New Course Request

Indiana University

Check Appropriate Boxes: Undergraduate credit [ ] Graduate credit [X] Professional credit [ ]

1. School/Division: Public and Environmental Affairs  2. Academic Subject Code: SPEA

3. Course Number: J 520  (must be cleared with University Enrollment Services)  4. Instructor: John Ottenmann

5. Course Title: Mapping and Analysis for Public Safety

Recommended Abbreviation (Optional)  

6. First time this course is to be offered (Semester/Year): Spring 2010

7. Credit Hours: Fixed at [ ] 3 [ ] or Variable from _________ to _________

8. Is this course to be graded S-F (only)? Yes [ ] No [X]

9. Is variable title approval being requested? Yes [ ] No [X]

10. Course description (not to exceed 50 words) for Bulletin publication: The use of geographic information systems to map locations of events and analyze patterns for decision making and facility location in areas of public safety including criminal justice, fire services, emergency management, and homeland security and the management and application of those systems.

11. Lecture Contact Hours: Fixed at [ ] 3 [ ] or Variable from _________ to _________

12. Non-Lecture Contact Hours: Fixed at _________ or Variable from _________ to _________

13. Estimated enrollment: 20 of which 100% percent are expected to be graduate students.

14. Frequency of scheduling: Every two years. Will this course be required for majors? [ ] Yes

15. Justification for new course: Required for proposed Master in Criminal Justice and Public Safety degree program.

16. Are the necessary reading materials currently available in the appropriate library? [ ] Yes

17. Please append a complete outline of the proposed course, and indicate instructor (if known), textbooks, and other materials.

18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is necessary, desirable, or unimportant. No

19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of the new course with existing courses or areas of strong concern, with instructions that they send comments directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus consulted.

Submitted by: [Signature]  Date: 6/27/07

Dean of Graduate School (when required)  Date

Approved by: [Signature]  Date: 2/25/09

University Enrollment Services

After School/Division approval, forward the last copy (without attachments) to University Enrollment Services for initial processing, and the remaining four copies and attachments to the Campus Chancellor or Vice-President.

UPS 724 University Enrollment Services Final—White; Chancellor/Vice-President—Blue; School/Division—Yellow; Department/Division—Pink; University Enrollment Services Advance—White
General Description

This course provides the skills for mapping and analyzing data on crimes, fires, emergency responses, and other incidents for law enforcement and other areas of public safety using geographic information systems. The course includes basic concepts of mapping and geographic information systems and addresses the use of geographic information systems for the analysis of such data.

A major part of the course involves learning to use ArcGIS geographic information system software for public safety mapping and analysis. An introduction to the use of specialized analysis software is also provided.

Course Objectives

At the conclusion of the course, students will be able to do the following:

- Understand basic mapping and geographic information systems concepts
- Create a variety of maps, including thematic maps, using ArcGIS
- Produce finished map products suitable for presentation
- Know various sources of GIS data and how to get those data into a GIS
- Geocode incident locations from address data
- Query and select incident data by attribute and location
- Perform analysis of incident data using buffers, spatial overlays, and other geoprocessing tools
- Create incident density surface maps and perform hot spot analysis
- Perform network analysis for emergency response
- Use GIS to aid in facility location
- Understand how GIS is applied in a wide range of public safety contexts
- Manage the GIS function in a public safety context

Texts and Readings

Given the rapid rate of change in this field, suggested texts are only examples of what might be used when the course is offered.


Additional reading will include articles and reports addressing a variety of applications of geographic information systems and spatial analysis in public safety settings. Because these should represent the current state-of-the-art, it does not make sense to identify such readings for the new course proposal. Indeed, these readings should be updated each time the course will be offered.

**Course Requirements**

*Labs:* The course will meet on a regular basis in a computer lab for purposes of learning the use of the geographic information systems software. Students will be required to participate in all lab sessions. If a student is forced to miss any lab, the student will be required to make up the work covered in the lab and submit the appropriate material documenting that work.

*GIS Assignments:* Regular assignments will require the use of the geographic information system to perform a variety of mapping and analysis activities. Students will complete these assignments outside of class. Points will be assigned for each required aspect of each assignment, with the final grade for each assignment being the percentage of possible points.

