CST460 Research in Computer Science
(3 credit hours)
Course Syllabus

Course Description

Students will complete a project based on their field of study in computer science. The project will include looking at a theory, model, or idea for the basis of the project and identifying previous research and/or a need in the industry. The student will work independently but will be guided by an identified path, set monitored milestones, evaluated progress and a final presentation of the project.

Course Learning Outcomes

By the end of this course, you will be able to:

1. Emphasize the value of research in computer science

2. Generate skills in reading and analyzing research

3. Formulate, construct, analyze and explain a research project

4. Build and improve skills in recognizing, stating, and solving problems objectively in computer science

5. Develop research writing skills

6. Apply and Improve presentation skills

7. Infer a positive change in the organization or community for which the research is conducted

Required Textbook(s) and Resources

Your course has no required textbook. All resources are included in each week.

Be sure to also review the weekly **Explore** sections for additional library or web resources. For access to databases, research help, and writing tips, visit the Tiffin University Library.

Time Commitment

Effective time management is possibly the single most critical element to your academic success. To do well in this online class you should plan your time wisely to maximize your learning through the completion of readings, discussions, and assignments. Because of our

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accelerated, seven-week term, TU online courses are designed with the expectation that you dedicate a little over **six (6)** hours per credit hour to course activities and preparation **each week**. For example, for successful completion of a three-credit, seven-week online course you should reserve roughly **twenty (20) hours per week**.

To help plan your time and keep on track toward successful course completion, note the distinctive rhythm of assignment due dates:

1. All times assume Eastern Time (GMT-4).

2. Weeks begin at 12:00 a.m. ET on Monday and end at 11:55 p.m. ET on Sunday.

3. Unless otherwise noted, initial assignments or discussion posts are due by **11:55 p.m. ET** on **Wednesdays.**

4. Additional assignments or follow-up discussion posts are due by **11:55 p.m. ET** on **Saturdays, and**

5. Major assignments and reflections are typically due by **11:55 p.m. ET** on **Sundays.**

Learning Activities

This course has been designed as a *Workshop* course type.

This means that by **Wednesday** of some week, you'll be posting a draft of an assignment you've been working on.

By **Saturday** of these weeks, you will participate in peer review with your classmates. This means that you will read work from a certain number of your classmates and provide constructive criticism of their work. This feedback will be specific, objective, respectful, and done with positive intent. In other words, the course is designed to give you a real audience for your work, and that audience will give you their feedback and opinions. Harsh, condescending, or offensive comments will **not** be tolerated. Be sure to read directions carefully to find out how many and/or whose work you need to read and respond to. Since this feedback process is critical to the overall success of a workshop approach, *up to one-third of your grade* will be related to the feedback you provide to your peers.

By **Sunday** of some weeks, you will submit a revised version of your work based on the feedback you received from your classmates and instructor. If the course is working on a larger, cumulative project, the revised version will be posted at the end of the class.

Lastly, you will be asked to reflect upon the course to close the class. Be sure to read the prompt carefully and address all elements within it.

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Grading

The chart below identifies the individual contributions from each type of activity, per week.

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Total
Forums Activity 1.1 (n/a) Activity 1.2 (30)	**Forums** n/a	**Forums** Activity 3.1 (30)	**Forums** Activity 4.1 (30)	**Forums** Activity 5.1 (30)	**Forums** Activity 6.1 (30)	**Forums** n/a	**150**
Assignments Activity 1.3 (80)	**Assignments** Activity 2.1 (110)	**Assignments** Activity 3.2 (70)	**Assignments** Activity 4.2 (100)	**Assignments** Activity 5.2 (80)	**Assignments** Activity 6.2 (170)	**Assignments** Activity 7.1 (190) Activity 7.2 (50)	**850**
110	**110**	**100**	**130**	**110**	**200**	**240**	**1000**

Grading Scale

A: 90-100% | B: 80-89% | C: 70-79% | D: 60-69% | F: <60%

Course Schedule and Weekly Checklist

Start Here

- ☐ MON: Activity 1.1: Course Anticipation - Introductory Post

Week 1 – Introduction to Research in Computer Science

- ☐ WED: Activity 1.1: Course Anticipation – Follow-Up Post
- ☐ WED: Activity 1.2: Identifying and Refining Research Problems
- ☐ SAT: Activity 1.2: Identifying and Refining Research Problems
- ☐ SUN: Activity 1.3: Concept Paper

Week 2 – Problem Statement and Literature Review

- ☐ SUN: Activity 2.1: Annotated Bibliography and Literature Review

Week 3 – Proposed Software Application and Target Audience

- ☐ WED: Activity 3.1: Target Audience and Sponsor Analysis – Initial Post
- ☐ SAT: Activity 3.1: Target Audience and Sponsor Analysis – Follow-Up Post
- ☐ SUN: Activity 3.2: Proposed Software Application

Week 4 – Introduction to Research in Computer Science

- ☐ WED: Activity 4.1: Software Development Life Cycle (SDLC) – Initial Post

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☐ SAT: Activity 4.1: Software Development Life Cycle (SDLC) – Follow-Up Post
☐ WED: Activity 4.2: Technical Specifications and Implementation Plan

Week 5 – Legal Considerations, Impact, and Benefits

☐ WED: Activity 5.1: Legal and Ethical Considerations – Initial Post
☐ SAT: Activity 5.1: Legal and Ethical Considerations – Follow-Up Post
☐ SUN: Activity 5.2: Impact and Benefits Analysis

Week 6 – Project Proposal

☐ WED: Activity 6.1: Project Proposal Draft – Initial Post
☐ SAT: Activity 6.1: Project Proposal Draft – Follow-Up Post
☐ SUN: Activity 6.2: Final Project Proposal

Week 7 – Project Presentations

☐ SAT: Activity 7.1: Final Presentation
☐ SUN: Activity 7.2: Course Reflection

Tips for Success

Online learning requires self-discipline and self-direction. As seekers of the truth, we should be willing to challenge one another's academic work in a spirit of respectful comradery. Your course is a place for you to grow as you benefit from the expertise, experience, and diverse perspectives of your instructor and peers. Constructive feedback will challenge you to stretch your own thinking, thereby expanding your knowledge and understanding.

To get the most out of your learning experience, you should actively engage (participate) in **ALL** course activities. Course elements are arranged chronologically. To complete a week, simply work your way "down the page" through all of the course materials and activities.

For More Information:

Be sure to review the Support, Policies, and Procedures addendum.