

The University of Texas at Tyler  
Master of Science in Computer Science

Course Syllabus

<b>Course Number:</b>	COSC 5395-5396
<b>Course Title:</b>	Thesis
<b>Course Description:</b>	COSC 5395: Thesis - Selection of a research topic and development of a thesis plan. Offered every fall, spring and summer. CR/NC Only. COSC 5396: Thesis - Completion and approval of thesis. Offered every fall, spring and summer. CR/NC Only.
<b>Pre-requisites:</b>	COSC 5330, 5340, 5350, and 5360
<b>Credits:</b>	6 credit hours
<b>Text(s):</b>	Literature survey as recommended by the advisor.
<b>Languages Used: (if applicable)</b>	
<b>Topics:</b>	An individual project intended to integrate material already covered in previous courses, as well as to provide an in-depth exploration of a topic of special interest or career relevance to the participant. Students work closely with an academic advisor and are required to submit a comprehensive written report as well as make an oral presentation of the research results in front of a professional academic panel. Typical research thesis deals with generation of a new computational algorithm, a new implementation of a well-known algorithm, etc. Topics may include but are not limited to:  <ul style="list-style-type: none"> <li>I. Identification of Problem</li> <li>II. Survey of Related Literature</li> <li>III. Design and Development</li> <li>IV. Evaluation of Results</li> <li>V. Preparation of Thesis Report</li> <li>VI. Thesis Presentation</li> </ul>
<b>Additional Materials:</b>	

<b>Evaluation Method: (only items in dark print apply)</b>	
1. Examination/Quiz	2. Homework
<b>3. Paper/Report</b>	<b>4. Computer Program</b>
<b>5. Project</b>	<b>6. Presentation</b>
7. Class Participation	8. Peer Review

<b>Course Objectives<sup>1</sup>: By the end of this course students are expected to:</b>
1. Identify a research problem. [3, 6]
2. Conduct literature survey. [5, 6]
3. Develop a new approach for solving the problem. [4, 5]
4. Perform research. [3, 4, 5, 6]
5. Analyze results and determine a conclusion [3, 4, 5, 6]
6. Prepare a high-quality thesis. [3]
7. Present the results of their thesis. [6]
<sup>1</sup> Numbers in bracket refer to method(s) used to evaluate the course objective.

<b>Relationship to Program Outcomes: (only items in dark print apply )<sup>2</sup></b>
<b>This course supports the following computer science graduate program outcomes, which state that our students at the time of graduation are expected to:</b>
<b>1. possess an enhanced breadth of knowledge in computer science, combined with a depth of knowledge in critical core areas of computing [2];</b>
<b>2. possess the skills and knowledge for lifelong learning in computer science [3,4,5];</b>
<b>3. possess knowledge of the theoretical foundations of computing and have strong practical application experience [1,2,3,4,5];</b>
<b>4. posses and demonstrate oral and written communication skills [6,7];</b>
5. understand and respect the professional standards of ethics expected of a computer scientist and be knowledgeable concerning the history of computing field;
6. possess a knowledge of computer security and computer security management;
7. analyze and compare relative merits of alternative software design, algorithmic approaches, and computer system organization, with respect to a variety of criteria relevant to the task (e. g. efficiency, scalability, security);
8. Implement algorithms in multiple programming languages, on multiple hardware platforms, and multiple operating system environments.
<sup>2</sup> Numbers in brackets refer to course objective(s) that address the Program Outcome.

Prepared By: Arun Kulkarni	Date:11/11/2008
Reviewed By: Steve Rainwater	Date: 11/17/08