

ICS 45C: Programming in C++ as a Second Language Syllabus for Summer 2019

Note: This course is based on the same course taught and designed by professor Alex Thornton

Instructor: Anthony Le

Course Description

This course will enable students to use the C++ language to write well-structured object-oriented programs. Students are introduced to C++ as a second programming language with specific concepts such as proper syntax, input/output, arrays, linked lists, pointers, DMA and OOP concepts such as data abstraction, encapsulation, inheritance and polymorphism.

Learning Outcomes

- Learn proper syntax for C++17
- Recognize the correlation between variables and memory address(s)
- Apply C++ specific concepts such as pre-processor directives, control structures, arrays, pointers, recursion, dynamic memory allocation, data structures, and classes
- Design and implement structured, modular object-oriented program using best practices
- Explain object-oriented design process by building classes with proper documentation
- Analyze, write, debug and test basic C++ programs utilizing the concepts introduced

Instructor information

- Anthony Le, 3D FPS Programmer, AI/Gaming Developer, Cognitive Science UCSD
- Office Hours: Thursdays from 9am-10:00am in the ICS lab 364A room for now
- Office Location: TBA (*will probably be in the ICS lab room 364A*)
- Email: anth17@uci.edu

Teaching assistants

There is one *teaching assistants*, who will share the duties of attending the lab meetings, will serve as an additional source of assistance on your projects, and will be the primary point of contact with regard to the grading of the projects.

- Muhammad Talha Khan (muhammtk AT uci DOT edu)
- Lab Hours: Tuesdays from 9am-11:00am in the ICS lab 364A room
- Office Hours: Thursdays from 9am-11:00am in the ICS lab 364A room

Times and places

Lecture

This course has two lectures a week. They meet on the following days and times:

- Tuesdays and Thursdays from 11:00am-12:20pm in RH 184

Attendance is not graded but is required on the days when exams are held and the dates will be posted and updated in class.

Lab meetings

Labs is scheduled on Thursdays from 9am-11:00am in the ICS lab 364A room. More labs hours will be added as needed during the course and we will update it in class.

During these times, the TAs will be available to help you as you work through your projects. C++ requires an attention to detail that is uncharacteristically high, even for programming, so it will be handy to have a place you can go to get help; keep this on your calendar. You're free to come and go as you'd like within that time; there are no "sections" or other formal arrangement, and you do not need an appointment to attend.

Lab meetings are not a required part of the course, and nothing will be graded in the labs this quarter.

Note that these lab meetings are laptop-only working spaces (i.e., they are not a computer lab with machines already present).

Textbooks

Even though this course is based closely to the course taught by professor Thornton, student should have access to one good C++ programming text book for this course. You can use this link here to access all the Notes and Examples for his ICS45C course:

<https://www.ics.uci.edu/~thornton/ics45c/Notes/>

Schedule for ICS45c

The dates and schedule for this class will be updated soon but you can use this link to Thornton's class to get an overview of how the class will be structured for the summer session by changing the dates accordingly: <https://www.ics.uci.edu/~thornton/ics45c/Schedule.html>

Grading

Weights of graded artifacts

Grading will be similar to Thornton's class and will be determined from the weighted combination of your scores on each of six programming projects, one Midterm, and one Final Exam. The weights of each of these are:

- One "set-up" project, 2%
- Four projects, 40% (weighted equally at 10% each)
- Midterm, 25%
- Final Exam, 33%

Determining final grades

Course grades will be determined neither on a normal curve nor a straight scale. It is guaranteed that overall scores over 90% will receive an A- or better, scores over 80% will receive a B- or better, and scores over 70% will receive a C or better.

Dropping the course or changing grade option

Through the end of Week 2 (Friday, July 5th), you may drop the course by simply going to WebReg and dropping it. If you wish to drop the course after that date, you will need to use the Enrollment Exceptions system to request a drop; I do not have the final say over those, ultimately, as the Dean of the Bren School (and your major, if you are majoring in something outside of the Bren School) must approve them. It is not generally the case that an exception will be accepted simply because you're not doing well in a course, though extenuating circumstances are certainly considered.

Similarly, changing your grade option (to Pass/NotPass or back again) can be done via WebReg through the end of Week 2 (Friday, July 5th), after which you must use the Enrollment Exceptions system to request the change. As with exceptional drops, you must receive approval from the appropriate Deans.

Obtaining additional assistance

Accommodations for disabilities

Any students who feel that they may need an accommodation based on the impact of a disability should contact me privately to discuss these specific needs. Also, contact the Disability Services Center [online](#) or by phone at (949) 824-7494 as soon as possible to better ensure that such accommodations, such as alternative test-taking environments or note-taking services, can be arranged for you in a timely way.

Academic honesty

The policy

As a student enrolled in ICS 45C, you are expected to know and follow the academic honesty policies of both the Bren School of ICS and the University as a whole. Please take a few minutes to read the policies, which can be found at [this link](http://honesty.uci.edu/) : <http://honesty.uci.edu/>

All of your project work is expected to be completed *solely by you*. Working in larger groups and/or sharing of code between students is not permitted. Note that "high-level discussion of course material for better understanding" is permitted and encouraged, but when it comes time to sit down and write code, that is expected to be done by you and you alone. All submissions are compared to one another using an automated plagiarism detection system. This system is extraordinarily good at finding similarities between submissions, even when there are superficial differences. (Note that we also compare your submissions to those submitted during previous quarters whenever one of these assignments was given during a previous quarter, so it is an exceedingly bad idea to turn in, or even refer to, code written by a friend of yours who took the course already.)

Since all of your work is expected to be completed solely by you, you will be held responsible even if you plagiarize only a small portion of someone else's work.

Academic honesty is a two-way street. Providing your code to other students for them to turn in as their own is not permitted any more than turning in someone else's code. Resist the temptation to give code to your friends "for reference." Based on my experience, I can say that your "friends" may very well betray you and turn it in, anyway, and then you'll have a lot to answer for.

Naturally, the Midterm and Final Exam are also expected to be individual efforts. Dishonest behavior during an exam will not be tolerated.

All violations of academic honesty policies will be reported to the [UCI Office of Academic Integrity & Student Conduct](#) (AISC) and will trigger an administrative procedure, which is described on their web site. Additionally (and at least as importantly), you can receive a course grade of F — as a number of students in my courses do, because of this issue, every quarter — without the option to drop the course to avoid the grade. A single documented case of academic dishonesty may also have other ramifications, such as precluding you from switching into computing majors, registering for computing minors, joining the ICS Honors Program, and graduating from a computing major with honors. All of this is University and Bren School of ICS policy and is not subject to negotiation.