12-55

Spring 2007 OT ph 1/11/07

UTD **UTD Concurrent Course Approval Form**

RECEIVED IN
JAN 09 2007
UTD
REGISTRAR'S OFFICE
MAIL

School: Behavioral and Brain Sciences

Instructor's Name: Richard M. Golden

Semester:
NOTE: Approval in one semester does not imply approval in subsequent semesters so that the above process must be repeated anew each time a unit wishes to teach undergraduate and graduate courses together.

Courses:
UNDERGRADUATE
Course Name: **Computational Models of Language Understanding** Course Number_CGS4312_
Syllabus attached: Yes_X_ No__

GRADUATE
Course Name: **Computational Models of Language Understanding** Course Number: ACN7322/HCS7322_
Syllabus attached: Yes_X_ No__

Narrative: (Outlining the circumstances necessitating such scheduling and explain briefly how the content and assignments in your concurrent courses differ for graduates and undergraduates)

I am requesting that the undergraduate course CGS4312 (Computational Models of Language Understanding) and graduate course ACN7322 (Computational Models of Language Understanding) be taught at the same time and in the same location. These two courses share a common lecture format yet make different demands from the undergraduate and graduate students. Because these are highly specialized advanced courses, the knowledge background for students entering these two courses (regardless of whether the students are undergraduates or graduates) is expected to be similar although graduate students are expected to possess and obtain a higher level of critical thinking skills. Graduate students will be required to turn in a research project and present that project in an in-class presentation. Undergraduate students will have their lab notebook grades weighted more heavily than graduate students. The relatively small enrollment typically encountered in these courses also makes a strong argument for teaching these courses in the same classroom and at the same time.

Approval Signatures:

1) Dean of School _____ Date: 12/11/06

2) Dean of Undergraduate Studies _____ Date: 12-30-06

3) Dean of Graduate Studies _____ Date: 1/3/07

4) Office of the Registrar _____ Date: 1/9/07

5) The Office of the Provost and Executive Vice President _____ Date: 1/9/07

NOTE: Please route this form according to the above sequence

Course Syllabus (Spring 2006)

Course Information
CGS4312 Computational Models of Language Understanding (3 semester hours).

Professor Contact Information
Dr. Richard Golden (GR4.814) Email: golden@utdallas.edu, Office Hours by Appointment..
The class website is: www.utdallas.edu/~golden/HMMCLASS
login: acn7322

Time and Location: Regular Classroom (**GR4.208**), Thursday, 7pm-9:45pm

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Course Pre-requisites, Co-requisites, and/or Other Restrictions

Pre-requisite: College algebra and Computer-Literate. Background in lower-division probability theory and lower-division computer programming is helpful.

Course Description
This course will cover some selected probabilistic approaches to natural language understanding with an emphasis upon the use of MATLAB as a software tool.

Student Learning Objectives/Outcomes

1. Understand Selected Challenges of Natural Language Understanding.
2. Explain Probability Theory as a theory of Belief
3. Represent Knowledge Required for Language Understanding using Probability Theory
4. Parse sentences using Probabilistic Models of Language Understanding.

Required Textbooks and Materials

1) Christopher D. Manning and Hinrich Schutze. *Foundations of Statistical Natural Language Processing.* MIT Press.
2) Companion website: www-nlp.stanford.edu/fsnlp

Assignments & Academic Calendar

Laboratory Notebook
Each student is required to maintain and organize a laboratory notebook which consists of seven sections (one section for each laboratory assignment). The laboratory notebook should be submitted with your midterm in the middle of the semester and then submitted again with your final at the end of the semester. This class is not difficult if you keep up with the material but it is very easy to get far behind in this class since we cover a lot of topics. A copy of your presentation and a xerox copy of the article you are presenting for your presentation should be included in an eighth section. Students with advanced backgrounds in mathematics and engineering have an option of pursuing alternative extra credit projects to substitute for one or more homework assignments. These alternative

extra credit projects should be included in the lab notebook. The lab notebook contents will be graded twice (once for completeness at the midterm and once for completeness at the final exam). *The lab notebook must be neatly organized or it will not be accepted for grading!*

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Week 12 (March 29): Chapter 14: Clustering. Chapter 15: Information Retrieval.
Week 13 (April 5): Chapter 16: Text Categorization.
Week 14 (April 12): To be Decided.
Week 15 (April 19): To be Decided.

April 26. OPEN BOOK IN-CLASS FINAL EXAM AND LAB NOTEBOOKS DUE.

