Consolidated Syllabi CSIS 1410 Object-Oriented Programming

Course Description

In this course the student will study, implement and apply essential concepts that are often used in object-oriented programming: declaring and using classes, inheritance, polymorphism, interfaces, class associations, generic collections, generic methods and classes, unit testing, GUI and event-driven programming, exception handling, file I/O, and serialization.

CSIS-1410 is the second of three core CSIS programming courses. In this course, you will study and practice essential concepts used in object-oriented programming, including declaring and using classes, inheritance, polymorphism, interfaces, class associations, generic collections, generic methods and classes, unit testing, graphical user interfaces (GUI), event-driven programming, exception handling, file I/O, and serialization.

Course Student Learning Outcomes

Sections: 001, 002, 003, 004, 501, 503

- Create a hierarchy of classes through inheritance, and implement polymorphic behavior through methods and interfaces.
- Design, implement and use generic methods and classes in a programming project.
- Design and implement a GUI.
- Serialize objects, manipulate data using file I/O, and implement the object oriented exception handling mechanism.
- Use an automated testing framework.

Section 002:

- Collaborate with one or more partners to design, implement, and test an objectoriented computer program.
- Understand and use properly constructed recursive methods.

Course Prerequisites

CSIS 1400 or with Approval of the CSIS Associate Dean Semester(s): All

Communication Plan

Sections: 001, 004, 501, 503

- I will respond to email within 24 hours I will offer feedback on major assignments within 48 hours. The best way to contact me is via the Canvas Inbox, as I will prioritize this email over other modes of communication.

- In this course I will be posting interactive announcements which will offer specific opportunities for class questions and extra credit every other week.
- Additionally, I will be participating in the discussion forums with you to share my perspective within the discipline and to offer some nuances of interpretation that may not be present in your textbook.
- Lastly, we'll be holding small group Q & A sessions, where we can learn from our peers (and faculty) on some of the more difficult units within the course.

Section 002:

Most of the communication happens in class. However, you might also receive occasional announcements and Canvas mail. Please set the Canvas Notification Preferences to receive announcements right away and other important information in a timely manner. Also, don't delay reading your Canvas mail and the course announcements to ensure you know about all the updates and information before you need it.

The best way to reach me is via Canvas mail which I check daily during the work week. Don't hesitate to contact me if you have any course-related questions. I want to ensure that you have the resources and support you need. If you have an issue you would like to discuss, let me know, and I'll find a time that works for both of us to meet online.

Required Text or Materials

Section 003:

Title: Introduction to Java Programming
Subtitle: (Comprehensive Version)
Authors: Y Daniel Liang
Publisher: Pearson Publishing
Edition: 8,9,10,11, or 12th Edition
For more information on textbook accessibility, contact Accessibility & Disability Services at ads@slcc.edu.

Sections 001, 004, 501, 503

Title: Introduction to Programming Using Java
Authors: David J. Eck
Publication Date: 2019-01-01

For more information on textbook accessibility, contact Accessibility & Disability Services at ads@slcc.edu.

Section 002

CSIS-1410 does not require a text book. It uses primarily videos to teach new concepts. However, some students find it helpful to use a textbook as an additional resource. You can find links to free online Java textbooks in the orientation module.

Methodology

Section 002:

This course is taught as a flipped classroom. Rather than spending the time in class by lecturing (slides, white-board etc.), which will be inevitably too fast for some and too slow for others, students prepare before class by watching videos and by completing corresponding quizzes (a.k.a. prep quizzes). Prep Quizzes are available on Canvas and are due before class. Prep quizzes cannot be made up because the sole purpose of them is to ensure that students are prepared before coming to class.

Most of the class time is spent with exercises, activities, and code demos to deepen the understanding of the topics that were introduced in the videos. A typical class also includes a lab (an in-class programming exercise). Labs allow students to gain programming experience in a supportive environment where students are encouraged to reach out to their peers and to help and support each other.

