



# Texas A&M University – Texarkana

## CS495 Computer Science Capstone Project

### Course Syllabus

#### Fall 2023

(Last Updated September 16, 2023)

<b>Professor:</b>	Michael J. Pelosi, Ph.D., MBA, MPA	
<b>Office:</b>	BASS 225	
<b>Office Hours:</b>	<b>Monday</b>	<b>Wednesday</b>
	2:45pm-4:45pm	2:45pm-4:45pm
<b>Email:</b>	mpelosi@tamut.edu	
<b>Phone:</b>	(903) 334-6744	
<b>Course Number:</b>	CS 495	
<b>Course Title:</b>	Computer Science Capstone Project	
<b>Course Times:</b>	MW 4:30PM - 5:45PM    Location: SCIT 215	
<b>Semester Credit Hours:</b>	3	

### Course Description:

The goal of the CS capstone course is to produce noteworthy projects and research worthy of, and leading to, academic and commercial publications, project grants and funding, employment opportunities, as well as subsequent development of the original idea for further academic study. Individual or group projects are possible, however individual efforts are encouraged. Students embark by formulating a project or research idea by applying brainstorming techniques. The project is then executed following the five section research model which includes: idea draft, literature review, methodology description, results explanation, and conclusion/future work sections. Each section area must be executed, completed, and submitted successfully for the project effort to receive a satisfactory grade. However, projects can and do fail, or turn out to be infeasible. Project failure or infeasibility is an acceptable outcome while still receiving credit. Further, students also are required to study and learn about computer science technical writing and presentation techniques, as elaborated on in the required textbook. Periodic student presentations and instructor reviews are required during the course timeline, as well as agreed upon milestones for project completion.

### Prerequisites:

Senior classification.

### Recommended Preparation:

Course completion of CS332, CS352, CS355, and/or additional programming experience. CS367, CS480, and CS481

### **Text and Materials:**

Required: *Writing for Computer Science, 3rd Edition*

Publisher: Springer (February 17, 2015)

Language : English

Paperback: 297 pages

ISBN-10: 1447166388

ISBN-13: 978-1447166382

### **Student Learner Outcomes:**

Students will be able to:

- Identify project/research problems; understand information and grasp meaning; translate knowledge into new context; use information, methods, concepts, and theories of fundamental topics in computer science in new situations.
- Apply computer science principles and practices to a real-world problem; demonstrate in-depth knowledge in the area of the project they have undertaken; solve problems using required knowledge and skills; implement and test solutions/algorithms;
- Identify potential solutions/algorithms for the project problem; see patterns and modularize the problem, recognize hidden meanings and identify components, show proficiency in software engineering principles.
- Use modern techniques, skills and tools necessary for computer science practices relevant to the project they undertake; use techniques in recent research papers to solve problems.
- Create new ideas using the old ones; generalize from given facts in the project they undertake, relate knowledge from several areas in systematic scientific approach, predict and draw conclusions relevant to the project they undertake.
- Show evidence (group collaboration, regular meetings, email communications, significant knowledge and skills contributions, etc.) of working productively as an individual and in a team on a project that produces a significant software product.
- Show evidence of competency in oral and written communications skills through oral presentations (project presentation, department seminar or conferences), technical reports and/or published research papers in conferences and/or journals.

### **A&M-Texarkana Email Address:**

Upon application to Texas A&M University-Texarkana an individual will be assigned an A&M-Texarkana email account. This email account will be used to deliver official

university correspondence. Each individual is responsible for information sent and received via the university email account and is expected to check the official A&M-Texarkana email account on a frequent and consistent basis. Faculty and students are required to utilize the university email account when communicating about coursework. This course will not use messaging or email contained in Canvas, but will use the "ACE" student email system for electronic messages.

