## COSC 4315 Syllabus

<table>
<thead>
<tr>
<th>Course Number:</th>
<th>COSC 4315</th>
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<tbody>
<tr>
<td>Course Title:</td>
<td>Information and Knowledge Management</td>
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<tr>
<td>Course Description:</td>
<td>The investigation of how information is a unifying theme within a range of issues in computer science, including database systems, artificial intelligence, human-computer interaction, multimedia systems, and data communication.</td>
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<td>Pre-requisites:</td>
<td>COSC 2336</td>
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<td>Credits:</td>
<td>3</td>
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<td>Text(s):</td>
<td>Introduction to Information Retrieval, Manning, Raghavan, &amp; Schütze, Cambridge University Press, 2008.</td>
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<td>Languages Used: (if applicable)</td>
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<td>Topics:</td>
<td>Information models and systems:</td>
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<td></td>
<td>Database systems:</td>
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<td>Data modeling:</td>
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<td>Relational databases:</td>
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<td>Search and constraint satisfaction:</td>
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<td>Knowledge representation and reasoning:</td>
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<td>Foundations of human-computer interaction:</td>
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<td>Fundamental issues in intelligent systems:</td>
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<td>Cryptographic algorithms:</td>
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<td>Introduction to compression and decompression:</td>
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<td>Multimedia information and systems</td>
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<td>Intellectual property:</td>
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<td>Privacy and civil liberties:</td>
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### Additional Materials: 

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### Evaluation Method: (only items in dark print apply)

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<tr>
<th>1. Examination/Quiz</th>
<th>2. Homework</th>
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<td>5. Project</td>
<td>6. Presentation</td>
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<tr>
<td>7. Class Participation</td>
<td>8. Peer Review</td>
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### Course Objectives -- By the end of this course students are expected to:

1. Discuss information management as a unifying theme regarding a range of topics within computer science including database systems and artificial intelligence. [1, 2, 3]

2. Compare and contrast data, information, and knowledge. [1, 2, 3]

3. Apply the basic principles of database technology. [1, 2, 4]

4. Compare and contrast the strengths and weaknesses various technologies for managing data, such as object-based systems, xml-based systems, and data warehouses. [1, 2, 3, 4]

5. Describe the different business and other imperatives (including legal and ethical) that influence the development of information systems including the requirements of remote access. [1, 2, 3]

6. Select and apply intelligent searching techniques to collections of data across different computing environments. [1, 2, 3, 4]

7. Evaluate knowledge representation and reasoning techniques. [1, 2, 3, 4]

8. Discuss fundamental issues in intelligent systems & their use in data management. [1, 2, 3, 4]

   Numbers in brackets refer to method(s) used to evaluate the course objective.

### Relationship to Program Outcomes (only items in dark print apply )

This course supports the following Computer Science Program Outcomes, which state that our students at the time of graduation are expected to:

1. Possess knowledge of the fundamentals of mathematics, science, and technology [1, 2, 3, 4, 5, 6, 7, 8]

2. Be able to use modern computational tools and techniques in the practice of computer science. [3, 6]

3. Be able to develop logically sound and efficient algorithms. [3, 4, 6, 7, 8]

4. Be prepared to implement algorithms in multiple programming languages, on multiple hardware platforms, and in multiple operating system environments. [3, 4, 6, 7, 8]

5. Be able to perform analysis, design, implementation, testing, and maintenance of computer-based systems, stressing software engineering principles. [3, 4, 6, 7, 8]

6. Be prepared to seek continuing professional development, graduate studies, or professional certifications related to computer science.

7. Possess a knowledge of computer security and computer security management.

8. Demonstrate effective written, visual and oral communication skills. [1, 2, 4, 5, 7, 8]

9. Possess an educational background to understand the global context in which computer science is practiced, including:
   a. Knowledge of contemporary issues related to computer science;
   b. The impact of computers on society;
   c. The role of ethics in the practice of computer science.

   [1, 5]

10. Be able to contribute effectively as members of a project development team.

11. Recognize the need to pursue continued learning throughout their professional careers. [1, 2, 3, 4, 5, 6, 7, 8]

   Numbers in brackets refer to course objective(s) that address the Program Outcome.
Students Rights and Responsibilities
To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link:
http://www.uttyler.edu/wellness/StudentRightsandResponsibilities.html

Grade Replacement/Forgiveness
If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to do so will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates will receive grade forgiveness (grade replacement) for only three course repeats; graduates, for two course repeats during his/her career at UT Tyler.

State-Mandated Course Drop Policy
Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the 12th day of class (See Schedule of Classes for the specific date). Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Registrar's Office and must be accompanied by documentation of the extenuating circumstance. Please contact the Registrar's Office if you have any questions.

Disability Services
If you have a disability, including a learning disability, for which you request disability support services/accommodation(s), please contact Ida MacDonald in the Disability Services office so that the appropriate arrangements may be made. In accordance with federal law, a student requesting disability services/accommodation(s) must provide appropriate documentation of his/her disability to the Disability Services counselor. In order to assure approved services the first week of class, diagnostic, prognostic, and prescriptive information should be received 30 days prior to the beginning of the semester services are requested. For more information, call or visit Disability Services located in the University Center, Room 3150. The telephone number is (903) 566-7079. Additional information may also be obtained at the following UT Tyler Web address: http://www.uttyler.edu/disabilityservices.

Student Absence due to Religious Observance
Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

Student Absence for University-Sponsored Events and Activities
If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

Social Security and FERPA Statement:
It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

Emergency Exits and Evacuation:
Everyone is required to exit the building when a fire alarm goes off. Follow your instructor’s directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do Not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.
General Information

Instructor: Leonard Brown
Office Location: RBN 3012
Office Hours: MWF 3:00 p.m. – 4:00 p.m. or by appointment
Phone: (903) 565-5677
Email: lbrown@uttyler.edu
Class Time/Location: MWF 4:00 p.m. – 4:50 p.m. / RBN 3038

Exams: There will be three midterm exams and one final exam given for this class. All exams will be held in the class lecture room. The midterm exams will be during the regular class time. The tentative dates of the exams are:

- Midterm I: October 1, 2010
- Midterm II: November 1, 2010
- Midterm III: December 1, 2010
- Final Exam: December 15, 2010 (5:00 p.m. – 7:00 p.m.)

You will be notified in advance of any change in the above dates.

Grading: There are five components to the course grade totaling 1000 points. The point distribution is as follows:

- Midterm I: 100 points
- Midterm II: 100 points
- Midterm III: 100 points
- Homework Assignments: 400 points
- Final Examination: 300 points

Course grades will be assigned based on the following scale.

- 900-1000: A
- 800-899: B
- 700-799: C
- 600-699: D
- 599 and below: F

Late Policies: All homework assignments are due at the beginning of class on the date specified in the assignment. Assignments will not be accepted after that time. In order to accommodate problems that may arise during the semester, you may turn in one (1) assignment late. That assignment will be accepted up to 24 hours after the initial due date, unless specified otherwise. It will not be accepted after that time.

Plagiarism: Unless otherwise specified, all work submitted for a grade must be completed by yourself - no group effort. Plagiarism will result in disciplinary actions. To spare yourself accusations of plagiarism—

1. Do not show another student a copy of your work before it has been graded. The penalties for permitting your work to be copied are the same as the penalties for copying someone else’s work.
2. Do not leave printouts of your work where other students may pick them up.