H. Freeman. S419 H44 BPL.

Johns, T. 1990. The origins of human diet and medicine. Univ. Arizona Press, Tucson. GN476.73 J64 EHS.

Manniche, L. 1989. An ancient egyptian herbal. Univ. Texas Press, Austin. RS63 .M35 BPL

McGee. H. 1988. On Food and Cooking. The Science and Lore of the Kitchen. Collier. TX651 M37 HEC

Schultes, R.E. and A. Hoffman. 1979. Plants of the Gods: Origins of Hallucinogenic Use. McGraw Hill. QK99 A1 S39 BPL.

Simpson, B.B., and M. Conner-Ogorzaly. 2001. Economic Botany: Plants In Our World. Third Edition, McGraw Hill. SB108 U5 S56 BPL

Viola, H.J. and C. Margolis. 1991. Seeds of Change. A quincentennial commemoration. Smithsonian Inst. Press. S.E112 S45 OHI

Zohary, D. and M. Hopf. 1993. Domestication of Plants in the Old World: the Origin and Spread of Cultivated Plants in West Asia, Europe, and the Nile Valley. 2nd ed. Clarendon Press. GN799 A4 Z64 AGI

Lecture topics and reading assignments

Theme	Wk	Date	Lecture Topic	Lect. #	Readings
Going Beyond Hunting and Gathering					
	1	3-Jan	Origins of Agriculture	1	S 40-52; D ch 6
		5-Jan	Origins of Cultivated Plants	2	S 21-28, 111-115; D ch 7
		7-Jan	Origins of Domesticated Animals	3	D ch 9
The Botanical Basis To Civilization					
	2	10-Jan	The Big Four - Wheat	4	S 107-120
		12-Jan	The Big Four - Rice & Sorghum	5	S 121-126
		14-Jan	The Big Four - Maize	6	S 126-135
	3	17-Jan	No classes		
		19-Jan	Proteins From Plants - Legumes	7	S 135-154
Alternatives to Cereal Grains					
		21-Jan	Starchy Staples - The Potato	8	S 155-166, 180-184
	4	24-Jan	More Starchy Staples - Banana & Yuca	9	S 92-95, 184-187
		24-Jan	**RESEARCH PROJECT OUTLINE DUE**		
Improving Upon Carbohydrates					
		26-Jan	Fermentation - Its Chemistry and History, Beer	10	S 332-340
		28-Jan	Alcoholic Beverages - Wine & Spirits	11	S 341-354
Exploiting Botanical Diversity					
	5	31-Jan	Sweetness and Power - Sugar Cane	12	S 187-191; Mintz article
		2-Feb	Spice Plants, the Spice Islands, and History I	13	S 192-214
		4-Feb	Spice Plants, the Spice Islands, and History II	14	S 192-214
	6	7-Feb	Big Hits From the New World - Tomato & Peppers	15	S 82-89
		9-Feb	**MIDTERM EXAMINATION**		
		11-Feb	Stimulating Beverages - Coffee & Tea	16	S 313-331
	7	14-Feb	*Theobroma:* Food of the Gods (a.k.a., chocolate)	17	S 313-331
		16-Feb	The Mediterranean diet: olives, figs, & dates	18	S 218-242, 90, 95
		16-Feb	**PROJECT FIRST DRAFT DUE TO PEER REVIEWERS**		
The Mind, The Body, & The Spirit					
		18-Feb	The Old World Pharmacopoeia - Hemp & Opium	19	S 262-312
	8	21-Feb	The New World Pharmacopoeia - Coca & Tobacco	20	S 262-312
		21-Feb	**PEER REVIEWS DUE BACK, COPIES TO DR. CURTIS**		
		23-Feb	Entheogens I - Peyote	21	S 262-312; Kahn article
		25-Feb	Entheogens II - Psilocybe & Caapi	22	S 262-312
	9	28-Feb	Ethnobotanical videos	23	Furst article
Home, Hearth, & Industry					
		2-Mar	Textiles - Cotton & other fibers	24	S 355-372
		4-Mar	Fragrance & Dye Plants	25	S 215-217, 372-377
	10	7-Mar	Paper & Rubber	26	S 243-261, 378-398
		9-Mar	**PROJECT ORAL PRESENTATIONS: 10:30-11:30, 7:00-9:00 pm**		
		11-Mar	**PROJECT ORAL PRESENTATIONS: 10:30-11:30, 7:00-9:00 pm**		
	11	14-Mar	**PROJECT WRITTEN REPORT FINAL DRAFT DUE**		
		14-Mar	**FINAL EXAMINATION - 9:30-11:18 am**		

EEOB 700 Biogeography

Andrea D. Wolfe}
Associate Professor}
Department of EEOB}
Office: Aranoff Lab 364
Phone: 292-0267}

Rationale:} Biogeography is a field of study where patterns of biodiversity are elucidated. It is a comparative science where processes of evolution are superimposed on processes of geology, global climate change, and ecological parameters to study the past and present distributions of organisms.

Objectives:} To introduce students to the types of comparative data used to elucidate patterns of distribution, including an overview of phylogenetic systematics and phylogeography, plate tectonics, the fossil record, and patterns of disjunction. The historical context of the development of biogeography as a scientific discipline will be presented, including the controversial debates that have contributed to our current understanding of biogeographic patterns (e.g., continental drift; evolution theory; phenetics vs. cladistics). Another objective of the course will be to consider conservation biology in a biogeographic context.

Textbook}: Brown, J. H., and M. V. Lomolino. 1998. Biogeography, 2nd Edition. Sinauer Associates, Inc. Sunderland, Mass.

Grading:}

Midterm I: 100 pts
Midterm II: 100 pts
Final Exam: 100 pts

In class presentations: 120 pts (each student will review a 2 - 5 current articles on biogeography, write a short review of the subject presented in the articles and do an in-class presentation).

Syllabus for EEOB 700, Winter 2005

Week 1: Historical Overview of Biogeography}
History of global exploration, Pre-Darwinian and Post-Darwinian contributions, Developments of 20th Century; Ecological Setting for Biodiversity
Ch 1 - 3; pp 1 - 60

Week 2: Patterns of Biodiversity
Ranges and Distributions of Organisms, Overview of Biomes
Ch 4 - 5; pp 61 -134

Week 3: Historical Patterns of Global Change}
Earth's Tectonic History, Patterns of Effects of Glaciation, Developments During Pleistocene and Holocene
Ch 6 - 7; pp 135 -222

Week 4: Speciation and Extinction}
Review of species concepts, speciation, micro- vs macroevolution, adaptive radiation, extinction, species selection
Ch 8; pp 223 -260

MIDTERM I: Friday, January 28\fs24

Week 5: Distributions of Organisms}
Dispersal, Endemism, Disjunctions, Biogeographic Regions and Provinces
Ch 9 - 10; pp 261 - 324

Week 6: Reconstructing Biogeographic Histories}
Introduction to Systematics, The Fossil Record, Centers of Origins, Vicariance Biogeography, Phylogeography
Ch 11 - 12; pp 325 - 365

Week 7: Island Biogeography}
Historical overview, Island Patterns, Evolutionary Trends on Islands
Ch 13 - 14; pp 369 - 447

Week 8: Species Diversity in Continental and Marine Habitats}
Patterns of Diversity for Single Species and Multispecies Assemblages, Biotic Interchange, Maintance of Distinct Biotas
Ch 15 - 16; pp 449 -530

MIDTERM II: Friday, February 25\fs24

Week 9: Applied Biogeography}
The Biodiversity Crisis, Geography of Extinctions, Invasive Species, Biogeography of Humans
Ch 17 - 18; pp 533 - 612

Week 10: Applied Biogeography Continued}
Technological and Conceptual Advances in Biogeography, Management and Conservation
Ch 19; pp 613 - 624

FINAL EXAM: Wednesday, March 16: 7:30 TO 9:18 A.M.

