New Course Request

Indiana University

Indianapolis Campus

Check Appropriate Boxes: Undergraduate credit ☑ Graduate credit ☐ Professional credit ☐

1. School/Division Medicine/Public Health
2. Academic Subject Code PBHL
3. Course Number A423 (must be cleared with University Enrollment Services) 4. Instructor Wiseman
5. Course Title Environmental Health Science Technology: Managing Water and Waste
   Recommended Abbreviation (Optional) Env Hth Sci Tech Mgt Wat & Waste
   (Limited to 32 Characters including spaces)
6. First time this course is to be offered (Semester/Year): Spring 2011
7. Credit Hours: Fixed at 3 or Variable from 0 to 0
8. Is this course to be graded S-F (only)? Yes ☑ No ☐
9. Is variable title approval being requested? Yes ☐ No ☑
10. Course description (not to exceed 50 words) for Bulletin publication: This class will cover various aspects of environmental science applications. The objectives of this survey course are to instill knowledge essential for a basic understanding of environmental systems and environmental issues confronting our society, introduce the problem-solving concepts and tools commonly used in environmental technology, and present the fundamental operations and processes that are used to prevent detrimental effects on our ecosystem with a focus on water/wastewater treatment processes, solid waste disposal and air pollution control.
11. Lecture Contact Hours: Fixed at 3 or Variable from 0 to 0
12. Non-Lecture Contact Hours: Fixed at 3 or Variable from 0 to 0
13. Estimated enrollment: 30 of which 100 percent are expected to be graduate students.
14. Frequency of scheduling: Fall/Spring/Sum Will this course be required for majors? No
15. Justification for new course: Necessary component for the development of the Bachelor of Science in Public Health (BSPH) 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.
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: Carole Kacius Date 3/29/10
Department Chairman/Division Director

Approved by: Date
Dean

Date
Chancellor/Vice-President

Date
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
Indiana University-Purdue University Indianapolis
School of Medicine Department of Public Health
Spring, 2011

**COURSE**

Number/Title: PBHL-A423  
Class Number: TBA  
Day and Time; Location: TBA

**INSTRUCTOR**

Instructor: Mr. Alan Wiseman  
Office Hours/Location: By Appointment  
Telephone: 292-6496 (AW)  
E-mail Address: alan.wiseman@unitedwater.com

**COURSE DESCRIPTION**

This class will cover various aspects of environmental science applications. The objectives of this survey course are to (1) instill knowledge essential for a basic understanding of environmental systems and environmental issues confronting our society, (2) introduce the problem-solving concepts and tools commonly used in environmental technology, and (3) present the fundamental operations and processes that are used to prevent detrimental effects on our ecosystem with a focus on water/wastewater treatment processes, solid waste disposal and air pollution control.

The topics covered are:
1. Basic ecology and environmental science
2. Introduction to environmental engineering and environmental systems
3. Basic hydraulic characteristics
4. Water resource management
5. Water chemistry concepts
6. Water constituents and quality standards
7. Water treatment operations
8. Stormwater Management
9. Wastewater treatment operations
10. Soil, water & air pollution
11. Hazardous materials and related health effects; hazardous & non-hazardous waste

Lectures will draw from the text, literature, and real world experiences. The lecture schedule is somewhat fluid – innovative ideas are welcome as well as positive participation and interaction in the class. It is recognized that everyone has something to contribute and a respectful
atmosphere of sharing experiences, ideas and questions is welcomed. I look forward to an exciting and interactive class.

**REQUIRED COURSE MATERIALS**


**COURSE LEARNING OUTCOMES**

E423/V550 includes discussions of (a) principles from the life and physical sciences, (b) issues in the application of those principles to environmental problems, and (c) options and policies for managing and solving environmental problems. The course will emphasize principles, problems, and policies that are most relevant to the issues encountered as citizens and the jobs you will hold when you leave the university.

Upon completion of this course, you should be able to:

- Discuss the basic concepts of environmental science and environmental issues raised during the course.
- Demonstrate an understanding of the basic scientific principles underlying environmental systems and environmental technology, including basic water chemistry, water treatment and wastewater management.
- Apply the central problem-solving techniques commonly used in environmental technology and engineering, and apply commonly used problem-solving techniques in a structured manner to solve basic problems covered by this course.
- Understand the purpose, operation, underlying mechanisms, and basic design principles of common water and wastewater treatment processes.
- Apply mathematical principles, utilizing a basic understanding of algebra and geometry, to solve common and straightforward environmental arithmetic problems.

**PRINCIPLES OF UNDERGRADUATE LEARNING (PULS)**

The activities in this course—lecture/discussion, problem-solving, research paper—are linked to the following Principles of Undergraduate Learning:

- Core Communication Skills – The required paper in this course will enhance your ability to express and interpret information and to use information resources and technology to support your work.
- Critical Thinking – Course materials and discussions will strengthen your ability to analyze carefully and logically information and ideas from multiple perspectives. You will be able to apply this knowledge to practical situations and make informed decisions; evaluate the logic, validity, and relevance of data and conclusions.
• Integration and Application of Knowledge – Exams and discussions will enhance your ability to use the information obtained in this course in your intellectual, professional and community lives.

