

CSE 595 – Semantic Web Course Information

Spring 2018

Stony Brook University

Instructor: Dr. Paul Fodor

<http://www.cs.stonybrook.edu/~pfodor/courses/cse595.html>

Course Description

- *“Semantic Web is an extension of the World Wide Web through standards by the World Wide Web Consortium (W3C). The standards promote common data formats and exchange protocols on the Web, most fundamentally the Resource Description Framework (RDF). According to the W3C, “The Semantic Web provides a common framework that allows data to be shared and reused across application, enterprise, and community boundaries”. The term was coined by Tim Berners-Lee for a web of data that can be processed by machines — that is, one in which much of the meaning is machine-readable. In 2013, more than four million Web domains contained Semantic Web markup. In this course we will these W3C standard languages and research directions.”*

Major Topics Covered in Course

- The Semantic Web Activity of W3C: Overview of techniques and standards
- XML with Document Type Definitions and Schemas
- RDF—The Basis of the Semantic Web
- Metadata with RDF (Resource Description Framework)
- Metadata taxonomies with RDF Schema
- Transformation/Inference rules in XSLT, RuleML and RIF
- The W3C ontology language OWL
- Integrating these techniques for ontology/rule-based multi-agent systems
- Semantic Modeling
- Semantic Web Applications
- Logic for the Semantic Web

Instructor Information

- Dr. Paul Fodor
214 New Computer Science Building
- Office hours: Thursdays 10:00-11:30am and
Fridays 11:30am-1:00pm
 - I am also available by appointment
- Email: paul(dot)fodor(at)stonybrook (dot) edu
 - Please include “CSE 595” in the email subject and your name in your email correspondence

General Information

- Meeting Information:
 - Lectures: TuTh 2:30PM - 3:50PM, Melville E4315.
 - Course Web page:
<http://www.cs.stonybrook.edu/~pfodor/courses/cse595.html>
- Blackboard will be used for assignments, grades and course material

Textbooks

- We will use material from:
 - A Semantic Web Primer, by Grigoris Antoniou, Paul Groth, Frank van Harmelen and Rinke Hoekstra, Publisher: MIT Press; 3rd edition (September, 2012).
 - Foundations of Semantic Web Technologies, by Pascal Hitzler, Markus Krötzsch, Sebastian Rudolph, Publisher: Chapman and Hall; 1st edition (August 6, 2009).
 - Semantic Web for the Working Ontologist, Second Edition: Effective Modeling in RDFS and OWL, by Dean Allemang, and James Hendler. Publisher: Morgan Kaufmann; 2nd edition (June 3, 2011).
 - Semantic Web Programming, by John Hebel, Matthew Fisher, Ryan Blace, Andrew Perez-Lopez, and Mike Dean (Foreword). Publisher: Wiley; 1 edition (April 13, 2009).
 - Linked Data: Structured Data on the Web, by David Wood, Marsha Zaidman, Luke Ruth, and Michael Hausenblas. Publisher: Manning Publications; 1 edition (January 24, 2014).
 - Learning SPARQL: Querying and Updating with SPARQL 1.1, by Bob DuCharme Publisher: O'Reilly Media; 2 edition (July 18, 2013).
 - Programming the Semantic Web, Build Flexible Applications with Graph Data, by Web Toby Segaran, Colin Evans, and Jamie Taylor. Publisher: O'Reilly Media; 2 edition (July, 2009).