Calendar
Week 1: Jan 3, 5, 7
Lectures 1 - 3
Week 2: Jan 10, 12, 14
Lectures 4 - 6
Week 3: Jan 19, 21
Lecture 7, Recitation 1
(MLK Day on Jan 17 - no class)
Week 4: Jan 24, 26, 28
Lecture 8, Recitation 2, Midterm I
Week 5: Jan 31, Feb 2, 4
Lectures 9 - 10, Recitation 3
Week 6: Feb 7, 9, 11
Lectures 11 - 12, Recitation 4

Week 7: Feb 14, 16, 18
Lectures 13 - 14, Recitation 5
Week 8: Feb 21, 23, 25
Lecture 15, Recitation, 6, Midterm II
Week 9: Feb 28, Mar 2, 4,
Lectures 16 - 17, Recitation 7
Week 10: Mar 7, 9, 11
Lectures 18 - 19, Recitation 8
Final Exam: Mar 16, 7:30 - 9:18 a.m. Protocol for in-class presentations

Two or three students per recitation will present a summary of research on any topic in biogeography. The research will encompass two to five recent articles on a similar theme. Assignments for a particular recitation period will be made at the beginning of the second week of the term, which means that students who are early in the roster need to be working ahead of the game.
Articles must be approved by me at least one week in advance of your assigned recitation schedule. See me if you are having trouble choosing appropriate articles. On article that is the main focus of the presentation needs to be made available in a PDF for the rest of the class. The presenter should be prepared to answer questions posed by the class.

Format for the presentation:
A PowerPoint presentation must be used. I expect an overview of the article to be presented, including the relevant background information leading to the current study. For example, if you are presenting a paper on the biogeography of tribe Cheloneae, I would expect you to present an historical overview of the work that was done before the current paper during the introductory remarks in order to set the stage for the paper you are reviewing.
You will have 20 minutes to present your summary of the paper with 5 minutes afterwards for questions. Use tables and figures where appropriate to illustrate the major points of the paper. Use an outline summarizing the major points of the paper.

We will follow a presentation schedule similar to one at a national meeting of a scientific society. You will have 20 minutes for the presentation and five minutes for questions. Approximately one minute before your time is up, I will signal you that you should wrap your presentation up as soon as possible. You will be start losing points on your presentation when the 20 minute time limit has been reached and you\'d5re not yet finished. For example, you can expect to lose 5 points if your presentation takes 21 minutes. The amount of points lost will depend on the length of time you go over the limit.

In addition to the recitation presentation, each student will write a short summary paper (1 - 3 pages) about the articles, similar to what would be written in a review paper in a scientific journal.
Grading of recitation assignments:
Article choice made on time 10 points
In-class presentation 60 points
Written review and summary 50 points

Total 120 points

Andrea D. Wolfe
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Department of Evolution, Ecology, and Organismal Biology
The Ohio State University
318 West 12th Avenue
Columbus, OH 43210-1293
USA

Geography H410: Global Climate and Environmental Change (call # 19798-1)

When and Where:
Lecture: Monday and Wednesday Derby Room 140 (9:00 a.m. to 10:18 a.m.)
Recitation: Tuesday in Derby Room 140 (12:30 to 2:18 p.m.)

Instructor: Dr. Ellen Mosley-Thompson (thompson.4@osu.edu)
Office: Derby Hall 1140; Telephone: 292-6662 (292-2580: Mon, Tues, Wed mornings only)
Office Hours: Monday and Wednesday 10:30 to noon (or by appointment)

Teaching Assistant: Ms. Brianne Vogt (vogt.55@osu.edu
Office: 1070 Derby Hall; Telephone 292-2705
Office hours will be in 1070 Derby during weeks 1, 2, and 4 through 10 on Tuesday from 10:30 am to noon and on Thursday from 9:00 am to 10:30 am. Special office hours will be held in Derby 140 during weeks 3 and 4 to assist you with Exercise 2. Those times are on Monday from 11:30 am to 1:00 pm and on Thursday from 9:00 - 10:30 am.

Course Objectives:
This course is taught in a lecture / seminar format and is designed to provide a more thorough understanding of the scientific basis of both natural and anthropogenic (human produced) climate change. You will explore the key issues surrounding 20th century climate change, global warming and the role of human activities in shaping the physical, chemical and biological characteristics of the environment that sustains life on Earth. Through discussions and class debates you will consider how these anticipated changes are likely to affect your future and explore actions by which you might contribute to solutions. You will gain experience using peer- reviewed literature to research a topic and then summarize your findings both orally and in writing. A key objective is to provide you with the knowledge base and skills to critically evaluate information you read or hear concerning climate change, global warming and related environmental issues.

Prerequisites: This course has no prerequisites except that you must be officially admitted to either the University Honors or Scholars Program.

GEC Requirements: This course meets B.A. and B.S. Degree GEC requirements for Natural Science (Physical Science) and Social Sciences (Human, Natural, and Economic Resources)

Textbooks (required - will be provided):
1) Schneider, S. H., *Laboratory Earth: The Planetary Gamble We Can't Afford to Lose*, Basic Books, Harper Collins, pp. 174, 1997.
   This book provides a general introduction to the science of "global climate change" and some of the essential background information and the broad context you need to discuss climate change knowledgeably. Explicit reading assignments will be given as appropriate throughout the quarter.
2) Brown, Lester R., *Plan B: Rescuing a Planet under Stress and a Civilization in Trouble*. W. W. Norton & Company, NY, pp. 285, 2003.
3) Brown, Lester R. *Outgrowing the Earth: The Food Security Challenge in an Age of Falling Water Tables and Rising Temperatures*, W. W. Norton & Company, NY, pp. 239, 2004.

Selected papers and book chapters will be placed on electronic reserve for the class. Additional books will be placed on reserve in the Geology Library in Orton Hall unless specified otherwise.
Be sure to bookmark the class web page in your internet browser. The class web address is **http://geog-www.sbs.ohio-state.edu/courses/H410** If you have trouble getting to the web page, you can log into the Geography Dept. web page [www.geography.ohio-state.edu] and from here click on Spring quarter classes and then on H410. Throughout the quarter additional reading and reference materials may be required. You will be alerted in class about updates to the class web page. The schedule of weekly and daily activities (lectures, guest speakers, group discussions, field trips, debate, presentations, papers) will be disseminated on the first day of class. The weekly reading assignments are given one week in advance of the presentation of the material. This schedule will change slightly as the quarter progresses and you will be alerted to changes. Remember that this is a seminar and thus you need to remain flexible so that we may capitalize on climate- and/or environment-related events and special speakers on campus.