• Intellectual Depth, Breadth, and Adaptiveness – Apply the knowledge gained in this course to specific issues and problems. Course material will provide you with the tools to use your knowledge to modify your approach to an issue or problem based on the contexts and requirements of particular situations. (Major Emphasis)

STUDENTS WITH DISABILITIES

Students needing accommodations because of disability will need to register with Adaptive Educational Services (AES) and complete the appropriate forms issued by AES before accommodations will be given. The AES office is located in CA 001E and you can reach the office staff by calling 274-3241.

STUDENT COURSE EVALUATION

The Department of Public Health evaluates all courses. Student course evaluations will be conducted in a manner that maintains the integrity of the process and the anonymity of respondents.

ACADEMIC INTEGRITY

Academic and personal misconduct by students in this class are defined and dealt with according to the procedures in the Student Misconduct section of the IUPUI Code of Student Rights, http://live.iupui.edu/dos/code/htm.

1. Attendance is expected. Poor attendance will affect your grade. Each student is allowed two absences. (There are two types of Excused Absences: (1) If you know beforehand that you must miss a course component, you must contact either instructor as far in advance as possible to make alternate arrangements. It is much easier to make alternate arrangements in advance than to try to handle a missed deadline after the fact. (2) If you do not know beforehand that you must miss a course component and have a valid reason: e.g. a serious medical problem, a serious illness in your family, a serious accident or a death in your family that causes you to miss a course component. In either case, you will usually be required to present documentation as evidence of a valid reason for missing a course component.)

2. Assigned reading should be done before class.

3. EXAMS cover all of the material, from reading assignments and lectures, since last exam.

4. The schedule of topics may change depending on input from the class.

ONCOURSE ACCESS
Course notes, grading record, and communications will be available using Oncourse, the IUPUI electronic course system. You can access Oncourse from any Internet connection via www.iupui.edu by clicking with the mouse on the Oncourse link. You will then need to enter your IUPUI User ID and password. You can use home or work e-mail addresses, but you will need to change the preference in Course mail as follows:

To set this preference in Course Mail, in the left window, click "Course Mail," then click "Change Preference." In the Internet Address box, enter a full e-mail address (e.g., jdoe@iuk.edu), then click "Save Preference."

To set this preference in a Discussion Forum, in the left window, click "Set Internet Mail Notification," then enter a full e-mail address (e.g., jdoe@iuk.edu) in the text field.

Repeat these steps for each of your Oncourse classes. Once a day at midnight, notification will be sent via e-mail if there are unread messages in your Oncourse Inbox or unread forum postings for that class.

Final grades will be determined from:

Lecture Exams: (100 points each) Noncumulative, multiple choice, true/false, short answer, essay; emphasize lectures and book equally.

Paper (150 points): Each student will prepare a paper based on a topic applicable to the course of study (time, date and format will be discussed during class).

Homework (varies, generally with a max of 20 points per assignment)

Facility Field Trips (50 points each) Note that 3 field trips are planned and students are required to attend 2 field trips

There is a 10% per day penalty for late papers or assignments.

ABOUT THE PAPER...
You must write a research paper. The paper must be between 10 and 15 pages, typed in 12-point font, and double-spaced. The paper will involve analysis and interpretation of factual, scientific data. The topics, requirements and due date for the paper are presented in a separate handout and will be discussed in class.

EXAMS...
Each of the exams will cover several chapters from the text, lecture notes and field trips, and will include multiple choice as well as short answer and essay questions. You are expected to be present for all exams. Makeup lecture exams may be considered in cases of extreme hardship. If you have an emergency and cannot be at an exam, please contact Mr. Alan Wiseman (292-6496), and leave a message before the exam. Failure to notify Mr. Wiseman before the exam will result in an automatic zero. If a makeup is allowed, it will be given following the exam and will be in essay format.
FIELD TRIPS...
Facility field trip visits are worth 50 points each. Three such facility field trips are planned in the local Indianapolis area – **the student is required to attend two of these field trips.** Under extenuating circumstances, students who have a valid conflict will be allowed to do an alternate assignment i.e. a three page paper on a topic related to the field trip.

If a student attends all three field trips, he/she will receive extra credit (50 points) for the extra trip...**this extra credit option is only available to students with actual attendance to all 3 facility visits.**

Field Trips are tentatively scheduled to the Belmont Advanced Wastewater Treatment Plant on Saturday, February 27th, to the White River Water Treatment Plant on Wednesday, April 7th and an optional trip to the City’s Solid Waste Incineration unit (during late April or early May). These field trips provide context to the material learned in the classroom and are a required part of the course (2 field trip visits). The schedule will be finalized after the semester begins. Students will be asked to turn in a brief report of each facility visit.

