Course title: Senior Seminar, Spring 2020, 3 credit hours

Instructor: Dr. R. Paul Mihail, 2119 Nevins Hall, Email: **rpmihail@valdosta.edu**

Class meeting times and location: Nevins Hall, Room 1207, TR from 3:30 PM to 4:45PM

Office Hours: TR 10:00am-11:00am, 1:00pm-3:30pm and by appointment. s

Required Textbook: None

Software and Hardware: You need a WebGL capable device, text/code editor and browser.

Course Description: A capstone experience intended primarily for computing majors that combines societal, ethical, and legal implications and trends of computing with the development of programming, research and communication skills for the profession. Topics include societal effects of computing, ethics in the field, legal issues, professional literature and organizations, current industrial, social, legal, governmental, and technical developments, research methodology, and career opportunities. Involves extensive programming, reading and writing (both technical and non-technical), as well as Internet research, and oral presentations.

Cell phone policy:
Usage of cell phones in the classroom is prohibited, with the exception of emergengy calls. Texting or otherwise using your mobile device in the classroom will result in being asked to leave the classroom.

Learning Outcomes:

1. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.

2. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

3. Apply computer science theory and software development fundamentals to produce computing-based solutions.

Assignments: In this course, you and your team members will collaboratively implement a fully functioning web-based game. This game will be developed using Javascript and ThreeJS. ThreeJS is a library that implements graphics using OpenGL ES and scene graphs. Unless you already know Javascript, it will be your responsibility to learn the language, outside of this class. You will pick up ThreeJS by completing weekly presentations, and teaching yourself and the class new concepts.

   This class will simulate the conditions of a corporate (or non-profit), "real-world" project that has weekly meetings/presentations, and one you complete with other people. Regardless of your

career path, you will be collaborating with other people. This course provides a safe learning environment, where online and in-person collaboration are required. There is no authoritative handbook or textbook about how to do this. Everyone will have a different experience and will learn different aspects of teamwork, as a function of their own unique set of skills.

As part of collaboration in software development, you will use a modern, distributed version control system, Git. The most convenient public host of Git repositories is github. Each team will create a github repository and each team member will contribute. There will be weekly project components that teams will present and submit code for. The code will be developed in Git, but also submitted on the course web page (we need these samples for sample collection, required by our accreditation agency).

The weekly project components will be fully contained, runnable modules, planned to be incorporated in the final project. These presentations will be done in such a way that the rest of the class can learn and use the concepts in their own work.

Useful Resources

1. A simple guide to git: `https://rogerdudler.github.io/git-guide/`

2. Introduction to graphics: `http://math.hws.edu/graphicsbook/index.html`

3. Introduction to Javascript (in-context): `http://math.hws.edu/graphicsbook/a1/s3.html`

4. Textbook intro to ThreeJS: `http://math.hws.edu/graphicsbook/c5/index.html`

5. Intro to ThreeJS:
   `https://threejs.org/docs/index.html#manual/en/introduction/Creating-a-scene`

Assessment:
The grade for this course will be calculated as follows:

- Weekly presentations: 20%

- Weekly project components: 20%

- Github participation: 10%

- Final project (rough draft): 10%

- Final project (running code): 30%

- Final project (demo/presentation): 10%

Grades will be assigned according to the following scale:

$$90\text{-}100\% = A$$
$$80\text{-}89.99\% = B$$
$$70\text{-}79.99\% = C$$
$$60\text{-}69.99\% = D$$
$$\text{Below } 60\% = F$$

Exams: None.

Academic Honesty: Cheating consists of getting any form of unfair academic advantage. Cheating is strictly forbidden and I will purse the maximum penalties allowed by the University, which includes a possibility for expulsion, but most likely will result in a permanent mark on your transcript accompanied by an F in this course.