Grading:
Group presentations: 20% (two presentations - 10% each)
Individual papers: 30% (two papers - 15 % each)

Exercises: 10% (two exercises - 5% each)
Debate (15%)
Final examination: 15%
Participation and field trip attendance: 10% This means attending class and all field trips, turning in all work on time, participating in the discussions, asking questions, being attentive and engaged in the class. You are allowed one un-excused absence. An excused absence requires written documentation (doctor's excuse) or prior permission from Dr. EMT to be absent.

Additional Class Materials: Additional materials will be placed on reserve throughout the quarter. The list of these will be maintained on the class web page under Reserve Materials. All materials (unless otherwise indicated) are on closed reserve in the Geology Library in Orton Hall [the building with the bell tower on the south side the Oval]. All materials will be filed under Geography H410 unless otherwise indicated. Additional class materials may be made available throughout the quarter.

An Important Note about Plagiarism and Academic Misconduct:
Plagiarism and other forms of cheating will not be tolerated. Please see the Code of Student Conduct (http://studentaffairs.osu.edu/resource_csc.asp). University rules provide severe penalties for academic misconduct, ranging from course failure to dismissal from the university. University rules are found in the handbook used in all survey courses: "University Survey - A Guidebook and Readings for New Students." Any questions about this policy, or your grade, should be brought directly to the attention of Dr. EMT.

Students with Disabilities and Special Needs:
Any student needing special accommodation on the basis of any disability must advise the instructor at the beginning of class. All necessary accommodations will be made upon presentation of relevant certification, presented in a timely manner. Students are also responsible for making contact with the Office for Disability Services at 292-3307, 150 Pomerene Hall, prior to or at the beginning of the quarter.

Welcome to this Honors Seminar:
I look forward to working with you as a group and individually as you learn more about your environment and the Earth's climate system - past, present and future.

INTERDISCIPLINARY 607 – CE/CRP/GEOG/GEOL 607
Fundamentals of Geographic Information Systems
Autumn Quarter 2005

Course Description: Basic principles of geographic and land information systems and their use in spatial analysis and information management.

Course Coordinator: Mei-Po Kwan, Professor, Geography (Room 1154, Derby Hall, 292-9465, kwan.8@osu.edu).

Objectives of the Course: The course is designed to give students an understanding of geographic information systems, their capabilities, uses, and limitations. Relevant applications for each discipline area are demonstrated in the computer laboratory portion.

Textbook: M.N. DeMers, 2005. *Fundamentals of Geographic Information Systems,* 3rd edition, John Wiley & Sons, Inc.

Class website: http://facweb.knowlton.ohiostate.edu/sgordon/courses2/crp607/index.html

Call #	*Department*	*Day*	*Time*	*Location*	**Inst**
04937-1	Civil Engineering	Tue	9:30-11:18 A.M.	BO 416	Merry
04835-1	City & Reg Planning	Thu	5:30-8:18 P.M.	KN 430	Gordon
09952-2	Geography	Tue	12:30-2:18 P.M.	DB 140	Kwan
09953-8	Geography	Thu	12:30-2:18 P.M.	DB 140	Kwan
10584-9	Geological Sciences	Tue	5:30-8:18 P.M.	ML 356	Pride
10585-4	Geological Sciences	Wed	5:30-8:18 P.M.	ML 356	Pride

Lab Instructors	**Email**	**Office**
Steve Gordon (SG)	sgordon@osc.edu	KN 290 – 275 W Woodruff Ave
Mei-Po Kwan (MK)	kwan.8@osu.edu	DB 1054 – 154 N Oval Mall
Carolyn Merry (CM)	merry.1@osu.edu	HH 470 – 2070 Neil Ave
Doug Pride (DP)	pride.1@osu.edu	ML 275 – 125 S Oval Mall

Lecture Format:
The course will be team-taught, with three lectures per week in a large auditorium – JR 0300 – from 12:30-1:18 MWF. This is a complex syllabus; there may be changes or corrections announced in class.

Date	*Lecturer*	*Topic*	*Chapter Readings*
Wed, Sept 21	Kwan	Introduction	1
Fri, Sept 23	Gordon	Introduction to spatial data	2
Mon, Sep 26	Ahlqvist	Maps and map analysis	3
Wed, Sep 28	Ahlqvist	Maps and map analysis	
Fri, Sep 30	Munroe	Vector GIS	4: 95-106; 5: 129-130
Mon, Oct 3	Munroe	Vector GIS	
Wed, Oct 5	Merry	Raster GIS	4: 85-95; 5: 130-133; 10: 246-250
Fri, Oct 7	Merry	Raster GIS	
Mon, Oct 10	Xiao	Spatial databases	4: 72-85
Wed, Oct 12	Xiao	Spatial databases	
Fri, Oct 14	Murray	Data in GIS: acquisition	5: 113-129, 139-143
Mon, Oct 17	Murray	Data in GIS: editing, data quality	6
Wed, Oct 19	Merry	Data in GIS: remote sensing	5: 133-138
Fri, Oct 21	Xiao	Data in GIS: storage	6
Mon, Oct 24	Gordon	GIS capabilities	7
Wed, Oct 26	Gordon	GIS capabilities	8
Fri, Oct 28	Gordon	GIS implementation	15
Mon, Oct 31	Gordon	GIS implementation	
Wed, Nov 2	Ahlqvist	GIS visualization	14; 17: 422-424
Fri, Nov 4	Merry	GIS applications in civil engineering	
Mon, Nov 7	Gordon	GIS applications in city and regional planning	
Wed, Nov 9	Pride	GIS applications in geology	
Fri, Nov 11		Holiday	
Mon, Nov 14	Pride	GIS applications in geology	
Wed, Nov 16	Kwan	GIS applications in geography	
Fri, Nov 18	Murray	GIS applications in geography	
Mon, Nov 21	Elhami	GIS applications in real estate	
Wed, Nov 23	Crecelius	GIS applications in natural resources	
Fri, Nov 25	-	Thanksgiving Break	
Mon, Nov 28	Davis	GIS activities in Ohio	
Wed, Nov 30	Merry	The future of GIS; Eithcs in GIS	
Fri, Dec 2	Kwan	Review & wrap-up	
Tue, Dec 6		Final Exam – 11:30-1:18 P.M.	