After topics have been introduced through video lectures and practiced during class, students are assigned programming challenges (a.k.a assignments). At this point, students need to demonstrate that they can apply the new concepts. Collaboration is no longer permitted except with a designated assignment partner on team assignments.

Sections 001, 501, 503

This course is taught as a flipped classroom in a Hybrid/ Online class .Rather than spending the time together in class by lecturing (slides, white-board etc.), which will be inevitably too fast for some and too slow for others, students prepare before class by watching videos (a.k.a. prep assignments) and by completing corresponding quizzes (a.k.a. prep quizzes). Prep Quizzes are available on Canvas and are due before class. Prep quizzes cannot be made up because the sole purpose of them is to ensure students are prepared before coming to class. Most of the class time is spent on exercises, activities, and code demos. They are designed to deepen the understanding of the topics that were introduced in the videos. A typical class also includes a lab (an inclass programming exercise). Labs allow students to gain programming experience in a supportive environment where students are encouraged to reach out to their peers and to help and support each other. After topics have been introduced through video lectures and practiced during class students are assigned programming challenges (a.k.a assignments). At this point collaboration is no longer permitted; Students need to demonstrate that they can apply the new concepts on their own.

In this class, you need an IDE that provides auto-completion / content assist (https://stackoverflow.com/questions/6912169/eclipse-enable-autocomplete-contentassist.). That's why we switch from JGrasp to Eclipse. I recommend using Eclipse IDE for Java Developers. If you are comfortable installing software, you can get started right away: Installing Eclipse (https://www.eclipse.org/downloads/packages/.)For more guidance, check out the video below. It provides a brief introduction to Eclipse, allows you to watch someone go through the installation process, and shows how you can test that the installation works. Note, that Eclipse - like other software - constantly evolves. Don't try to find the Eclipse and Java versions that were used in the video. Instead, use JDK 11 and the latest release version of Eclipse. Also: I recommend using Eclipse IDE for Java Developers instead of Eclipse IDE for Java EE Developers. The latter is for enterprise users and it takes up more memory providing features you won't need. https://www.youtube.com/watch?v=K6owNJgGESY

Sometimes, students prefer to use another IDE like NetBeans or IntelliJ. This is fine. However, Eclipse is the IDE that is used in this class and it is the IDE where we point out different features and keyboard shortcuts. If you choose another IDE, it is your responsibility to find out how to access equivalent functionality

Course Delivery

Section 001, 002, 501, 503:

Important course information, including learning materials and grades, are posted on Canvas. Also, pay special attention to the Modules section. Modules group the coursework by topic and list learning materials in the following progression:

• Prepare Videos and corresponding quizzes (a.k.a. prep quizzes) build the foundation that prepares you for further activities.

• Practice Practice exercises and labs help you practice and applying new concepts in the supportive environment of your peers. During that stage, collaboration is not only allowed but encouraged.

• Apply Assignments ask you to demonstrate your ability to apply the new concepts independently or occasionally with a designated assignment partner. Only assignments that explicitly allow for collaboration have a designated assignment partner.

Brief Description of Assignments/Exams

Section 003

1. Assignments (30%): Homework may be assigned from end of chapter exercises or other resources and will include several programming projects.
2. Exams (30%): There will be at least three exams during the semester. You may use any printed or online resources when you take the exams; however, you may not consult with anyone while you are taking the exam.
3. Exercises (20%): Exercises are generally smaller than Assignments but are critical to your understanding of the material.
4. Quizzes (20%): Quizzes are more numerous and generally check your understanding of the material in each chapter. You may use any printed or online resources when you take the quizzes; however, you may not consult with anyone while you are taking the quiz.

Sections 001, 501, 503
The instructions, due dates, and turn-in procedures of graded coursework are all managed through Canvas. Most of the submissions are due Wednesdays and Saturdays. However, there are some exceptions, especially at the beginning and end of the term. To accommodate work schedules and other time commitments, study materials and instructions are available at least a week in advance (except for the Orientation Module). This allows students to get most or all of the week's work done on the weekend before it is due.