Conferences

- *International Semantic Web Conference (ISWC)*, <http://iswc.semanticweb.org/>
- *The Web Conference (formerly known as International World Wide Web Conference, abbreviated as WWW)*, <http://www.iw3c2.org/conferences/>. The conference was first created by Tim Berners-Lee in 1989 at CERN in Geneva, Switzerland. The conferences are organized by the International World Wide Web Conference Committee (IW3C2). The World Wide Web Consortium (W3C) is a partner to these conferences but does not organize them.
- *Extended Semantic Web Conference (ESWC)*, <http://eswc-conferences.org/>
- *Asian Semantic Web Conference (ASWC)*, <http://www.sti2.org/events/conference-series/asian-semantic-web-conferences>
- *International Conference on Web Intelligence, Mining and Semantics (WIMS)*, <http://wims.vestforsk.no/>
- *Semantic Technology Conference (SemTech)*, <http://semanticweb.com/>

Journals

- *Journal of Web Semantics*, Elsevier, http://www.elsevier.com/wps/find/journaldescription.cws_home/671322/description
- *International Journal On Semantic Web and Information Systems*, IGI Global, <https://www.igi-global.com/journal/international-journal-semantic-web-information/1092>
- *Semantic Web – Interoperability, Usability, Applicability*, <http://www.semantic-web-journal.net/>

Resources

- *W3C Semantic Web Activity*, <http://www.w3.org/2001/sw/>
- *W3C RDF Working Group*, http://www.w3.org/2011/rdf-wg/wiki/Main_Page
- *W3C OWL Working Group*, http://www.w3.org/2007/OWL/wiki/OWL_Working_Group
- *W3C RIF Working Group*, http://www.w3.org/2005/rules/wiki/RIF_Working_Group
- *RuleML*, <http://ruleml.org/>
- *semanticweb.org*, <http://semanticweb.org>
- *SemWebCentral*, <http://www.semwebcentral.org/>
- *W3Schools*, <http://www.w3schools.com/>
- *John F. Sowa's Ontology pages*: <http://www.jfsowa.com/ontology/>
- *The Semantic Web in Ten Passages*,
<http://www.dfki.uni-kl.de/~boley/sw10pass/sw10pass-en.htm>

Grading Schema

- Grades will be based on homework and exams according to the following formula:
 - Homework assignments = 20%
 - Project phase 1 = 10%
 - Project phase 2 = 10%
 - Project phase 3 (final) = 25%
 - Quizzes = 5%
 - Midterm exam = 15%
 - Final exam = 15%

Examinations

- Midterm exam: Thursday April 12, 2018, classtime, in classroom.
- Final exam: Monday, May 14, 2018, 11:15-1:15PM (see the Stony Brook University Final Exam Schedule Calendar in <http://www.stonybrook.edu/registrar/finals.shtml>)

Grading Schema

- **Grade Cutoffs**

- A [93-100], A- [90-93), B+ [87-90), B [83-87), B- [80-83), C+ [77-80), C [73-77), C- [70-73), D+ [65-70), D [60-65), F [0-60)
- **SPECIAL RULE:** If all your grades, including homework assignments, quizzes, recitation and your three exam grades are above the respective class averages, you're guaranteed to receive a grade of C or higher for this class.
- There will be extra credit problems as a part of quizzes and homework assignments which values to an increase of less than 4% in the final grade.
- There will be in-class quizzes / brief assessments used to practice the class material and measure growth in knowledge, abilities, and skills. They will be solved in class and they are valued 2 points each.

Grading

- The final grade you receive in this class will reflect, as far as possible, the extent to which you have mastered the concepts and their applications.
- How much someone needs a grade, or how close they are to the next higher grade, will have no effect on grade.
- As the instructor, I want everyone to do well in this course, and will make every reasonable effort to help you understand the material taught.
- However, the grades provided at the end of the semester are final, except for rare situations involving grading errors.
- They will not be altered for any reason, so please do not ask me to do so.