Course Syllabus

1. Introduction (MK)
    a. Basic concepts
    b. What is a GIS?
    c. Users of GIS
    d. History of GIS
    e. Recent developments

2. Introduction to spatial data (SG)
    a. Spatial elements – points, lines, areas and surfaces
    b. Spatial measurement levels
    c. Spatial location and reference
    d. Spatial relationships
    e. GIS data models
    f. Attribute data

3. Maps and map analysis (OA)
    a. Map elements and their properties

b. Real and virtual maps
c. Map projections, distortions and transformations
d. Map referencing – direct, relative
e. Mapping principles applied to digital maps and spatial analysis
f. Coordinate systems

4. Vector GIS (DM)
a. Vector data and its characteristics
b. Advantages and limitations of vector mapping systems
c. Topology
d. Vector GIS capabilities
e. TIN model
f. Network model
g. Connectivity

5. Raster GIS (CM)
a. Raster data and its characteristics
b. Advantages and disadvantages of raster mapping systems
c. Raster functions – raster data overlay, buffers
d. Grid model; DTM
e. Accuracy
f. Quadtree model

6. Spatial databases (NX)
a. Basic file structures
b. Data structures – relational, hierarchical, network
c. Integration of spatial, attribute and topological data
d. Object-oriented databases

7. Data in a GIS – acquisition (AM)
a. Digitizing
b. Scanning
c. Surveying
d. GPS data
e. Photogrammetry
f. Metadata

8. Data in a GIS – editing, data quality (AM)
a. Accuracy vs. precision
b. Measurement of logical consistency
c. Completeness; lineage; timeliness; attribute data accuracy
d. Accessibility needs
e. Available tools
f. Sources of error

9. Data in a GIS – storage (NX)
a. Geometry
b. Attributes
c. Distributed
d. SQL
e. Database design
f. User interfaces

10. Data in a GIS – remote sensing (CM)
a. Electromagnetic spectrum
b. Images – aircraft and satellite
c. Radiometric and geometric correction
d. Supervised vs. unsupervised classification

11. GIS capabilities (SG)
    a. Spatial objects, measurements and models
    b. Application of measures
    c. Proximity and contiguity analysis
    d. Map data retrieval and search; map overlay; classification and reclassification
    e. Neighborhood functions
    f. Cartographic algebra
    g. Logic & geometric operations
    h. Network representation
    i. Hydrologic modeling

12. GIS implementation (SG)
    a. Requirement analysis and system design
    b. Time and cost analysis for data, hardware and software
    c. Cost/benefit analysis of GIS
    d. Organization issues
    e. Choosing hardware and software
    f. Operation and maintenance

13. GIS visualization (OA)
    a. Data to display
    b. Cartographic considerations
    c. Map symbols
    d. Potentials and limitations

14. GIS applications (CM, SG, DP, MK, AM)
    a. Geography/human resources
    b. Geology
    c. Transportation/engineering
    d. Environment/natural resources

15. Ethics in GIS (CM)

16. The future of GIS (CM)
    a. Technological developments
    b. New applications
    c. Data access
    d. Research and development

Weekly Lab & Quiz Schedule:

Week	**Lab**	*Lab Due:*
September 26	Pass out & work on Lab 1	Lab 1 due: 11, 12, 13 October
October 3	Continue work on Lab 1 – Quiz 1	
October 10	Pass out Lab 2	Lab 2 due: 25, 26, 27 October
October 17	Continue work on Lab 2 – Quiz 2	
October 24	Pass out Lab 3	Lab 3 due: 8, 9, 10 November
October 31	Continue work on Lab 3 – Quiz 3	
November 7	Pass out Lab 4	Lab 4 due: 22, 23, 24 November
November 14	Continue work on Lab 4 – Quiz 4	
November 21	Pass out Lab 5	Lab 5 due: 6, 7, 8 December
November 28	Continue work on Lab 5 – Quiz 5	

Grading will be based on five lab exercises, five quizzes, and a final exam. The exercises will count for 60% of the grade, the quizzes 15%, and the final exam is 25% of the grade.

Computer laboratories:

Each department that sponsors the interdisciplinary course is responsible for developing, delivering, monitoring and grading an appropriate set of laboratory exercises. All participating departments will include an agreed upon common

minimum set of exercises for each lab. Each department may also assign its own weight to the lab assignments. Lab assignments will include the following:

Lab 1. *Introduction to ArcGIS, Geodata, and Map Projections.* Using ArcGIS, students will become familiar with the ESRI ArcGIS software, explore different types of geodata available, learn basic database operations, and learn about the different types of map projections. Specific objectives include learning how to use ArcGIS; the types of geodata in a GIS environment – vector, raster and images; how to display data in ArcGIS; types of map projections; and how to generate a meaningful map. (2 weeks)

Lab 2. *Vector Data Operations.* Using ArcGIS, students will become familiar with vector data operations. Specific objectives are to perform visual interpretations of vector data, learn vector buffer operations, and learn basic vector operations using the ArcGIS GeoProcessing wizard. (2 weeks)

Lab 3. *Raster Data Operations.* Using ArcGIS, students will become familiar with raster data and learn simple data manipulations in a raster system. Specific objectives are to understand and learn general aspects and display of raster data (grid dataset), map algebra/data reclassification, and raster buffer operations. (2 weeks)

Lab 4. *Data Relations.* The purpose of this lab is to become familiar with data relationships in a GIS. Specific objectives are to understand the relationships in datasets and attribute/spatial relations, and to learn the difference between a join and relate operation. (2 weeks)

Lab 5. *Applications of GIS – Final Project.* Students will perform a spatial analysis exercise, given only the criteria to use for reaching a conclusion. Objectives are to explore a data set and the geographic distribution of the variables and to arrive at several conclusions. Other objectives include learning to design and perform the necessary data analysis in a vector-based or raster-based GIS. Data export utilities to other applications, such as Microsoft Access or Excel, will be learned for developing a more complete statistical analysis of spatial data. (2 weeks)

Geography 685 – Intermediate Geographical Information Systems

Winter 2005
The Ohio State University

Instructor
Professor Darla Munroe
Office: 1123 Derby Hall
Phone: 247-8382
Email: munroe.9@osu.edu
Office Hours: MW 9-10:30

Teaching Assistant
Guoxiang Ding
Office: 1155 Derby Hall
Phone: 292-2704
Email: ding.45@osu.edu
Office Hours: W 3:00-5:00 pm or by appt.

Course Website via WebCT
http://class.osu.edu/

Lecture Time and Location
Monday and Wednesday 10:30-11:48 am
1080 Derby Hall

Lab
Monday 1:00-2:18 pm (Call # 09473-7)
or
Wednesday 1:00-2:18 pm (Call # 09474-2)
0140 Derby Hall

Required Text
Michael Worboys and Matt Duckham (2004). *GIS: A Computing Perspective*, 2nd ed. (CRC Press). ISBN 0415283752. 1st edition is on reserve at Science and Engineering Library.

Optional Materials
- Getting to know ArcGIS Desktop. ESRI Publications.
- Lo and Yeung (2002). *Concepts and Techniques in Geographic Information Systems* (Prentice Hall). ISBN 0130804274. On reserve at Science and Engineering Library.

Course Description and Objectives
This course has two major goals: (1) to introduce students to the implementation of spatial analysis approaches within the context of GIS technology, and (2) to provide students with a sound basis for understanding the operational functionality of modern GIS technology.

Credit Hours
This course is five credit hours (graduate and undergraduate) consisting of two 90 minute lectures and one two hour laboratory each week.

Prerequisites
Geography 607, or equivalent, or permission of the instructor. Permission to take this course may be granted based upon GIS courses taken elsewhere.