You will be asked to write programs and submit the code. Often students have questions about what is and what is not considered cheating. Below are a few bullet points I expect to be followed in my course:

- Google Searches. 1) You may often find a complete solution to a programming prompt online. Turning a complete solution that someone else wrote, with or without attribution, will be considered cheating and the penalty is failure of this course along with a letter to the registrar. 2) You may find snippets (parts) of code that you integrate into your solution. This is acceptable ONLY with attribution (at least 3 of the 4 w's: who, what, when and where) in your code AND write-up. Using snippets of code is only acceptable if they consist of less than one third of the total program. Failure to attribute a snippet of code will result in a 0 on the assignment for the first offense and a failure in the course for the second offense.

- Classmates/friends/tutors. Programming assignments are designated as individual work. That means it is forbidden to share code or work together on them with your classmates. You can, however, discuss high-level ideas, but they have to be documented. Failure to do so will result in an F on the assignment. Documenting high-level idea exchange can be made as a note in the assignment write-up (who/when/what/where). Sharing code with a classmate will result in an F on the assignment for the first offense and a failure of the course on the second documented offense.

Withdrawing:

If you decide to leave the class, please do it officially. There is a date on the Academic Calendar past which you are not allowed to drop for academic reasons. We'd much rather give a W grade than an F. Don't just stop coming to class - you WILL get an F! Take care of your transcript! All policies associated with this course are subject to revision. Reasonable notification will be provided to students prior to any major changes.

New Withdrawal Policy (5 W Policy): Effective Fall 2010, all undergraduate students are limited to five course withdrawal (W) grades for their entire enrollment at Valdosta State University. Once a student has accumulated five W grades, all subsequent withdrawals (whether initiated by the student in BANNER or initiated by the instructor on the proof roll) will be recorded as WF. The grade of WF is calculated as an F for GPA purposes. To get more details about this policy, students are strongly recommended to check the following link:
http://www.valdosta.edu/academic/WithdrawalPolicy.shtml

Extra Help: Do not hesitate to come to my office during office hours or by appointment to discuss a homework problem or any aspect of the course. There are also tutors available Monday through Friday, see Mr. Said Fares (office in 1126 Nevins Hall) for more information. There is also the

Student Success Center on campus located on the ground floor of the Langdale Residence Hall. The Student Success Center offers free one-on-one tutoring for core courses, success workshops, etc. You can find more information at http://www.valdosta.edu/academics/student-success-center/.

Attendance Policy: Please keep in mind that attendance is extremely important for this course. You are expected to show up for lectures and participate. In case you have to miss class, please make sure you ask for notes or see your professor. If you have a valid university excuse, please notify your professor as soon as possible.

Accommodation for Disabilities: If you have a documented disability that requires academic accommodations, please contact your professor as soon as possible. In order to receive accommodations in this course, you must provide a Letter of Accommodation from the Access Office for Students with Disabilities located in Farver Hall. The phone numbers are 229-245-2498(V/VP) and 229-219-1348(TTY). Accommodations can be made for all parts of the course. We only make special arrangements for class activities after we receive the letter.

Student Opinion of Instruction: At the end of the term, all students will be expected to complete an online Student Opinion of Instruction survey (SOI) that will be available on BANNER. Students will receive an email notification through their VSU email address when the SOI is available (generally at least one week before the end of the term). SOI responses are anonymous to instructors/administrators. Instructors will be able to view only a summary of all responses three days after they have submitted final grades. While instructors will not be able to view individual responses or to access any of the data until after final grade submission, they will be able to see which students have or have not completed their SOIs, and student compliance may be considered in the determination of the final course grade. These compliance and non-compliance reports will not be available once instructors are able to access the results. Complete information about the SOIs, including how to access the survey and a timetable for this term is available at http://www.valdosta.edu/academic/OnlineSOIPilotProject.shtml.

Title IX Statement: Valdosta State University (VSU) is committed to creating a diverse and inclusive work and learning environment free from discrimination and harassment. VSU is dedicated to creating an environment where all campus community members feel valued, respected, and included. Valdosta State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, disability, genetic information, or veteran status, in the University's programs and activities as required by applicable laws and regulations such as Title IX. The individual designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University's Title IX Coordinator: the Director of the Office of Social Equity, titleix@valdosta.edu, 1208 N. Patterson St., Valdosta State University, Valdosta, Georgia 31698, 229-333-5463.