*Final Paper or Project:* Students will complete a final paper or project that involves either (a) researching and writing a paper on the application of geographic information systems in a specific public safety context; or (b) developing a geographic information system application to address a specific public safety problem, either real or hypothetical and preparing a report on the application. Proposals for other types of papers or projects will be considered and may be pursued with the prior authorization of the instructor. The assignment will receive a letter grade. The comparable percentage value will be assigned based upon the grading scale below.

*Examinations:* Midterm and final examinations covering geographic information systems concepts, understanding of methods of analysis, and public safety applications. Examination grades will be the percentage of possible points on each examination.

*Grading:* The final course grade will be based upon the grades received on the assignments, the final paper or project, and the examinations, weighted as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Assignments (individual assignments weighted equally)</td>
<td>40%</td>
</tr>
<tr>
<td>Final paper or project</td>
<td>30%</td>
</tr>
<tr>
<td>Examinations (midterm and final weighted equally)</td>
<td>30%</td>
</tr>
</tbody>
</table>

The course grades will be assigned using the following grading scale:

- **A** 93% - 100%
- **B** 85%-92%
- **C** 77%-84%
- **D** 70%-76%
Course Schedule

Week 1
Lecture: Introduction to the course; applications of GIS in public safety

Week 2
Lecture: Basic cartographic and GIS concepts
Lab: Introduction to GIS software

Week 3
Lecture: Representing information in GIS
Lab: Displaying features, dealing with projections

Week 4
Lecture: Mapping spatial data for decision making
Lab: Displaying data in GIS, thematic maps

Week 5
Lecture: Presenting spatial data for decision making
Lab: Preparing maps for presentation in a variety of formats

Week 6
Lecture: Sources of GIS data
Lab: Obtaining, converting, and entering GIS data

Week 7
Lecture: Technologies for spatial data collection
Lab: Geocoding

Week 8
Midterm examination

Week 9
Lecture: Analysis of spatial data
Lab: Using GIS to analyze spatial relationship

Week 10
Lecture: Facility location
Lab: Geoprocessing operations

Week 11
Lecture: Identifying problem distributions for decision making
Lab: Density mapping and hot spot analysis

Week 12
Lecture: Using GIS to manage emergency response
Lab: Network analysis

Week 13
Lecture: Managing GIS – strategic issues

Week 14
Lecture: Managing GIS – operational issues

Week 15
Lecture: Future developments in the application of GIS for public safety

Final Examination

SPEA 2009 Policies
Syllabus Addendum

Academic Misconduct

Students are responsible for upholding and maintaining academic and professional honesty and integrity (IUPUI Code of Student Rights, Responsibilities, and Conduct, available at http://www.iupui.edu/code/, Part II Student Responsibilities, G). All faculty have the responsibility of fostering the “intellectual honesty as well as the intellectual development of students” and part of this responsibility means that faculty must investigate cases of potential academic misconduct promptly and thoroughly. Faculty members also have the responsibility of taking appropriate action when academic misconduct occurs. The penalties for academic misconduct include but are not limited to lowering a grade on an assignment, lowering a course grade, or failing a student for a course. Significant violations of the Code can result in expulsion from the University.

SPEA faculty take their responsibilities seriously and do not tolerate cheating, plagiarism, or any other form of academic misconduct. If you have not done so, you should read about your responsibilities in the IUPUI Code of Student Rights, Responsibilities, and Conduct to ensure that you understand what these terms mean and what penalties can be issued for academic misconduct.
Plagiarism is the most common academic misconduct violation, and some students, who have been disciplined for plagiarism, have said they were not aware that they had plagiarized their work. Be aware that 'not knowing' does not excuse academic misconduct – every student is responsible for knowing the rules. The IU School of Education’s ‘How to Recognize Plagiarism’ is an on-line tutorial that can help you avoid plagiarism. It can be accessed at http://www.indiana.edu/~istdl/. If you have any questions about what constitutes academic misconduct for a course you are taking, be sure to ask the instructor for an explanation.