Course Evaluation
1. Examinations (60% of class grade) - There will be a mid-term and a final examination for this course. Exams will be given on the following dates:

Midterm exam: Wednesday February 2, 2005 (25%)

Final exam: Monday, March 14, 2005 (35%)
9:30-11:18 am

2. Laboratory exercises (25% of class grade) - Weekly lab assignments will be given and collected corresponding to topics covered in class. The laboratory exercises will require the use of ArcGIS and associated spatial information.

3. Article review (10% of class grade) – Students will be assigned one of 8 recent articles in GIS. Students will summarize the application, the techniques used as they relate to class discussions and exercises, and provide a critique of the article. The review will be due at the beginning of class (10:30 am) on Wednesday February 23, 2005.

1. Band, L.E., Tague, C.L., Brun, S.E. et al. 2000. Modelling watersheds as spatial object hierarchies: structure and dynamics. Transactions in GIS 4(3):181-196.

2. Grubesic, T.H., Murray, A.T. 2002. Constructing the divide: spatial disparities in broadband access. Papers in Regional Science 81:197-221.

3. Jerret, M., Burnett, R.T., Kanaraglou, P. et al. 2001. A GIS-environmental justice analysis of particulate air pollution in Hamilton, Canada. Environment and Planning A 33:955-973.

4. Kwan, M.-P. 1999. Gender and Individual Access to Urban Opportunities: A Study Using Space-Time Measures. Professional Geographer 51(2):210.227.

5. Lo, C.P., Faber, B.J. 1997. Integration of Landsat Thematic Mapper and census data for quality of life assessment. Remote Sensing of the Environment 62:143-157.

6. O'Sullivan, D., Morrison, A., Shearer, J. 2000. Using desktop GIS for the investigation of accessibility by public transport: an isochrone approach. International Journal of Geographical Information Science 14(1):85-104.

7. Plewe, B.S. 2003. Representing datum-level uncertainty in historical GIS. Cartography and Geographic Information Science. 30(4):319-334.

8. Tsou, M.-H., Buttenfield, B.P. 2002. A Dynamic Architecture for Distributing Geographic Information Services. Transactions in GIS 6(4):355-381.

4. Class participation (5% of class grade) – Throughout the quarter, quizzes and other assignments will be given as a component of class participation. Attendance and participation in class discussion is expected of all students.

Course Syllabus
Tentative lecture topics, reading schedule and due dates:

	Date	Day	Topic	Reading	Lab Session	Due
Week 1	3-Jan	M	Introduction	Ch 1	#1:Introduction to ArcGIS	
	5-Jan	W	Working With Spatial Data			
Week 2	10-Jan	M	Topology	Ch 3	#2: Introduction to Raster Data	Lab 1
	12-Jan	W	Databases			
Week 3	17-Jan	M	**MLK Day – No Class**	Ch 2	**No Lab**	
	19-Jan	W	Field Model			Lab 2
Week 4	24-Jan	M	Object Model	Ch 4,5	#3: Suitability Analysis and Map Algebra	
	26-Jan	W	Object Oriented Extensions			
Week 5	31-Jan	M	Review		**No Lab**	Lab 3
	2-Feb	W	**Midterm**			
Week 6	7-Feb	M	Spatial Algorithms	Ch 6	#4: Crime Scene Investigators	
	9-Feb	W	Data Structures			
Week 7	14-Feb	M	Architectures	Ch 7	#5: 2D and 3D Surface	Lab 4

	16-Feb	W	Geovisualization		Modeling	
Week 8	21-Feb	M	Spatial Data Distribution	Ch 8	#6: Interpolation	Lab 5
	23-Feb	W	Exploratory Analysis			A Review
Week 9	28-Feb	M	Uncertainty	Ch 9	#7: Introduction to Network Analyst	Lab 6
	2-Mar	W	Network Model			
Week 10	7-Mar	M	GIS Applications	Ch 10		Lab 7
	9-Mar	W	Course Review			
	14-Mar	M	**Final Exam 9:30 – 11:18**			

Geography 687
Autumn 2005

Design and Implementation of Geographic Information Systems

Instructor

Dr. Mei-Po Kwan
Office: Room 1054, Derby Hall.
Phone No: 292-9465. E-Mail: *kwan.8@osu.edu*
Office hours: by appointment

Time: Monday and Wednesday 11am to 12:18 PM (Derby 1116)

Lab Session Time: Tuesday 2:30-4:18 PM (Derby 0140)

GTA:

Mr. Guoxiang Ding
Office: Room 1155, Derby Hall
Phone No. 292-2704. E-Mail: *ding.45@osu.edu*
Office hours: Tuesday 11:00 AM -12:30 PM

Course objective

The objective of this course is to introduce students with the knowledge and experience of design and implementation of GIS in public and private organizations. The course will examine the procedures and methods for designing the GIS, evaluating potential data sources, testing available hardware and software and planning for its acquisition, building the GIS data base, developing GIS applications, and planning for the long term maintenance of the GIS system and data base. Different design approaches and methods will be examined and evaluated.

Format of the course

This course will be quite different from the format of G685. It will rely on both lecture and discussion during the regular class time. All students will be expected to fully participate in the discussion (of case studies and group project). Students will also be asked to gain technical skills of GIS software and programming through the lab sessions. In addition, students will have to work on a group project.

Course readings

Readings will be from some parts of the following books:

J.E. Harmon and S.J. Anderson, 2003, *The Design and Implementation of Geographic Information Systems*, New York: John Wiley & Sons, Inc. (Optional).

Readings for this class are also from a variety of journal articles and book chapters. They will be kept *on E-reserve*. Students are required to obtain the readings.

The following materials will also be helpful for this class and lab exercises.

R. Burke, 2003, *Getting to Know ArcObjects*, Redland, CA: ESRI Press. (Required).

Course requirements and prerequisite

Geog 685 is the prerequisite for the class, or permission by the instructor. The distribution of your grade is as follows:

25% Mid-Term Examination
20% Class participation (for discussion in class and participation in Group Project)

30% Laboratory exercises
25% Group Design project (presentation, written report)

Class Participation, Examination and Lab Sessions

Students are expected to actively participate in classes and lab sessions. Over half of the class sessions will be lectures and the rest will be devoted to discussions of a group project. There is a mid-term examination (25% of the grade) to be held during the later part of the quarter. There is no final examination in this course.

We will be learning ESRI's ArcObjects and Visual Basic in this class. Students are expected to utilize these skills in an independent project and a group design project.

Group Design Project:

Part of the evaluation will be based on a group design project. Students will be divided into groups and work on the design and implementation of GIS applications for the Delaware General Health District.

Work on the design project will begin at the start of the second week of the course with a presentation to the class by the staff of the Delaware General Health District. Small working groups will be formed consisting members of the class and a comprehensive written report will be prepared. The working groups will also make oral presentation of their work at the end of the quarter. Students will be expected to contact the client of the project. Some of the allocated class time will be used for the discussion and coordination of the project. The later part of the lab sessions will also be devoted into the implementation of some of the design.

