INFSCI 3005
Introduction to Doctoral Program

Syllabus

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Fall 2008 (09–1)
OVERVIEW:

INFSCI 3005 is a course established by the Information Science faculty to introduce new doctoral students in the Information Science program to the working of the scientific enterprise, scholarly research, ethics, and the current state of the art research in information science.

The participants of this course are first year doctoral students in the Information Science program. Others can take the course or audit it by permission of the instructor.

As you might have already experienced as aspiring scientists, being a researcher requires intelligence, independent, creative thinking, and most of all commitment to hard working. This course reinforces this. There will a fairly high amount of readings. I have selected them in such a way that they are fun to read and I expect that you will do them all with pleasure. You will be expected to prepare a draft of a research problem, work it out over the course of the semester, and present it to the class at the conclusion of the course.

Another experience that this course will provide you is peer review, subjecting your work to anonymous judgment of your colleagues and judging the work of others. The workload in this class will be moderately heavy, but I believe that you will find it interesting and important. I require your commitment, doing the readings, coming to classes, and being their active participant. In return, I promise that you will have fun and you will learn many useful skills.
YOUR RESOURCES:

The course:

Name: INFSCI 3005: Introduction to Doctoral Program
CRN: 27970
Credits: 3.0

The instructor:

Marek J. Druzdzel
associate professor, School of Information Sciences and Intelligent Systems Program, University of Pittsburgh

Office: B-212 IS Building (Decision Systems Laboratory)
Email: marek@sis.pitt.edu
Phone: (412) 624-9432 (office, voice mail)
FAX: (412) 624-5231
WWW: http://www.pitt.edu/~druzdzel
    (host ftp.pitt.edu, directory ./users/d/r/druzdzel)

Meeting times and locations:

Classes (502 IS Building):
    Thursdays, 12pm-2:50pm (break 1:20pm-1:35pm)
Office hours (B-212 IS Building):
    By appointment

Your colleagues:

Name: ________________________________
Phone: ________________________________
Email: ________________________________

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THE COURSE:

Objectives:
The primary objective of this course is to introduce you to the working of scientific enterprise and to the doctoral program in Information Science. This should contribute to your success in the program. Written assignments should increase your skills in scientific writing. Your oral in-class presentation will give you an opportunity to improve your presentation skills.

Prerequisites:
Participants in this course are first year doctoral students in the Information Science program. This requirement can be relaxed in individual cases but you should approach me for permission to take this class. The most important prerequisite is your interest in scientific research, motivation, and commitment to learning.

WORK REQUIREMENTS:

Class presentations:
You will be expected to give a 15 minutes long presentation of your research paper towards the end of the course. You will be also expected to prepare your presentation in PowerPoint (we will have a computer with a projection panel in the classroom). The presentation and your abstract will be graded and you will also receive feedback on your presentation from the audience.

Peer review:
One of the basic mechanisms of the scientific enterprise is peer review: exposing your work to the judgment of other researchers possessing sufficient expertise to judge the merits of your work fairly. You will be expected to participate in this process as soon as you start your scientific career; your work will be reviewed and you will be asked to review the work of others. This class will provide you an opportunity to get acquainted with both sides of this mechanism by exposing your work to the judgment of your colleagues in the class and the instructor and by judging the work of others. The review process will be anonymous (except to the instructor). You can be harsh as long as your criticism is constructive. You will be judged on both your work and your reviews. Please, try to do a good job on the latter. If done well, a review is usually very useful for the author. When reviewing research papers, be very detailed and make also corrections pertaining to spelling and language use. As most of the papers from this class will end up being developed further, your comments will be very valuable for the author.
Computer use: You will be required to use computers for typesetting your documents and for communicating with me and your classmates. You will share your documents with your reviewers electronically. They have to be produced in an easily readable/printable format, such as PDF (recommended), PostScript, or raw ASCII. The reviews should be submitted in raw ASCII. There will be no limitations on which system you use. The peer review process and our communication will be electronic. You will be expected to use electronic mail on a daily basis.

Time load: To help you with planning your semester, I would like to give you an idea of the minimal workload in this course. Expect to spend around five hours quality time outside of class for every class meeting. I estimate that you will need about three hours to do the readings and two hours (on the average) to work on your research paper. It is explicitly allowed and encouraged to combine your work on the research paper with other coursework, a research seminar, or an independent study. The catch is that if you combine your project with another piece of work, I expect you to put an appropriately higher amount of effort in both (please do check with the other teacher if it is OK with him or her and do tell me that you are doing this!).