Assignments

- Homework assignments due on fixed dates and times.
 - **no late submission is permitted**
- All assignments should be submitted electronically
 - Blackboard

Regrading of Homework/Exams

- Please meet with a TA or the instructor and arrange for regrading.
- **You have one week from the day grades are posted or mailed or announced**
- Late requests will not be entertained

Academic Integrity

- The following rules are posted in every course syllabus:
"Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Any suspected instance of academic dishonesty will be reported to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academic_integrity/"

Academic Integrity

- You can discuss general assignment concepts with other students: explaining how to use systems or tools and helping others with high-level design issues
- You **MAY NOT share** assignments, source code or other answers by copying, retyping, looking at, or supplying a file
 - Assignments are subject to manual and automated similarity checking (We do check! and our tools for doing this are much better than cheaters think)
- If you cheat, you will be brought up on academic dishonesty charges - we follow the university policy:
 - <http://www.stonybrook.edu/uaa/academicjudiciary>

Examples of Academic Dishonesty

- Unpermitted collaboration (on a paper, homework, lab reports, etc.). Unless an instructor has explicitly approved working together, students should assume, for their own protection, that it is not permitted.
- Helping someone else to plagiarize from one's own homework (for example, by giving them a copy of yours, or doing it for them).
 - This includes having a public repository on Github that other students can copy from.
- Representing someone else's source code as one's own. If another person's code is being used, it must be properly cited.
- Buying or selling source code.
- Using source code or pieces of a paper from the internet without properly citing the source.

Academic Integrity

- The instructor makes a recommendation at the Academic Judiciary office
 - Cheating is cheating! No matter the amount of cheating or if one is the source or destination of cheating.
 - Do not cheat! You are cheating yourself.
 - Our job is to teach you the material and make sure that you learn it.
 - Our recommendation is always F for the cheaters!

Disability

- If you have a physical, psychological, medical or learning disability, contact the DSS office at Room 128 ECC. Phone 632-6748/TDD
- If you are planning to take an exam at DSS office, you need to tell me ahead of time for every exam.
- **All documentation of disability is confidential.**

Course Support

- Course web pages are partly hosted by the Blackboard system.
- Course Material: handouts, homeworks, notes, etc will be available directly from the course web site.
- Course Announcements: available from the blackboard system.
 - Check these regularly!
- **Piazza**
- Use this to discuss any course-related material: lectures, homework problems, exams, etc.
- All homework assignments will be submitted via the Blackboard system.

Piazza

- The [Piazza](#) discussion board should be used for all communication with the teaching staff for questions about the course assignments and material. Piazza is a forum for additional learning and assistance.
- The following are NOT appropriate uses of Piazza:
 - cyber-bullying
 - posting memes
 - complaining about a grade
 - airing concerns/comments/criticisms about the course
 - posting more than a few lines of source code from an attempt at a homework problem
 - posting the solution to a homework problem or a link to a website containing the solution
 - in general, anything unrelated to the course material and student learning
- Anonymous posting is turned off, so we can see who you are.

Piazza

- You are expected to use the Piazza forum for all non-personal, course-related communication.
- Questions about what a homework problem is asking, technical problems that need troubleshooting, or other questions that might be of interest to other students must be posted to Piazza and not emailed to the instructor or a TA.

Email Etiquette

- When emailing your instructor about the course, use the following guidelines to ensure a timely response:
 - use your official @stonybrook.edu email account (we cannot respond to an other email due to FERPA regulations)
 - use a descriptive subject line that includes "CSE307" and a brief note on the topic
 - begin with a proper greeting, such as "Hi Prof. Fodor"
 - briefly explain your question or concern or request including the course (we are teaching several courses)
 - end with a proper closing that includes your full name, Net ID and SBU ID number

Questions

- How to contact course staff:
 - Post your question on Piazza.
 - Come to my office during my office hours:
 - Send me email. (Post on discussion board unless the question is personal).

Catastrophic events

- Major illness, death in family, ...
- Formulate a plan (with your CEAS academic advisor) to get back on track
- Advice
 - Once you start running late, it's really hard to catch up

Please

- Please be on time
 - Please show respect for your classmates
 - Please turn off (or use vibrate for) your cellphones
- ...
- On-topic questions are welcome

Welcome
and Enjoy!