Topics and Schedule

Week		Topic
	9/21	Introduction
Week 1	9/26	Management issues in GIS
	9/28	**Project presentation by Delaware General Health District**
Week 2	10/3	Formation of Small Work Groups, Initial Planning of the group project
	10/5	Needs Assessment
Week 3	10/10	Conceptual Design of the GIS: E-R model
	10/12	Conceptual Design of the GIS: Data Flow Diagram
Week 4	10/17	Small Group Discussion of the Group Project
	10/19	Object-oriented Analysis and Design
Week 5	10/24	Survey of Available Data
	10/26	GIS hardware and software
Week 6	10/31	Detailed Database Planning and Design
	11/2	Database Construction
Week 7	11/7	Pilot Study/Benchmark Test
	11/9	Acquisition of GIS Hardware and Software
Week 8	11/14	Small Group Discussion of the Group Project
	11/16	GIS System Integration, Application Development
Week 9	11/21	GIS Use and Maintenance
	11/23	Wrap-up: Discuss of Group Project
Week 10	11/28	**Mid-term Examination**
	11/30	**Oral Presentation by Work Groups**

Presentation by the staff of Delaware General Health District on September 28, 2005.
Mid-term Examination on November 28, 2005.
Final Project Presentation to the Delaware General Health District on November 30. (Note: this schedule is tentative).

Department of Geography
The Ohio State University
Course Proposal: Geog 694

Introduction to Biogeography

This course will present an **integrated** study of past, present and likely *future* distribution of Earth's biological diversity. The distribution of flora and fauna through space and time and at multiple spatial scales will be discussed. We will be concerned with identifying how abiotic factors such as soils, climate and topography affect the geographic and spatial distribution of individuals, species, ecosystems and biomes. Additionally, we will discuss how biotic and historical factors have influenced past and present distributions. We will also focus on how human modification of the Earth Atmosphere System (EAS) has impacted Earth's biota and what approaches are being taken to aid in understanding and conserving endangered and threatened species and biodiversity.

Professor: David Porinchu
Office: 1128 Derby Hall
Phone: (614) 247-2614
Email: porinchu.1@osu.edu
Office Hours: TBA

Course Format/Structure:
This will primarily be a lecture-based course. However, a significant component of the class will involve large and small group discussions. These discussions will require active student involvement. Additionally, bi-weekly in-class assignments/lab exercises will provide students with hands-on experience in mapping and quantitative data analysis. The lab exercises, such as a *Vegetation Remote Sensing* lab and a *Tree-ring, Fossil Pollen* lab, will cover topics and methods that supplement the lecture material. Students will be expected to complete a term paper focusing on a biogeographic topic to be determined in consultation with the instructor. Guidelines for writing term papers will be made available early in the quarter. Students are strongly encouraged to attend all lectures and obtain notes for those lectures that they may have missed. Make-up exams are possible in the event of a documented emergency or through **prior** consent of the instructor.

Please visit and familiarize yourselves with the student **Student Code of Conduct** webpage: http://studentaffairs.osu.edu/resource_csc.asp.

Disability Statement
Students with physical or learning disabilities requiring alternative accommodations for completing course requirements must make these arrangements in consultation with the University Office of Disability Services (150 Pomerene Hall, 2-3307) and the instructor **at the beginning of the quarter**.

Reading Materials:
The primary source of material for this course will be the following textbook:
MacDonald, G. M (2003). Biogeography: Time, Space and Life. Wiley, New York. 518 pp.

Additional readings will be assigned on a weekly basis. An abbreviated list of these readings can be found following the lecture-reading outline.

Grading:

Mid-term Exam	20%
Final Exam	30%
Lab Exercises	25%
Term Paper	25%

Course Lecture-Reading Outline:

Week 1
Introduction: review of hierarchies (taxonomic, ecologic and trophic), and physical geography basics (global climate, microclimate and soils). Additional topics include introduction to gradients of diversity and how many species exist. [Chapters 1,2; Diamond, 1987; May, 1988]

Week 2
Discussion of how abiotic factors such as light, temperature and moisture control the distribution of biota. Environmental gradients and the concept of species' niches will also be introduced. Additional topics include discussion of other physical factors and the interaction of abiotic factors on geographical distributions. [Chapter 3; Jansen, 1967; Stevens, 1992; Gaston et al., 1998]

Week 3
Discussion of how biotic factors such as predation, competition and symbiosis affect species interactions and community composition. The combined effects of biotic and abiotic factors on biodiversity will be discussed. Additional topics include discussion of ecosystems and biodiversity and biotic assemblages on a global scale. [Chapter 4; Savidge, 1987, Roemer et al., 2002; Hierro et al., 2005]

Week 4
Discussion of major forms of disturbance, including fire, flooding and wind. Additional physical disturbances such as avalanches, volcanic eruptions and pathogens will be also be reviewed. [Chapter 5; Swetnam, 1993; Wootton, 1998].

Week 5
Discussion of life and the geologic timescale, plate tectonics and Quaternary climate change. Additional topics will include climatic relicts, early spread of mammals, the Cretaceous extinction event and the rise of flowering plants. [Chapter 7; Erwin, 2001; Steadman and Martin, 2003]

Week 6
Discussion of the processes of dispersal, colonization and invasion and the role of geography in evolutionary processes. Additional topics include Darwin's theory and Darwin's finches, controversies with evolutionary theory, evolution and human race(s) and Social Darwinism. [Chapters 8, 9; Gould and Eldredge, 1993; Grant and Grant, 2003]

Week 7
The role of humans as a factor in evolution and extinction. Specific reference will be made to: animal and plant domestication, the spread of agriculture and pre-historic and historic extinctions. Additional topics will include the role of humans in mega-faunal extinctions and the environmental impact of early human cultures. [Chapters 11, 12; Martin, 1973; Barnosky et al., 2004; Pennisi, 2004]

Week 8
Description and interpretation of Biogeographic Distributions. Specific reference will be made to mapping biogeographic distributions and common biogeographic distributional patterns. Additional topics will include Mammalian v. flowering plant geographies, Holarctic mammals and Boreal plants. [Chapter 13; von Humboldt, 1805; Wallace, 1876]

Week 9
Discussion of the inter-relationship between geography and biodiversity. Discussion of latitudinal and altitudinal gradients of biodiversity, controls on geographic gradients of species diversity. Additional topics include the geographic patterns of Island Biogeography, the Equilibrium Theory of Island Biogeography and adaptive radiation. [Chapter 14; Diamond, 1975; Meadows, 2001]

Week 10
Geography and the conservation of biodiversity. Discussion of how a geographical perspective can inform strategies for species conservation and biodiversity conservation.
Additional topics include the discussion of the biogeographical consequences of global climate change, design of nature reserves, habitat restoration and conservation and biodiversity hotspots. [Chapter 15; Soule, 1985; Gossling, 2002; Myers, 2003, Gomez-Pompa, 2004]