The IUPUI Code of Student Rights, Responsibilities, and Conduct defines four areas of academic misconduct: cheating, fabrication, plagiarism, and interference. The prohibited activities and actions include the following:

1. **Cheating.** A student must not use or attempt to use unauthorized assistance, materials, information, or study aids in any academic exercise, including, but not limited to, the following:
   a. A student must not use external assistance on any "in-class" or "take-home" examination, unless the instructor specifically has authorized external assistance. This prohibition includes, but is not limited to, the use of tutors, books, notes, and calculators.
   b. A student must not use another person as a substitute in the taking of an examination or quiz.
   c. A student must not steal examinations or other course materials.
   d. A student must not allow others to conduct research or to prepare work for him or her without advance authorization from the instructor to whom the work is being submitted. Under this prohibition, a student must not make any unauthorized use of materials obtained from commercial term paper companies or from files of papers prepared by other persons.
   e. A student must not collaborate with other persons on a particular project and submit a copy of a written report which is represented explicitly or implicitly as the student's individual work.
   f. A student must not use any unauthorized assistance in a laboratory, at a computer terminal, or on field work.
   g. A student must not submit substantial portions of the same academic work for credit or honors more than once without permission of the instructor to whom the work is being submitted.
   h. A student must not alter a grade or score in any way.

2. **Fabrication.** A student must not falsify or invent any information or data in an academic exercise including, but not limited to, records or reports, laboratory results, and citations to the sources of information.

3. **Plagiarism.** A student must not adopt or reproduce ideas, words, or statements of another person without appropriate acknowledgment. A student must give credit to the originality of others and acknowledge an indebtedness whenever he or she does any of the following:
   a. Quotes another person's actual words, either oral or written;
   b. Paraphrases another person's words, either oral or written;
   c. Uses another person's idea, opinion, or theory; or
   d. Borrows facts, statistics, or other illustrative material, unless the information is common knowledge.

4. **Interference.**
   a. A student must not steal, change, destroy, or impede another student's work. Impeding another student's work includes, but is not limited to, the theft, defacement, or mutilation of resources so as to deprive others of the information they contain.
   b. A student must not give or offer a bribe, promise favors, or make threats with the intention of affecting a grade or the evaluation of academic performance.

**Whistleblower Policy**
President Herbert has recently approved a whistleblower policy which clarifies the protections available to individuals who in good faith report suspected wrongdoing. The policy:

- requires individuals to disclose violations of law or university policy
- informs individuals how allegations of wrongful conduct may be disclosed
- protects individuals from reprisal as a result of disclosing wrongful conduct
- provides individuals a complaint process to seek relief from retaliatory acts

The full policy can be reviewed at: http://www.hra.iupui.edu/Policy_Manual/policy/5_10.html.

Classroom Etiquette and Disorderly Conduct

SPEA, which is a professional school, expects students to conduct themselves in a courteous and civil manner in interactions with professors and fellow students. Examples of discourteous behavior during class include reading the newspaper, working crossword puzzles, listening to headphones, talking or laughing with other, arriving late, using computers to surf the web, allowing cell phones to ring or sending text messages, or other non-class activities. These behaviors are distracting to the instructor and to classmates, and SPEA faculty will address these problems as they arise either in class or on an individual basis.

Disorderly conduct that interferes with teaching, research, administration, or other university or university-authorized activity will not be tolerated and will be reported immediately to the Office of the Dean of Students for disposition, which may result in disciplinary action, including possible suspension and/or expulsion from the university. Students should read the IUPUI Code of Student Rights, Responsibilities, and Conduct, which can be accessed at http://www.iupui.edu/~sldweb/dos/ in order to understand your responsibilities as a student.