The grading scale will be as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>92% - 100%</td>
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<tr>
<td>A-</td>
<td>90% - 91%</td>
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<tr>
<td>B+</td>
<td>86% - 89%</td>
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<tr>
<td>B</td>
<td>82% - 85%</td>
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<tr>
<td>B-</td>
<td>80% - 81%</td>
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<tr>
<td>C+</td>
<td>76% - 79%</td>
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<tr>
<td>C</td>
<td>72% - 75%</td>
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<tr>
<td>C-</td>
<td>70% - 71%</td>
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<tr>
<td>D+</td>
<td>66% - 69%</td>
</tr>
<tr>
<td>D</td>
<td>62% - 65%</td>
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<tr>
<td>D-</td>
<td>60% - 61%</td>
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<tr>
<td>F</td>
<td>&lt;60%</td>
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### COURSE SCHEDULE

<table>
<thead>
<tr>
<th>DATES</th>
<th>CHAPTER</th>
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<tbody>
<tr>
<td>Jan</td>
<td>Introduction BH/AW</td>
</tr>
<tr>
<td>Jan</td>
<td>No Class – MLK Holiday</td>
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<tr>
<td>Jan</td>
<td>Chapter 1 AW</td>
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<tr>
<td></td>
<td>Chapter 2a AW</td>
</tr>
<tr>
<td>Feb</td>
<td>Chapter 2b AW</td>
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<tr>
<td></td>
<td>Chapter 3 AW</td>
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<tr>
<td>Feb</td>
<td>EXAM 1</td>
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1 | Page
<table>
<thead>
<tr>
<th>Month</th>
<th>Chapter 4</th>
<th>BH</th>
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<tbody>
<tr>
<td>Feb</td>
<td>Chapter 5</td>
<td>BH</td>
</tr>
<tr>
<td>Feb</td>
<td>Chapter 10</td>
<td>AW</td>
</tr>
<tr>
<td>Feb</td>
<td><strong>Field Trip #1 - Belmont AWT Tour</strong></td>
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<tr>
<td>Mar</td>
<td>EXAM 2</td>
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<tr>
<td>Mar</td>
<td>Chapter 8</td>
<td>AW</td>
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<tr>
<td>Mar</td>
<td><strong>No Class - Spring Break</strong></td>
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<tr>
<td>Mar</td>
<td>Chapter 9</td>
<td>AW</td>
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<tr>
<td>Mar</td>
<td>Chapter 7</td>
<td>AW</td>
</tr>
<tr>
<td>Apr</td>
<td>Chapter 6</td>
<td>AW</td>
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<tr>
<td>Apr</td>
<td><strong>Field Trip #2 - White River Water Plant Tour</strong></td>
<td></td>
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<tr>
<td>Apr</td>
<td>EXAM 3</td>
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<tr>
<td>Apr</td>
<td>Chapter 11</td>
<td>BH</td>
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<tr>
<td>Apr</td>
<td>Chapter 12</td>
<td>BH</td>
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<tr>
<td>Apr</td>
<td>Chapter 13</td>
<td>AW</td>
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<tr>
<td>Apr</td>
<td><strong>Course Review</strong></td>
<td></td>
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<tr>
<td>May</td>
<td><strong>Field Trip #3 - Solid Waste Incinerate Unit</strong></td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>EXAM 4</td>
<td></td>
</tr>
</tbody>
</table>

Mr. Wiseman grew up in southern Indiana (Louisville area) and holds a Bachelors degree in Civil Engineering from Purdue University. He has worked in the water/wastewater industry for 35 years as a consultant, contractor and utility engineer/manager in Indiana and Kentucky. Mr. Wiseman is a licensed professional engineer in both states and is a licensed operator for all classes of drinking water systems in Indiana. He takes an active role in the Indiana Section of
the American Water Works Association (AWWA) as a Section Officer and serves on the Board of Directors for the State of Indiana’s Underground Plant Protection Center (‘811’ one-call).
SPEA 2010 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).

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/~istd/. 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.

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. 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.

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**Civility 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. This requires each person to be courteous, tolerant, and respectful during interactions with one another in all interactions, including face-to-face interactions, e-mail, and telephone conversations. 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. The use of language, tone, or gestures that are inappropriate or offensive is also discourteous. These behaviors are no acceptable, and SPEA faculty and staff 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/](http://www.iupui.edu/~sldweb/dos/) in order to understand your responsibilities as a student.

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**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_defHelp](http://uits.iu.edu/scripts/ose.cgi?berh_defHelp).

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**Students Needing Support From Adaptive Educational Services.**

SPEA fully supports students who qualify for Adaptive Educational Services (AES) and encourages all students who believe they can benefit from supports such as additional time for exams or note-takers to contact AES. Students must present faculty with appropriate paperwork from AES if they wish to access suitable accommodations. Accommodations for exams must be processed through AES (see [http://www.iupui.edu/~diversity/aes/](http://www.iupui.edu/~diversity/aes/)).

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**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/activateduty.html](http://registrar.iupui.edu/activateduty.html).
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>
<thead>
<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>
</tr>
</tbody>
</table>
| Withdrawal with automatic grade of W (Advisor signature IS required) | Week 2 – Week 7 (regular session)  
Week 2 – Week 3 (summer session) |
| Withdrawal with grade of W or F (Advisor and instructor signatures ARE required) | Week 8 – Week 12 (regular session)  
Week 3 – Week 4 (summer session) |

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.