Students are expected to turn in their coursework on time. Late work is accepted for a limited time, however, 3% will be deducted for every day after the due date. Some assignments are open for a fairly short time. Those tend to be assignments that rely on student interactions. If no "until date" set, coursework can be submitted up until the next module test (losing 3% per late day). Once the next Module test opens, prior coursework is no longer accepted.

- Prep Quizzes (5%): Weekly Prep Quizzes provide feedback regarding your concept understanding. They account for 5% of the course grade.

- Labs/Discussions (15%): Labs help to prepare for assignments. Discussions are typically open for a short time because they rely on student interactions. Together, labs and discussions account for 15% of the course grade.

- Assignments(30%): Programming assignments are an important part of the course. They allow students to demonstrate their ability to apply the concepts that were covered. Assignments account for 30% of the course grade.

- Exams (50%): CSIS-1410 has six exams: five module tests and one final. The module tests are coding challenges, while the final assesses your theoretical understandings of CSIS-1410 concepts. There are strict deadlines when exams can be taken, and academic integrity is paramount for all exams. If you have an exceptional situation that prevents you from taking an exam at the posted time, contact your instructor at least 24 hours in advance.

Grading

Section 002

The instructions, due dates, and turn-in procedures for graded coursework are managed through Canvas.

Most of the submissions are due Wednesdays and Saturdays. However, there are some exceptions, especially at the beginning and end of the term. Coursework is available at least a week before its due date (except for the Orientation Module) to accommodate different schedules.

• Prep Quizzes (5%): Weekly Prep Quizzes provide feedback regarding your concept understanding. They account for 5% of the course grade.

• Labs/Discussions (15%):
  ◦ Labs help to prepare for assignments.
  ◦ Discussions are typically open for a short time because they rely on student interactions.
  Together, labs and discussions account for 15% of the course grade.

• Assignments(30%): Programming assignments are an essential part of the course. They ask students to demonstrate their ability to apply the new concepts. Assignments account for 30% of the course grade.

• Exams (50%): CSIS-1410 has the following exams: 3 module tests that consist of coding challenges and one final which includes two parts: a theory part and coding challenges. The module tests are coding challenges, while the final assesses both your coding skills and theoretical understandings of CSIS-1410 concepts. Exams are administered at the posted dates during class. Academic integrity is paramount for

all exams. If you have an exceptional situation that prevents you from taking an exam at the posted time, contact me at least 24 hours in advance.

Grading Scale

Sections 001, 002, 003, 004, 501, 503

Grading Scale	A 94% - 100%	A- 90% - 93%
B+ 87% - 89%	B 84% - 86%	B- 80% - 83%
C+ 77% - 79%	C 74% - 76%	C- 70% - 73%
D+ 67% - 89%	D 64% - 66%	D- 60% - 63%
E 59% and below		

Late work Policy

Section 002

Late work Policy Please take due dates seriously. There is a high correlation between students who submit their work on time and students who complete the course successfully.

That being said, most students encounter occasional difficulties that keep them from completing their work on time. That's why most coursework can be submitted past the due date for a limited time, with a 1% late-point deduction each day after the due date and a maximum late-point deduction of 20%. These deductions add up quickly, so please make it a priority to catch up quickly after falling behind. The posted "until-date" tells you when a submission closes. At that point, it can no longer be submitted.

Please note that there are no late submissions for exams (module tests and final). Exams must be taken at the posted time unless a student experiences an exceptional situation that could not have been foreseen or prevented. If that happens to you, let me know right away, and I look for a way to accommodate your exceptional situation.

Occasionally, students encounter an unforeseeable situation that disrupts their ability to quickly catch up after falling behind, e.g., a family emergency, an unexpected health issue, a job change, etc. If that happens to you, contact me early on. This way, I can meet with you to see how I can best support you during such a challenging time.