Communication between Faculty and Students

In order to verify the identity of all parties involved, effective September 1, 2004, all email communication from current SPEA students to SPEA staff must originate from an Indiana University email account. For email communication with SPEA faculty, current SPEA students should refer to course syllabi for instructors’ preferences (Oncourse, Webmail, etc.). This policy applies to current students only. Instructions for forwarding your IUPUI email to another account can be found at http://uits.iu.edu/scripts/ose.cgi?berh.def.help

Course Withdrawals

Students who stop attending class without properly withdrawing from the class will receive a grade of F. It is important to withdraw from a course within specified timeframes (see chart below). Note that withdrawals after Week 12 of a regular session or Week 4 of a summer session are rarely granted. Poor performance in a course is not grounds for a late withdrawal.
Withdrawal forms will not be processed in the Office of the Registrar after the last day of classes. Any requests for a late withdrawal after the last day of classes must go through the grade appeal process, but each student should remember that in accordance with campus policy, SPEA does not permit a student to withdraw from a course if he/she has completed the course requirements. Grade replacement should be used in this case. See the Office of the Registrar’s website at http://registrar.iupui.edu/withdraw.html for more information. To withdraw, obtain a withdrawal slip (DROP/ADD Form) from the SPEA Student Services window. Instructions for completing it are given on the form.
<table>
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<tr>
<th>Withdrawal Deadlines</th>
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<tbody>
<tr>
<td>Course deleted from record, no grade assigned, 100% refund (Advisor signature IS NOT required)</td>
<td>Week 1 (last day)</td>
</tr>
<tr>
<td>Withdrawal with automatic grade of W (Advisor signature IS required)</td>
<td>Week 2 – Week 7 (regular session) Week 2 – Week 3 (summer session)</td>
</tr>
<tr>
<td>Withdrawal with grade of W or F (Advisor and instructor signatures ARE required)</td>
<td>Week 8 – Week 12 (regular session) Week 3 – Week 4 (summer session)</td>
</tr>
</tbody>
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**Incompletes**

A grade of incomplete (I) indicates that a ‘substantial portion’ of the work in a course has been satisfactorily but not entirely completed by the student as of the end of the semester. The incomplete can be given to a student facing a hardship such that such that it would be unjust to hold the student to the established time limits for completing the work. To be eligible for the incomplete in a SPEA course, the student’s work must be of passing quality, and the student must have completed 75% of the course requirements. **Poor performance in a course is not grounds for an incomplete.** SPEA follows the campus guidelines, which may be accessed at the Office of the Registrar’s website at http://registrar.iupui.edu/incomp.html, in awarding incompletes. Incompletes must be removed within a time period not to exceed one year after the semester in which the student was enrolled in the course. The incomplete will revert to an ‘F’ if the work is not completed within the allotted timeframe established by the instructor.

**Grade Changes**

Under certain circumstances, students can seek grade changes for previously taken courses if they believe that a grade has been calculated or assigned incorrectly. A student who is seeking a grade change must first contact the instructor and ask for the grade change. In the event the instructor does not change the grade, the student can file a Change of Grade Petition with the Registrar’s Office. In SPEA, a student has 90 days after the conclusion of a course to appeal a grade. In cases of extenuating circumstances, SPEA may consider petitions filed after this date. SPEA will review the request and make a final decision on a case-by-case basis. The Change of Grade petition form is located at the Office of the Registrar’s website at http://registrar.iupui.edu/gradfrm.html.

**Final Exam Schedule**
If a final exam is given, it must be held on the day and time set in the final exam schedule. If an instructor has changed the final exam date, the student should first consult with the instructor. Students who have more than three final exams in one day or insufficient time to get from one exam to another should consult with their instructors to resolve these conflicts. Exams may not be given in the week before the final exam week. If a student is not able to resolve a final exam problem with the instructor, the student may report the problem to the Director of Undergraduate or Graduate programs. See the Office of the Registrar’s website at http://registrar.iupui.edu/accal.html for the final exam week schedule.

**Students Called to Active Duty**

SPEA encourages any student who is in the Indiana Military Reserves and is called to active duty to finish his/her coursework if at all possible. Students who cannot complete their courses have the option of withdrawing with 100% fee refund, but this request must be made within one week of being called to active duty. Students who are called to active duty may qualify for an incomplete (provided that all the above criteria have been met). For further information, please see the Office of the Registrar’s website at http://registrar.iupui.edu/activeduty.html.

**Adaptive Education**

No qualified individual with a disability shall, by reason of such disability, be excluded from participation in or denied the benefits of university services, programs, or activities. Reasonable accommodations shall be afforded to the known physical or mental limitations of otherwise qualified individuals. *IU Policy on Equal Opportunity, IUPUI All-Campus Bulletin, 2006-08, p. 20.*