Syllabus Fall 14 (this course will be numbered IST 596 for Fall 14)

Last Update: 8/26/14 at 11 PM ET
Disclaimer: Please note that the specifics of this Course Syllabus are subject to change, and you will be responsible for abiding by any such changes. Please check back often.

Course Description:

IST 516 addresses aspects of modeling, storing, indexing, searching and retrieving the heterogeneous data such as documents and videos in local repositories as well as on the Web using mathematical and probabilistic treatments.

At the Conclusion of this course, students should be able to

1. Understand fundamental concepts, theories, methods, and techniques of modern Information Retrieval and Web Analysis.
2. Design and implement basic functionalities of modern information retrieval system, search engines, or digital library systems.

About Your Instructor:

Bio

Jim Jansen is a professor in the College of Information Sciences and Technology at Penn State. Jansen has more than 250 publications in the area of information technology and systems, with articles appearing in a multi-disciplinary range of journals and conferences. His areas of expertise are keyword advertising, Web searching, sponsored search, and personalization for information searching. He is author of the book Understanding Sponsored Search, author of the book Web Search: Public Searching of the Web and co-editor of the book Handbook of Weblog Analysis. Jansen is a member of the editorial boards of six international journals. He is editor in chief of the journal Internet Research. He has received several awards and honors, including an ACM Research Award and six application development awards, along with other writing, publishing, research, and leadership honors. Several agencies and corporations have supported his research. He is actively involved in teaching both undergraduate and graduate level courses, as well as mentoring students in a variety of research and educational efforts. He also has successfully conducted numerous consulting and expert witnessing projects. Jansen resides in Charlottesville, Virginia.

Education

Ph.D., Computer Science, Texas A&M University, 1999
M.CS., Computer Science, Texas A&M University, 1996
M.S., International Relations, Troy State University, 1994
B.S., Computer Science, United States Military Academy, 1985
**Instructor Contact Information:**

Name: Dr. Jim Jansen  
Office: 321G IST Bldg.  
Office Hours: by appointment  
Online Office Hours URL: See ANGEL for the link to the Blackboard Collaborate meeting space  
Phone/Fax: 814.865.0687  
e-mail: Use ANGEL email ("All Faculty"). If ANGEL is down, then use: jjansen@ist.psu.edu  
Web Site: [http://ist.psu.edu/directory/bjj10](http://ist.psu.edu/directory/bjj10)

**Additional Support:**

**Online Course Designer:** Amy Garbrick- The best way to email Amy is in ANGEL. However, if ANGEL is down, then use: [agarbrick@ist.psu.edu](mailto:agarbrick@ist.psu.edu) [2] OR office phone: (814) 865-6018.

**Course Materials:**

The first half of the course will be based on research articles and materials that the Instructor has identified on the Web.

The second half of the course will be on Information Retrieval and will be based on two popular popular textbooks:


Students are **NOT** required to purchase the textbooks. While the WD textbook is not available free on the web, the entire contents of the IIR textbook (second book) are freely available on the Web: [http://nlp.stanford.edu/IR-book/html/htmledition/irbook.html](http://nlp.stanford.edu/IR-book/html/htmledition/irbook.html) [3]. No purchase of the WD book is needed (i.e., no assignments or exams are directly from the materials of the WD book). Nevertheless, the WD book could be useful for helping understand class materials.

**Dreamspark (formerly MSDNAA) & Virtual Labs:**

To learn more about the free software made available through the Microsoft Developers Network Academic Alliance (MSDNAA) to students enrolled in IST courses, please visit the following website: [http://up.ist.psu.edu/up/up_msdnaa](http://up.ist.psu.edu/up/up_msdnaa). [4] VLABS provide students with a parallel learning environment. To learn more about the Virtual Labs, how to access them, and where to go for technical support, read the Virtual Labs (VLab) Overview [http://up.ist.psu.edu/up/up_vlabs](http://up.ist.psu.edu/up/up_vlabs). [5] VLABS may contain software including: Analyst’s Notebook, Mathematica, Microsoft Office 2010, Microsoft Project 2010, Microsoft Visio 2010, SQL Server 08 R2 Management, SSH, Visual Studio 2010, VMWare vSphere Client, and more.