Additional Readings

Barnosky, A. D., Koch, P. L., Feranec, R. S., Wing, S. L. and Shabel, A. B. 2004. Assessing the causes of Late Pleistocene extinctions on the continents. *Science* 306: 70-75.
Cooney, R. 2004. Better safe than sorry? The precautionary principle and biodiversity Conservation. *Oryx* 38: 357-358.
Cox, C. B. and Moore, P. M. 2000. Biogeography: An ecological and evolutionary approach. Blackwell: London, UK. 298 pp.
Diamond, J. M. 1975. The island dilemma: Lessons of modern biogeographic studies for the design of natural reserves. *Biological Conservation* 7: 129-146.
Diamond, J. D. 1987. Extant unless proven extinct? Or, Extinct unless proven extant? Conservation Biology 1: 77-79.
Erwin, D. H. 2001. Lessons from the past: Biotic recoveries from mass extinctions. *Proceedings of the National Academy of Sciences* 98: 5399-5403.
Gaston, K. J., Blackburn, T. M. and Spicer, J. I. 1998. Rapoport's rule: time for an epitaph? *Trends in Ecology and Evolution* 13: 70-74.
Gomez-Pompa, A. 2004. The role of biodiversity scientists in a troubled world. *Bioscience* 54: 217-225.
Gossling, S. 2002. Funds for biodiversity. *Environmental Conservation* 29: 411-413.
Gould, S. J. and Eldredge, N. 1993. Punctuated equilibrium comes of age. *Nature* 366: 223-227.
Grant, B. R. and Grant, P. R. 2003. What Darwin's finches can teach us about the evolutionary origin and regulation of biodiversity. *Bioscience* 53: 965-975.
Hierro, J. L., Maron, J. L. and Callaway, R. M. 2005. A biogeographical approach to plant invasions: the importance of studying exotics in their introduced and native range. *Journal of Ecology* 93: 5-15.
Jansen, D. H. 1967. Why mountain passes are higher in the tropics. *The American Naturalist* 101: 233-249.
Kingsland, S. 2002. Creating a science of nature reserve design: Perspectives from history. *Environmental Modeling and Assessment* 7: 61–69.
Lack, D. 1947. *Darwin's Finches*. Cambridge University Press: Cambridge, MA. 264 pp.
MacArthur, R. H. 1972. *Geographical Ecology: Patterns in the Distribution of Species*. Harper and Row: New York. 288 pp.
Martin, P. S. 1973. The discovery of America. *Science* 179: 969-974.
May, R. M. 1988. How many species are there on Earth? *Science* 358: 278-279.
Meadows, M. 2001. Biogeography: does theory meet practice? *Progress in Physical Geography* 25: 134–142.
Miller, J. and Hobbs, R. 2003. Conservation where people live and work. *Conservation Biology* 16: 330-337.
Mittermeier, R. A., Mittermeier, C. G., Brooks, T.M., Pilgrim, J.D., Konstant, W.R., da Fonseca, G. A. B. and Kormos, C. 2003. Wilderness and biodiversity conservation. *Proceedings of the National Academy of Sciences* 100: 10309-10313.
Myers, N. 1990. The biodiversity challenge: expanded hot-spot analysis. *Environmentalist* 10: 243-256.
Myers, N. 2003. Biodiversity hot spots revisted. *Bioscience* 53: 916-917.
Nelson, G. J. 1969. The problem of historical biogeography. *Systematic Zoology* 18: 243-246.
Pennisi, E. 2004. Ice ages may explain ancient bison's boom-bust history. *Science* 306: 1454.
Roemer G. W., Donlan C. J. and Courchamp, F. 2002. Golden eagles, feral pigs, and insular carnivores: How exotic species turn native predators into prey. *Proceedings of the National Academy of Sciences* 99: 791-796.
Savidge, J. A. 1987. Extinction of an island forest avifauna by an introduced snake. *Ecology* 68: 660-668.
Simberloff, D. S. and Abele, L. G. 1982. Refuge design and island biogeographic theory: effects of fragmentation. *American Naturalist* 120: 41-50.
Simpson, G. G. 1940. *Mammals and Land Bridges*. Publication No. 30, National Academy of Sciences: Washington, D.C. pp. 137-63.
Soule, M. E. 1985. What is conservation biology? *Bioscience* 35: 727-734.
Steadman, D. W. and Martin, P. S. 2003. The late Quaternary extinction and future resurrection of birds on Pacific islands. *Earth-Science Reviews* 61: 133-147.

Swetnam, T. W. 1993. Fire history and climate-change in giant sequoia groves. *Science* 262: 885-889.

von Humboldt, A. 1805. Essay on the geography of plants. Society for the Bibliography of Natural History, Sherborn Fund Facsimilies No.1.

Wallace, A. 1876. "Summary of the distribution, and lines of migration, of the several classes of animals" in, *The Geographical Distribution of Animals*. 2 vols. MacMillan: London.

Wallace, A. 1880. *Island Life: Or, the Phenomena and Causes of Insular Faunas and Floras.* Macmillan: London, UK. 522 pp.

Wootton, J. T. 1998. Effects of disturbance on species diversity: a multi-trophic perspective. *American Naturalist* 152:803-825.

Introduction to Linguistic Analysis (Linguistics 601)
Syllabus
Summer 2005

Unit 1: Introduction and Overview

Mon. Jun. 20, Tues, Jun. 21.
Reading: Finegan Ch.1 (skim) and Ch.7 pp 224-227 and 240-244.
Fieldwork Part 1 due Mon. Jun. 27.

Unit 2: Phonetics

Thurs. Jun.23, Fri. Jun.24, Mon.Jun.27.
Reading: Acoustics Phonetics supplement and Finegan Ch.3
Phonetics Problem Set due Fri. Jul.1: Fieldwork Part 2 due Tues. Jul.5.

Unit 3 Phonology

Tues. June 28, Thurs. Jun.30, Fri.Jul.1
Reading: Finegan Ch.4 *except* pp.129-134, and Ch.7, pp. 230-234.
Phonology Problem Set due Tues. Jul.5; Fieldwork Part 3 due Mon. Jul.11

Unit 4 Morphology

Tues. Jul 5, Thurs. Jul 7, Fri. Jul. 8.
Reading: Finegan Ch. 2, and Ch. 4, pp. 129-134.
Morphology Problem Set due Mon. Jul.11; Fieldwork Part 4 due Fri. Jul.15.

Unit 5: Syntax

Mon. Jul.11, Tues. Jul.12, Thurs. Jul.14.
Reading: Finegan, Ch.5 and Ch.7, pp. 234-240
Syntax Problem Set due Mon.Jul.18; Fieldwork Part 5 due Fri. Jul.22.

Unit 6: Historical Linguistics

Fri. Jul.15, Mon. Jul. 18, Tues. Jul.19.
Reading: Finegan Chs.13-14
Historical Linguistics Problem Set due Fri. Jul.22.

Introduction to Linguistic Analysis (Linguistics 601)
Course Information
Summer 2005

Coordinates: MTRF 2:30-4:18
029 Derby Hall

Instructor: Carl Pollard
Office: 202 Oxley Hall
Office hours: MTRF 4:30-6:00 and by appointment
Telephone: 292-7590 (office)
785-1843 (home)
975-9789 (cell)
E-Mail: pollard@ling.ohio-state.edu

Textbook: **Language: its Structure and Use (Fourth Edition)**
By Edward Finegan

Course goals:

- to gain insight into the nature and structure of human languages
- to become aware of the diversity of human languages as well as the ways in which they are all fundamentally similar
- to get an idea what the various subfields of linguistics are and to take a close look at some of them
- to learn some techniques for linguistic analysis and practice using them to uncover the organizing principles of specific languages
- to acquire a solid foundation for pursuing linguistics further if you wish to do so

Course structure: Principally lectures, with ample flexibility for questions, comments, and discussion related to the subject matter of the lecture. After a two-day introduction and overview, the remainder of the course is divided into five three-day instructional units devoted to different aspects of linguistic analysis: phonetics, phonology, morphology, syntax, and language change (historical linguistics). Class time is also set aside for practice solving analytic problems.

