CST 205: Multimedia Design and Programming
Spring 2016

- **Time:** Monday & Wednesday: 2pm to 4pm (lecture & lab are combined)
- **Place:** Business & Information Technology - Room 104
- **Instructors:** Avner Biblarz & Dr. Sathya Narayanan
- **Office hours:**
    - Tuesday 10:30am to 12:30pm
    - Thursday 8:30am to 10:30am
    - By appointment

Description: CST 205 introduces design, creation, and manipulation of interactive applications and electronic media for communication purpose. This course focuses on creating media, understanding media concepts, and manipulating the created media using the basic programming concepts of control flow, functions, expressions and data types. Students acquire a basic understanding for digital media formats, and how to design and create such media using basic programming skills. No prior programming experience is required.

Course Outcomes:
This course is designed to enable students to complete the CSIT interaction design learning outcome (MLO). The goal of the MLO is students will: "*Demonstrate effective use of computer- based tools used in the design and creation of interactive applications and electronic media".* In particular, upon successful completion of this course, student should be able to:

- Explain the storage formats for digital media including images, sound and video including different methods of encoding and compressing files.
- Explain how the properties of digital media can be manipulated to alter the communication or artistic goals of the media.
- Read and write digital media files programmatically.
- Understand the basic principles behind media on the web.

- Explain how programming can be used to solve real world problems involving digital media.
- Edit, run, debug, and document simple software programs using correct syntax and good programming style.
- Edit, run, debug and document simple software programs using correct syntax and good programming style in Python.
- Understand the importance of soft-skills in projects and demonstrate these

soft-skills through their project work.

Students will demonstrate these outcomes by working in small team to develop software that provides a multimedia based service or functionality to user. The software(s) developed for this course will involve creating and/or manipulating at least two different media types.

Textbook: There is no required textbook for this course, however that does not mean there is no reading. Students will have to identify and read material they need to be able to complete the software development projects.

Required software: We will be using a variety of software in this class. We will mostly utilize open source software and you are responsible for installing, configuring and utilizing the software to complete your project in collaboration with your team.

Class organization:

This course will be organized as follows:

1. You will complete three projects throughout the semester.
    a. Project 1: Mixed-skill-level project using Python
    b. Project 2: Team project using Python
    c. Project 3: Team project using Python or other programming language (need approval from instructor)
2. Each project can be a continuation of previous project as long you can clearly identify/demonstrate new feature/functionality added to the program.
3. You will work within a team of 2, 3 or rarely 4 students each class. Teams might change between classes but should become stable as the course progresses.
4. Each team will have a peer leader: the peer leader is your first point of contact for guidance and help. The peer leader will not do the work for you, but will give you information, resources and guidance so that you can do the work. Peer leader will also bring your questions/concerns to the peer leaders' team meeting with the faculty.
5. Each team will define a project objective that they will work on throughout this course. The teams will have the opportunity to redefine, add, modify your project objective twice during the course.
6. Each class:
    a. First 15 to 30 min will be class discussion on topics or issues that majority of the class raised as necessary. Discussion will be lead by a student, peer leader and/or faculty.
    b. Reminder of the time, students will work on their project or investigation with their team.

    c. Each team and each individual student will report to the peer leader their immediate objectives and status on the Wed class.
7. Additional meeting time within the teams and with the peer leader can be arranged as necessary.
8. Most class will start with a small pre-class activity quiz - the quiz will open five minutes before the class starts and will close five minutes after. This quiz will have some content test based on investigation activities that were assigned prior and/or some status check questions which you will have to respond (no right or wrong answers).
9. In many classes, we will pose a set of questions for the teams to figure out answers for or a set of objectives for the teams to achieve.
10. Expect to ***spend 6-8 hours*** **a week outside class working on this course.**
11. **For detailed schedule of objectives, please visit this** document.

Grading:

Your work on the course projects will be measured on the following dimensions. Attendance (for the duration of the class) is particularly important! Blue items will be primarily evaluated by your peer leader and faculty, green items by your peer leader and team members, yellow items will be evaluated by peer leader, and red items by faculty. All final evaluation decision will be made by faculty.