**Library Resources:**

Many of Penn State's library resources can be utilized from a distance. Through the Library Resources and Services for Off-Campus Users Web site, you can...
• access magazine, journal, and newspaper articles online using library databases
• borrow materials and have them delivered to your doorstep...or even your desktop
• ask a librarian for research help via e-mail, chat, or phone using the ASK! service ...and much more!

More here: http://student.worldcampus.psu.edu/academic-support-resources/library-services [6]

NOTE: You must have an active Penn State Access Account and be registered with the University Libraries in order to take full advantage of the Libraries’ resources and services. Registration and services are free!

Writing Tutoring Available

Need help with writing? You can have an online meeting with a writing tutor. More information: Graduate Writing Center [7]

Grading Weights:

The course will be graded in accordance with the following assignments and rubric.

<table>
<thead>
<tr>
<th>Assignment</th>
<th># of Course Assignments</th>
<th>Individual or Team</th>
<th>Points for Each Assignment</th>
<th>% of Total Grade</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labs</td>
<td>6 (1 lowest score will be ignored)</td>
<td>Individual</td>
<td>40</td>
<td>20%</td>
<td>200</td>
</tr>
<tr>
<td>Homework</td>
<td>2</td>
<td>Individual</td>
<td>110</td>
<td>22%</td>
<td>220</td>
</tr>
<tr>
<td>Project: Plan</td>
<td>1</td>
<td>Team</td>
<td>25</td>
<td>2.5%</td>
<td>25</td>
</tr>
<tr>
<td>Status Document</td>
<td>1</td>
<td>Team</td>
<td>50</td>
<td>5%</td>
<td>50</td>
</tr>
<tr>
<td>Project: Presentation</td>
<td>1</td>
<td>Team, presentation, Individual grading</td>
<td>30</td>
<td>3%</td>
<td>30</td>
</tr>
<tr>
<td>Project: Final Documentation</td>
<td>1</td>
<td>Team</td>
<td>175</td>
<td>17.5%</td>
<td>175</td>
</tr>
<tr>
<td>Final Exam</td>
<td>1</td>
<td>Individual</td>
<td>300</td>
<td>30%</td>
<td>300</td>
</tr>
<tr>
<td>TOTAL:</td>
<td></td>
<td></td>
<td></td>
<td>100%</td>
<td>1000 points</td>
</tr>
</tbody>
</table>

Assignment Due Dates:

Assignments are by default due by **SUNDAY 11:55PM (EST)**. Assignments should be posted to the appropriate location in ANGEL. Naming of assignments should include student or team name and assignment name and number. Unless otherwise specified, for those who submit late (up to 2 days) until **TUESDAY 11:55PM (EST)**, a 25% deduction for every 12 hours will be made as penalty. After two days, no additional late submissions will be accepted. Therefore, to get some partial credit at least, please submit your assignments even if they are late.

Grading Scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
<th>Normalized Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93% to 100%</td>
<td>930 to 1000</td>
</tr>
<tr>
<td>A-</td>
<td>90% to 92.9%</td>
<td>900 to 929</td>
</tr>
</tbody>
</table>
Course Schedule:

This schedule may be revised at any time. Please check back.

Week 1
Date: Aug 25 -- 31
Readings: Syllabus
Activities: Review of the syllabus
Assignments: Discussion Activity (DA) #1 Assigned: Introduce Yourself (no grading for this DA)

Week 2
Date: Sep 1 -- 7
Readings: Topic 2: XML
Activities: watch video lecture
Assignments:

Week 3
Date: Sep 8 -- 14
Readings: Topic 3: XML Schema
Activities: watch video lecture
Assignments: Lab #1 Assigned (Due: Sep 21)

Week 4
Date: Sep 15 -- 21
Readings: Topic 4: XML Querying
Activities: watch video lecture
Assignments: Lab #2 Assigned (Due: Sep 28)
### Week 5
**Date:** Sep 22 -- 28  
**Readings:** Topic 5: CSS and XSLT  
PPT: CSS and XSLT  
**Activities:** watch video lecture  
**Assignments:** Lab #3 Assigned (Due: Oct 5)  
Homework #1 Assigned (Due: Oct 26)