Course requirements:

- assigned reading
- timely completion of problem sets and fieldwork assignments
- regular attendance
- on exams or term papers

Reading assignments are mostly from the textbook, though there will be occasional supplementary readings. The assigned chapters in the text book provide introductory background to the material covered in class, and should be read **before** we start a topic in class, so that we can proceed as quickly as possible to a more interesting discussion and practice problems.
Problem sets and fieldwork assignments: Approximately one each per instructional unit. Practice problems will be done in class at the end of each instructional unit before problem sets are assigned.

All assignments should be typed, double-spaced and with ample margins (at least one inch on all sides) for my written comments (figures, diagrams and phonetic symbols can be written in by hand if they are problematic for your word-processing software). Assignments can be turned in as hard copy in class on the due date or emailed anytime that day (postscript or pdf attachments

only, no HTML, Word or Mac files!). Exception: if submitted as hard copy, the last problem set and fieldwork assignment are due by 5:00 p.m. Friday Jul.22, in my mailbox in the Linguistics office (222 Oxley Hall).

I encourage you to form informal out-of-class study groups to discuss the fieldwork assignments and problem sets. However, each of you must write up the work independently in your own words and submit your own written assignment. (Cheating and plagiarism are considered academic misconduct, and I am required by my contract with the university to report suspected cases of academic misconduct to a University-level committee).

Attendance is crucial because the content of the lectures is in the heart of the course and the reading assignments are background for or supplementary to them, not the other way around. (The previous statement should **not** be interpreted as a go-ahead to skip the reading!) Skipping classes can result in missing in-class exercises and explanations necessary for fully understanding the graded assignments. If you miss a class you are responsible for piecing together what you missed from a classmate; I do not have time to summarize missed lectures during office hours. If you know in advance that you **must** miss a class, please let me know as soon as you do so we can make arrangements to minimize the disruption to your learning.

Grading is based primarily on the written assignments: five problem sets and five fieldwork assignments, 20 points each. There is also a fudge factor for participation (as judged subjectively be me) so that point totals within a point or two of a cutoff point can be raised to the next grade category.

A : 180-200	A-: 174-179	B+: 168-173	B: 162-167
B-: 156-161	C+: 150-155	C: 144-149	C-: 138-143
D+: 132-137	D: 126-131	D-: 120-125	E: 0-119

Late assignments will automatically receive reduced grades unless you either (1) have a doctor' s excuse, or (2) have a compelling reason for the lateness and clear it with me in advance.

Questions: If there is anything you don't understand, **ask!** The importance of this cannot be overemphasized. I am not a telepath and cannot always guess which things I am failing to explain in a way that creates understanding in your mind. Likewise, if there are things in the reading you don't understand or disagree with make a note of it and ask about it in class. It is always best to ask questions about the subject matter of the course **in class,** since if I have failed to explain something clearly to you, most likely there are others in the same situation. But if shyness, fear of appearing foolish, or laryngitis prevent you from asking in class, then ask me after class, in my office, by email, at my office phone, or (only in desperation) at my home or cell phone. It cannot be said too many times: there is no such thing as a stupid question, only stupid answers.

Formal Foundation of Linguistics
(Linguistics 680)
Autumn 2005

TIME: MW 1:30-3:18

PLACE: Derby Hall 30

INSTRUCTOR: Carl Pollard
202 Oxley Hall
Office hours TBA and by appointment
pollard@ling.ohio-state.edu
292-7590 (office)
975-9789 (cell, for emergencies only)

GRADER: Wes Davidson
Available M 3:30-7:00, Sa Su after 4:00, and by appointment
Davidson@ling.ohio-state.edu

PREREQUISITE: satisfaction of the GEC Requirement in Mathematical and Logical Analysis (or the equivalent).

Please note: Linguistics 680 or its equivalent is a prerequisite for Linguistics 683.01 (Semantics 1), 684.01 (Computational Linguistics 1), Linguistics 602.02 (Syntax 2), and Linguistics 681 (Algebraic Linguistics).

CONTENT: Linguistics 680 introduces the fundamental mathematical concepts and techniques used in formalizing theories in linguistics. But these concepts and techniques are also applicable in areas such as logic, artificial intelligence, programming languages, philosophy (of language, science or mathematics), etc. The chief goal is to acquire technical facility acquired through practice solving problems, primarily in the form of informal (but rigorous) proofs. There are no exams or term papers. Ideally, the course covers the following topics, time permitting:

Unit 0: Introduction and overview; formal methods in science

Unit 1: Sets

Unit 2: Relations and functions; orders and equivalences

Unit 3: Inductive proof, recursive definitions, and introduction to formal languages

Unit 4: Infinity

Unit 5: Semigroups, monoids, semilattices and lattices

Unit 6: Trees

Unit 7: Heyting algebras and boolean algebras

Unit 8: Propositions and their logic

Unit 9: Deductive systems

Unit 10: First–order logic

Unit 11: Decidability and recursive enumerability

Unit 12: Regular and context-free languages

Units 13: Logical grammar

TEXT: I am writing it, and will hand it out copies of chapter drafts as needed.

FORMAT: Lecture, preferably interrupted as often as possible by questions and constructive comments!

GRADING: Based on percentage of total points on (roughly) weekly problem sets, as follows:

A: 90-100	A-: 87-89	B+: 84-86	B: 81-83
B-: 78-80	C+: 75-77	C: 72-74	C-: 69-71
D+:66-68	D: 63-65	D-: 60-61	E: 57-59

There is also a fudge factor of one or two points, so it is possible to raise your grade to the next grade category up through regular attendance and participation.

WRITTEN WORK: Preferably double-spaced typed or computer formatted, but VERY neat hand printing in black ball-point pen is also acceptable. Emailed written work will be acceptable ONLY in .PDF format. It is VERY important to leave ample margins (at least one inch all around) for the grader's written comments. An because -- as with all math classes -- the material builds cumulatively on what came before, it is VERY important to stay on track, including turning problem sets in when they are due.

Problem solutions and proofs must be written in easy-to-follow English prose, so that the structure of your reasoning is clear. Of course there will be equations and other formulas consisting of math symbols, but there must be enough prose to make it clear what role the formulas are playing in your argumentation. Don't be alarmed if you are uncertain at the outset what counts as acceptable mathematical argumentation: this is one of the skills you will learn.

STUDY GROUPS: Encouraged. But you must work alone when you write up your problem sets, using your own words.

ATTENDANCE: Very strongly recommended. Most material covered will be in the text, but -- because it is a work in progress – not necessarily all. If you miss a class, you are responsible for reconstructing what you missed from classmates' notes. I do not have time to re-teach missed material during office hours!