Grading: Your final grade for the course will be determined by: (1) your attendance, (2) three versions of your research paper, (3) your reviews of two research papers of your colleagues, and (4) your presentation, combined in the proportion 40%, 40%, 10%, and 10% respectively. On the top of this all, you can obtain up to 10% extra for your in-class activity.
### COURSE OUTLINE

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<thead>
<tr>
<th>Date</th>
<th>Readings</th>
<th>Topics</th>
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<tr>
<td>August 28</td>
<td>[Readings: Agre; Bundy et al.; desJardins; Zanna&amp;Darley]</td>
<td>Introduction to the course, Review of Doctoral Requirements and planning your doctorate, Video: Race to Catch a Buckyball</td>
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<tr>
<td>September 4</td>
<td>[Readings: Peter&amp;Olson]</td>
<td>The working of scientific enterprise.</td>
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<td>September 11</td>
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<td>What is research? How to find a research topic? Video: Herbert A. Simon <em>Creativity and Scientific Discovery</em></td>
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<td>September 18</td>
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<td>No class (Marek’s travel)</td>
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<td>October 2</td>
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<td>Writing research articles</td>
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<td>October 9</td>
<td>*** First version of the research paper due (one page long) ***</td>
<td><em>[Readings: Baron]</em> Writing Grant Proposals</td>
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<tr>
<td>October 16</td>
<td>[Readings: Bronner; McKeachie]</td>
<td>Teaching skills</td>
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<td>October 23</td>
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<td>Career Planning Video: Kenneth Olden <em>Some Keys to a Successful Career</em></td>
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<tr>
<td>October 30</td>
<td>*** Second version of the research paper due (three pages long) ***</td>
<td>What is Information Science?</td>
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<td>November 6</td>
<td>[Readings: Campanario; Shriver; Thomson; Psaraftis; Smith]</td>
<td>Peer Review</td>
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<td>November 13</td>
<td>[Readings: Hamming]</td>
<td>What is really important? Video: Randy Pausch’s last lecture: <a href="http://www.youtube.com/watch?v=ji5_MqicxSo">http://www.youtube.com/watch?v=ji5_MqicxSo</a>, Time management, motivation, balancing work and personal life</td>
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<tr>
<td>November 20</td>
<td>*** Final version of the research paper due (six pages long) ***</td>
<td>Ethics in Science (conflict of interest, plagiarism) Video: Herbert A. Simon <em>Ethics in Science</em></td>
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<td>November 26—30</td>
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<td>Thanksgiving recess</td>
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<td>December 4</td>
<td>*** Presentation of your research paper ***</td>
<td>Oral presentations</td>
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Sources of readings:


General references:


TERM PROJECT (RESEARCH PAPER)

As the term project you will be expected to write a white paper outlining a research idea. This means a short report describing in some detail a research problem, with all the necessary supporting materials and argumentation. This includes the objective of your research (i.e., what problem you are planning to solve), its importance (i.e., why it is useful), prior work (i.e., how your problem fits into the existing body of knowledge), research strategy (i.e., how you plan to address the problem), expected results and time frame.

Choice of the problem:

The research idea that you will describe should be real, ideally something that could over the course of a semester become the introduction to your preliminary examination paper.

You will be responsible for choosing a research problem yourself. There are no rules that would help you in choosing a research topic, but there are some heuristics that we will talk about during the class meetings. Also, unless you are well on the way in your research, the first few weeks of the semester might be the best time to meet with your advisor and ask his or her advice about the possible directions that your research work should go. Ask your advisor for suggestions as to which way your research should develop. If you do not have an advisor with whom you work or are otherwise undecided, talk to me and I will be glad to help you in choosing a research topic, suggesting an advisor, or advising you. I have always a few interesting problems to work on myself and I will be glad to suggest a problem, give you initial pointers, and work it out into a proposal with you over the course of the semester. Feel free to get in touch with me if you are interested, but please do it early.

Length of the paper:

There are three versions of your paper: initial, advanced, and complete, of 1, 3, and 6 pages respectively.

Submission requirements, review, and evaluation criteria:

Submit your papers by the deadlines listed in the syllabus. You are expected to submit one hard copy version for me. The criteria for grading your proposal are soundness, clarity of your writing and expressing your ideas, creativity, doability (the proposed work within the proposed amount of time). Also, you should submit your pre-proposal and your mid-term progress report with my comments along with your final version of the proposal. Make sure that you save these.