Grading Policy
(including percentages for assignments, grade scale, etc.)
Grades will be calculated according to the following weighting system. Midterm (30%). Final (35%). Lab Notebook (35%).

Course & Instructor Policies
(make-up exams, extra credit, late work, special assignments, class attendance, classroom citizenship, etc.)

Field Trip Policies
Off-campus Instruction and Course Activities

> *Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at the website address http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm. Additional information is available from the office of the school dean. Below is a description of any travel and/or risk-related activity associated with this course.*

Student Conduct & Discipline

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A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

Academic Integrity

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

Email Use

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Withdrawal from Class

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

Student Grievance Procedures

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's *Handbook of Operating Procedures.*

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the deal will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.

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Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of **F**.

Disability Services

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The contact information for the Office of Disability Services is:
The University of Texas at Dallas, SU 22
PO Box 830688
Richardson, Texas 75083-0688
(972) 883-2098 (voice or TTY)

Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for example, a research paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments

may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.

It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.

Religious Holy Days

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

These descriptions and timelines are subject to change at the discretion of the Professor.

Course Syllabus (Spring 2007)

Course Information
ACN7322 Computational Models of Language Understanding (3 semester hours).
HCS7322 Computational Models of Language Understanding (3 semester hours).

Professor Contact Information
Dr. Richard Golden (GR4.814) Email: golden@utdallas.edu, Office Hours by Appointment..
The class website is: www.utdallas.edu/~golden/HMMCLASS
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Time and Location: Regular Classroom (**GR4.208**), Thursday, 7pm-9:45pm

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Course Pre-requisites, Co-requisites, and/or Other Restrictions

Pre-requisite: College algebra and Computer-Literate. Background in lower-division probability theory and lower-division computer programming is helpful.

Course Description
This course will cover some selected probabilistic approaches to natural language understanding with an emphasis upon the use of MATLAB as a software tool.

Student Learning Objectives/Outcomes

1. Understand Selected Challenges of Natural Language Understanding.
2. Explain Probability Theory as a theory of Belief
3. Represent Knowledge Required for Language Understanding using Probability Theory
4. Parse sentences using Probabilistic Models of Language Understanding
5. Demonstrate the ability to implement and evaluate a probabilistic model of language understanding.

Required Textbooks and Materials

1) Christopher D. Manning and Hinrich Schutze. *Foundations of Statistical Natural Language Processing*. MIT Press.
2) Companion website: www-nlp.stanford.edu/fsnlp

Assignments & Academic Calendar

Laboratory Notebook
Each student is required to maintain and organize a laboratory notebook which consists of seven sections (one section for each laboratory assignment). The laboratory notebook should be submitted with your midterm in the middle of the semester and then submitted again with your final at the end of the semester. This class is not difficult if you keep up with the material

but it is very easy to get far behind in this class since we cover a lot of topics. A copy of your presentation and a xerox copy of the article you are presenting for your presentation should be included in an eighth section. Students with advanced backgrounds in mathematics and engineering have an option of pursuing alternative extra credit projects to substitute for one or more homework assignments. These alternative extra credit projects should be included in the lab notebook. The lab notebook contents will be graded twice (once for completeness at the midterm and once for completeness at the final exam). *The lab notebook must be neatly organized or it will not be accepted for grading!*

Probabilistic Language Understanding Application: *Presentation* and *Final Paper*
Each student will be required to present at the end of the course both a *final paper* and a 20 minute *presentation* which describes how they solved a particular problem in natural language understanding using probability theory. Students may download software off the web or write their own software using MATLAB or a computer language approved by the instructor. The presentation must be presented in powerpoint format and should devote equal amounts of time of approximately 5 minutes to each of the following 4 topics: (1) INTRODUCTION (what is the research problem and why is it important), (2) METHOD (what neural network was used and how was its performance evaluated), (3) RESULTS (what did you find out), and (4) DISCUSSION (how do the results in this study impact the relevant field of research). There will be a brief discussion period following each presentation. The Final Paper should be handed into the instructor on the day of the Final Exam and should be organized along the lines of the presentation.

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Week 14 (April 12): Student Project Presentations.
Week 15 (April 19): Student Project Presentations. Receive Take-Home Exam.

April 26. OPEN BOOK TAKE-HOME FINAL EXAM AND LAB NOTEBOOKS DUE.

Grading Policy
(including percentages for assignments, grade scale, etc.)
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