### **Tentative Course Schedule:**

Week 1	Introduction/Project Idea Generation
Week 2	Idea Generation
Week 3	Literature Review
Week 4	Idea Presentations/Mentoring Sessions
Week 5	Methodology
Week 6	Methodology Presentation/Peer Review Sessions
Week 7	Project/Milestones Schedule Due
Week 8	Midterm Exam
Week 9	Overview of Project Submission Formatting.
Week 10	Milestone 1 Due/Mentoring Sessions
Week 11	Completion Risk Analysis
Week 12	Milestone 2 Due/Mentoring Sessions
Week 13	Project Refactoring (If necessary)
Week 14	Milestone 3 Due/Mentoring Sessions
Week 15	Results Due/Results Presentation
Week 16	Conclusion Section Due/Final Exam

## Means of Evaluation:

Grades will be based on the timely completion of the homework assignments, in-class attendance and labs, and exams. The semester grade will be based on the following:

Attendance	20%
Mid-Term Exam	10%
Project Sections	60% (All 5 Sections must be completed.)
<u>Final Exam</u>	<u>10%</u>
<b>Total</b>	<b>100%</b>

## Class Policies:

- Late work will not be accepted.
- All written assignments should contain the student's name, class title, and the title of the assignment on each document submitted.
- Any "extra credit" assignments will be identified and due prior to December 6.
- Students must be present to receive credit for in-class assignments

## Academic Integrity:

Academic honesty is expected of students enrolled in this course. Unauthorized collaboration, falsification of research data, plagiarism, and copying or undocumented use of materials from any source, constitute academic dishonesty, and may be grounds for a grade of "F" in the course and/or disciplinary action. The student is responsible for reading and understanding the University Policy on Academic Integrity.

## Disability Accommodations:

Students with disabilities may request reasonable accommodations through the A&M-Texarkana Disability Services Office by calling 903-223-3062.

## Grading Scale:

A => 90  
B => 80  
C => 70  
D=>60  
F <60

## Student Technical Assistance:

- Solutions to common problems and FAQ's for your web-enhanced and online courses are found on the [Online Student Training](#) page on our website.
- If you cannot find your resolution there, you can submit a support request by contacting the IT HelpDesk:
  - Email: [isite@tamut.edu](mailto:isite@tamut.edu)

- Phone: 903-334-6603
- Submit a [Support Request Ticket](#)
- Additional student help for Canvas can be found here:
  - [Canvas Help for Students](#)

## **Drop Policy**

To drop this course after the census date, a student must complete a Drop/Withdrawal Request Form, located on the University Registrar's webpage or obtained in the Registrar's Office. The student must submit the signed and completed form to the instructor of each course indicated on the form to be dropped for his/her signature. The signature is not an "approval" to drop, but rather confirmation that the student has discussed the drop/withdrawal with the faculty member. The form must be submitted to the Registrar's office for processing in person, email Registrar@tamut.edu, mail (7101 University Ave., Texarkana, TX 75503) or fax (903-223-3140). Drop/withdraw forms missing any of the required information will not be accepted by the Registrar's Office for processing. It is the student's responsibility to ensure that the form is completed properly before submission. If a student stops participating in class (attending and submitting assignments) but does not complete and submit the drop/withdrawal form, a final grade based on work completed as outlined in the syllabus will be assigned.

## **Class Participation**

Students are responsible for beginning their participation on the FIRST CLASS DAY by logging on and completing assignments according to the COURSE CALENDAR. Failure to submit online assignments between the first day of classes and the "university census date" (according to the university schedule) will result in an ADMINISTRATIVE DROP from the course.

## **Students with federal loans and/or grants:**

Students who have federal loans and grants must be aware that participation is monitored in online courses. In the event a student withdraws from a course the student will be required to refund all federal funds prorated from the last date of participation. A student's last access to Canvas would not suffice as participation. The required weekly activity could include a comment to a blog, a discussion board posting, a journal entry, a quiz or exam, a submitted assignment, or other measurable and tracked activity.