San José State University
Department of Computer Science
CS-144, Advanced C++ Programming, Section 1, Fall 2017

Course and Contact Information

Instructor:	Fabio Di Troia
Office Location:	DH282
Telephone:	
Email:	fabio.ditroia@sjsu.edu
Office Hours:	Friday, 10-12AM
Class Days/Time:	TR – 4.30PM
Classroom:	SCI 311
Prerequisites:	CS 46B and CS 49C (with a grade of C- or better in each), or equivalent knowledge of object-oriented programming and C, or instructor consent.

Course Format

Faculty Web Page and MYSJSU Messaging

Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on the course web page on Canvas at https://sjsu.instructure.com/courses/1239354. You are responsible for regularly checking with the messaging system through MySJSU at http://my.sjsu.edu (or other communication system as indicated by the instructor) to learn of any updates.

Course Description

Advanced features of C++, including operator overloading, memory management, templates, exceptions, multiple inheritance, RTTI, namespaces, tools.

Course Learning Outcomes (CLO)

Upon successful completion of this course, students will be able to:

1. Understand and apply advanced C++ constructs and concepts such as the STL (Standard Template Library), operator overloading, memory management, templates, exception handling, multiple inheritance, RTTI (Run Time Type Identification), namespaces, and various C++ related tools/libraries/modules.

2. Apply the advanced C++ constructs covered in this course to the design and implementation of moderately sophisticated C++ applications.

Required Texts/Readings

Textbook

There are no required books for this class. All the necessary material will be available on the course Canvas web page.

Course Requirements and Assignments

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in University Policy S12-3 at http://www.sjsu.edu/senate/docs/S12-3.pdf.

Homework, Midterm and Final exam are expected for this class. Homework is due on Canvas by class starting time on the due date. Each assigned problem requires a solution and an explanation (or work) detailing how you arrived at your solution. Cite any outside sources used to solve a problem. When grading an assignment, I may ask for additional information.

NOTE that University policy F69-24 at http://www.sjsu.edu/senate/docs/F69-24.pdf states that "Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading."

Final Examination or Evaluation

The final examination consists in submitting a final project. All the details will be published on the course Canvas web page and discussed in class.

Grading Information

- Homework, 100 points.
- Midterm, 100 points.
- Final Project, 200 points

Note that "All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades." See University Policy F13-1 at http://www.sjsu.edu/senate/docs/F13-1.pdf for more details.

Determination of Grades

Semester grade will be computed as a weighted average of the 3 scores listed above.
No make-up tests or quizzes will be given and no late homework (or other work) will be accepted. Also, in-class work must be completed in the section that you are enrolled in.

Nominal Grading Scale:

Percentage	Grade
92 and above	A
90 – 91	A-
88 – 89	B+
82 – 87	B
80 – 81	B-
78 – 79	C+
72 – 77	C
70 – 71	C-
68 – 69	D+
62 – 67	D
60 - 61	D-
59 and below	F

Classroom Protocol

- **Cheating** will not be tolerated.
- Student must be respectful of the instructor and other students. For example, No disruptive or annoying talking.
- Turn off cell phones
- Class begins on time
- Valid picture ID required at all times

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' Syllabus Information web page at http://www.sjsu.edu/gup/syllabusinfo/

CS-144 / Advanced C++ Programming, Fall 2017, Course Schedule

Course Schedule

Week	Date	Topics, Readings, Assignments, Deadlines
1	8/24	Introduction to the class
1	8/29	Types
2	8/31	Types
2	9/5	Pointers, Arrays and References
3	9/7	Pointers, Arrays and References
3	9/12	Structures, Unions and Enumerations
4	9/14	Structures, Unions and Enumerations
4	9/19	Statements
5	9/21	Memory Management
5	9/26	Memory Management
6	9/28	Memory Management
6	10/3	Functions
7	10/5	Functions
7	10/10	Exception Handling
8	10/12	Exception Handling
8	10/17	Exception Handling
9	10/19	MIDTERM
9	10/24	Namespaces
10	10/26	Namespaces
10	10/31	Classes
11	11/2	Constructors and Destructors
11	11/7	Operator Overloading
12	11/9	Operator Overloading
12	11/14	Operator Overloading
13	11/16	Class Hierarchy
13	11/21	Class Hierarchy
14	11/23	THANKSGIVING
14	11/28	RTTI

Week	Date	Topics, Readings, Assignments, Deadlines
15	11/30	RTTI
15	12/5	Templates
16	12/7	Templates
Final Exam		