### Week 6
**Date:** Sep 29 -- Oct 5  
**Readings:** Topic 6: Active Web and RSS, and Web Service  
PPT: RSS and Web Service  
**Activities:** watch video lecture  
**Assignments:** Lab #4 Assigned (Due: Oct 12)

### Week 7
**Date:** Oct 6 -- 12  
**Readings:** Topic 7: Cloud Computing  
PPT: Cloud Computing  
**Activities:** watch video lecture  
**Assignments:** Project Assigned (Due: Dec 7)  
Project: Task 1 Web Page (Due: Oct 12)

### Week 8
**Date:** Oct 13 -- 19  
**Readings:** Topic 8: Semantic Web  
PPT: Semantic Web  
**Activities:** watch video lecture  
**Assignments:** Project: Task 1 Planning Report (Due: Oct 19)

### Week 9
**Date:** Oct 20 -- 26  
**Readings:** Topic 9: Search Engines (I)  
PPT: Search Engines  
**Activities:** watch video lecture  
**Assignments:** Lab #5 Assigned (Due: Nov 2)

### Week 10
**Date:** Oct 27 -- Nov 2  
**Readings:** Topic 10: Search Engines (II)
PowerPoint Presentation: Search Engines

Activities:
Assignments:

Lab #6 Assigned (Due: Nov 9)

Week 11
Date: Nov 3 -- 9
Readings: Topic 11: IR Basics

PowerPoint Presentation: IR Basics

Activities:
Assignments:

Week 12
Date: Nov 10 -- 16
Readings: Topic 11: IR Basics

PowerPoint Presentation: IR Basics

Activities:
Assignments:

Homework #2 Assigned (Due: Dec 7)
Project: Task 2 Midterm Report (Due: Nov 16)

Week 13
Date: Nov 17 -- 23
Readings: Topic 12: IR Evaluation

PowerPoint Presentation: IR Evaluation

Activities:

Thanksgiving Holiday - NO CLASSES Nov 24 - 30

Week 14
Date: Dec 1 -- 7
Readings: Topic 13: Relevance Feedback

PowerPoint Presentation: Relevance Feedback

Activities:

Project: Task 3 Final Report (Due Dec 7)
Project: Task 4 Presentation Video (Due Dec 7)

Week 15
Date: Dec 8 -- 14
Readings: Topic 15: Project Presentation

PowerPoint Presentation: Project Presentation

Activities:
Course Policies:

Communication:

Use email within ANGEL for all course email communication. Every attempt will be made for the instructor (or a substitute instructor when your instructor is traveling) to respond to email questions within 24 hours.

Veterans and currently serving military personnel and/or spouses with unique circumstances (e.g., upcoming deployments, drill/duty requirements, disabilities, VA appointments, etc.) are welcome and encouraged to communicate these, in advance if possible, to the instructor in the case that special arrangements need to be made.

Office Hours:

"Virtual" online office hours are by appointment and can be via phone or Blackboard Collaborate meeting space.

Academic Integrity:

The College of IST is committed to maintaining academic integrity in this and all other courses it offers. IST takes academic integrity matters seriously. Academic integrity - scholarship free of fraud and deception - is an important educational objective of Penn State. Academic dishonesty can lead to a failing grade or referral to the Office of Judicial Affairs [8]. Academic dishonesty includes, but is not limited to:

- cheating
- plagiarism
- fabrication of information or citations
- facilitating acts of academic dishonesty by others
- unauthorized prior possession of examinations
- submitting the work of another person or work previously used without informing the instructor and securing written approval
- tampering with the academic work of other students

In cases where academic integrity is questioned, Penn State's policy on academic integrity [9] requires that the instructor give the student notice of the charge as well as the recommended sanction. Procedures allow the student to accept or contest the charge through discussions with the instructor. If a student chooses to contest, the case will then be managed by the respective College or Campus Academic Integrity Committee. If a disciplinary sanction also is recommended, the case will be referred to the Office of Judicial Affairs [8].

All Penn State colleges abide by this Penn State policy, but review procedures vary by college when academic dishonesty is suspected. Information about Penn State's academic integrity policy and college review procedures is included in the information students receive upon enrolling in a course.