1. Complexity: The complexity of the code you wrote in contribution to your project.
2. Problem solving: Are you able to understand big picture, breakdown problem into smaller pieces, find solutions to problems without easy step-by-step instructions.
3. Good programming practice: How well your programs are written, the clarity and usefulness of the comments you wrote in your code.
4. Multimedia use: The extent to which you used multimedia creation or manipulation.
5. Does your program work: Does the code you wrote compile and execute to achieve the functionality it is supposed to. Even if the entire project doesn't work, we can evaluate individual code chunks.
6. Team work: How well you worked with your team - were you responsive to your team - did you help - did you communicate.
7. Attendance: Did you attend and were you on time to class, team meetings and peer leader meetings
8. Class participation: Overall class participation, engagement and contributions.
9. Above and beyond: Anything you did, suggested and helped that is not expected by these evaluation dimensions

Your work will be evaluated three times during the semester using these dimensions:

1. Around third week: 15% of your final grade
2. Around ninth week: 25% of your final grade
3. Final week: 40% of your final grade
4. Pre-class activity quizzes: 20%
5. **Bonus:** Class participation/Attendance/Above and Beyond: 5%

Final letter grades will be based on a curve with class average being at ‘B’.

What to Expect

This class meets twice a week for a combined lecture/lab section. During our meetings we will do a combination of learning activities including: group problem solving, discussions, question & answer sessions and lab work. Before each class meeting, you will have some preparatory work to do at home. It is expected that all students come to class with this work done. Please speak up in class if you have a question, or need the material clarified. You should expect to work outside of regular class time *8-12 hours per week*. Projects assigned in this class are complex and should be started early to allow yourself plenty of time to seek help if necessary.

Communication:

All class announcements will be via official CSUMB email accounts. Make sure you are checking your @csumb.edu email regularly to avoid missing important class announcements. All class documents and assignments will be posted on iLearn. I am always happy to hear from students. Email is definitely the best way to contact me since I check my inbox often. Guidelines for emailing me are:

- If you are emailing me with a question about a course topic or homework assignment that is of general interest, please post it to the class questions forum on iLearn instead. This way, all of your classmates can benefit from the response. If you email me a question directly, I may paste it into the forum and post the answer there.
- I will generally respond to email within 24-hours, however it might take slightly longer on weekends or over breaks. Emails received after 9pm, almost never get answered until the next day. Make sure you start your homework/studying early enough to get help if you need it.
- Make sure you send me email using my @csumb.edu account and not iLearn messaging.

A formal email should contain a beginning, middle and end:

Dear Mr Biblarz,

Body of the email.

Thanks,
Your name

Academic Integrity
Cheating of any kind will not be tolerated in this class. We are trying a new model for this class that gives you the freedom and flexibility to learn crucial professional skills that will serve you well in the long term. This class will be useful to only if you commit to making the best use of the opportunity, resources and guidance to learn. If you are just interested in a grade and are not committed to learning, be aware of academic integrity policy.

You are responsible for reading and understanding the CSUMB Academic Integrity policy.

On all assignments if you receive any help from anyone or use any outside sources, you must acknowledge that help/source in writing (on the assignment either as an attached document or in the comments of your code) and you must do this separately for each assignment on which you receive help. You should explain who you got help from, how much they helped, and how the work you turned in still represents your understanding of the material. If you used an outside source you must provide the title of that source (if a textbook) or url (if a website or online forum). If you receive help or use a source and do not acknowledge it, you will not receive credit for this course. I encourage you to discuss ideas and topics from the class with each other and to form study groups.

Students who violate the academic integrity policy, or submit someone else's work as their own will be subject to the following sanctions:

1) The first violation will result in failing the assignment
2) The second violation will result in failing the class
3) ALL violations are reported to academic affairs

Disabilities and Learning Issues
Your instructor wants every student to succeed. Students with disabilities who require accommodations such as time extensions or test accommodations must present

verification from Student Disability Resources as soon as possible. If you think a disability may impact your performance in this class, please see the instructor. You may want to meet with SDR professional staff at:

Student_Disability_Resources@csumb.edu
Health & Wellness Services Building (Building 80, Campus Health Center) Phone: 831/582-3672 voice, or 582-4024 fax/TTY
http://sdr.csumb.edu/

Respect
The CSUMB Mission Statement reads in part:
"*To build a multicultural learning community founded on academic excellence from which all partners in the educational process emerge prepared to contribute productively, responsibly, and ethically to California and the global community."*

All students are required to show respect to their fellow students and the Instructor. Personal attacks, humiliating or degrading comments, verbal or written, are very serious matters, and will be treated as such.