Additionally, students enrolled at Penn State are expected to act with civility and personal integrity;
respect other students' dignity, rights, and property; and help create and maintain an environment in which all can succeed through the fruits of their own efforts. An environment of academic integrity is requisite to respect for self and others, and a civil community.

For more information on academic integrity at Penn State, please visit one of the following URLs:

http://www.psu.edu/dept/oue/aappm/G-9.html

http://www.sa.psu.edu/ja/

**Accommodating Disabilities:**

Penn State welcomes students with disabilities into the University's educational programs. Every Penn State campus has an office for students with disabilities. The Office for Disability Services (ODS) Web site provides contact information for every Penn State campus: http://equity.psu.edu/ods/dci. For further information, please visit the Office for Disability Services Web site: http://equity.psu.edu/ods.

In order to receive consideration for reasonable accommodations, you must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: http://equity.psu.edu/ods/guidelines. If the documentation supports your request for reasonable accommodations, your campus’s disability services office will provide you with an accommodation letter. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. You must follow this process for every semester that you request accommodations.

Penn State encourages academically qualified students with disabilities to participate in its educational programs. We are committed to equal opportunity in our admissions policies and procedures and are dedicated to providing reasonable accommodations for qualified students.

Penn State students seeking special services or academic accommodations through Penn State must self-disclose their need for these services or accommodations to the World Campus or Penn State’s Office for Disability Services (ODS). Contact Penn State’s Office for Disability Services. To be eligible for academic accommodations through ODS, students must have a documented disability as defined by the Rehabilitation Act of 1973 or the Americans with Disabilities Act (ADA) of 1990. Learn more about the ODS eligibility requirements.

The University is responsible for making all its programs and services available to all students. The Office for Disability Services acts in an advisory capacity for all Penn State locations, including the World Campus. The World Campus will work with ODS to make reasonable academic adjustments or accommodations for eligible World Campus students.

Penn State's guidelines for appropriate documentation—and the verification forms necessary for each disability category—may be obtained from the "Documentation Guidelines and General Information for Students with Specific Conditions" section of the ODS Web site. For more information, contact ODS.

**Nondiscrimination and Harassment:**

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination, including harassment. The Pennsylvania State University prohibits
discrimination and harassment against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, gender identity or veteran status. Discrimination or harassment against faculty, staff or students will not be tolerated at The Pennsylvania State University. You may direct inquiries to the Office of Multicultural Affairs, 332 Information Sciences and Technology Building, University Park, PA 16802; Tel 814-865-0077 or to the Office of Affirmative Action, 328 Boucke Building, University Park, PA 16802-5901; Tel 814-865-4700/V, 814-863-1150/TTY. For reference to the full policy: http://guru.psu.edu/policies/AD42.html [17]

Use of Trade Names:

Where trade names are used, no discrimination is intended and no endorsement by the World Campus, Outreach and Cooperative Extension, the College of IST, or The Pennsylvania State University is implied.

Disclaimer:

Please note that the specifics of this Course Syllabus are subject to change, and you will be responsible for abiding by any such changes. Your instructor will notify you of any changes.

Penn State welcomes students with disabilities into the University's educational programs. If you have a disability-related need for reasonable academic adjustments in this course, contact the Office for Disability Services (ODS) at 814-863-1807 (V/TTY). For further information regarding ODS, please visit the Office for Disability Services Web site at http://equity.psu.edu/ods/ [18].

In order to receive consideration for course accommodations, you must contact ODS and provide documentation (see the documentation guidelines at http://equity.psu.edu/ods/guidelines/documentation-guidelines [19]). If the documentation supports the need for academic adjustments, ODS will provide a letter identifying appropriate academic adjustments. Please share this letter and discuss the adjustments with your instructor as early in the course as possible. You must contact ODS and request academic adjustment letters at the beginning of each semester.

Source URL: https://online.ist.psu.edu/ist516/syllabusfall14

Links:
[2] mailto:agarbrick@ist.psu.edu
[4] http://up.ist.psu.edu/up/up_msdnaa
[5] http://up.ist.psu.edu/up/up_vlabs
[7] http://student.worldcampus.psu.edu/academic-support-resources/graduate-writing-center
[17] http://guru.psu.edu/policies/AD42.html