Schedule

Section 002

Date	Topic
Week 1	Welcome / Orientation
Week 2	Java Doc / JAR String / StringBuilder
Week 3	JUnit
Week 4	Recursion
Week 5	Module 01 Test Inheritance / Polymorphism
Week 6	abstract / final UML
Week 7	Interface Class Object
Week 8	Module 02 Test Intro to GUI	WindowBuilder
Week 9	Event Handlers
Week 10	GUI Layout Managers
Week 11	2-panel layout GUI Exercises
Week 12	Module 03 Test Intro to Generic Collections Boxing / Wrapper Classes Lambda Expressions
Week 13	Generic Collections Exercises Generic Methods	Generic Types Wildcards	Erasure Team Assignment - Design
Week 14	Module 04 Test Exception Handling Intro to File I/O / Reading from a file Team Assignment - Significant Progress

Week 15	Writing to a file Serialization
Week 16	Team Assignment - Presentation Module 05 Test
Final Week	Final Exam Final Exam Schedule (Links to an external site.) Links to an external site.

Assignment Schedule

Section 003

Due Date	Assignment Name	Assignment Type	Points
	Practice - Interfaces from Java API	Quiz	0
8/2	Assignment 7: Final Project	Assignment	100
8/30	Quiz - Review of Java and Programming Language Terminology	Quiz	24
9/3	Video & Quiz - Java Doc #1	Quiz	6
9/5	Video & Quiz - Java Doc #2	Quiz	2
9/6	Video & Quiz - Runnable JAR	Quiz	3
9/9	Exercise 1: UML to a Class Definition	Assignment	50
9/13	Exercise 2: Working Backwards	Assignment	50
9/16	Quiz: Classes, Static, and Memory	Quiz	39
9/18	Video & Quiz - UML Associations and Multiplicity	Quiz	9
9/23	Exercise 3: The Card and Deck Classes	Assignment	50

Due Date	Assignment Name	Assignment Type	Points
9/25	[Video & Quiz - Inheritance Part 1](#)	Quiz	5
9/30	[Video & Quiz - Inheritance Part 1 Code](#)	Quiz	3
10/2	[Practice - Interfaces from Java API](#)	Quiz	0
10/4	[Assignment 1: Non-GUI Blackjack](#)	Assignment	100
10/7	[Video & Quiz - Inheritance Part 2](#)	Quiz	6
10/11	[Video & Quiz - Inheritance Part 2 Code](#)	Quiz	3
10/14	[Discussions - Class Relationships_PLO-CS-4](#)	Discussion	10
10/16	[Video & Quiz - Polymorphism Part 1](#)	Quiz	5
10/18	[Video & Quiz - Polymorphism Part 2](#)	Quiz	5
10/21	[Lab - Inheritance and Polymorphism_PLO-CS-1](#)	Assignment	10
10/22	[Video & Quiz - abstract | final](#)	Quiz	8
10/24	[Video & Quiz - Interfaces Part 2](#)	Quiz	12

Due Date	Assignment Name	Assignment Type	Points
10/24	Video & Quiz - Interfaces Part 1	Quiz	4
10/25	Video & Quiz - Intro to GUI and Dialogs	Quiz	3
10/28	Video & Quiz - Intro to Swing Components	Quiz	8
10/30	Video & Quiz - GUI Event Handling	Quiz	4
11/1	Assignment 2: Slide Puzzle	Assignment	100
11/4	Video & Quiz - More GUI Layouts	Quiz	7
11/6	Assignment 3: Conway's Game of Life	Assignment	100
11/8	Assignment 4: Stack-Based Calculator	Assignment	100
11/11	Exam 1: GUI Program Modification	Assignment	100
11/13	Assignment 5: Turn Right	Assignment	100
11/15	Video & Quiz - Recursion #1	Quiz	5
11/18	Assignment 6: Run the Maze	Assignment	20
11/20	Video & Quiz - Exception #1	Quiz	5

Due Date	Assignment Name	Assignment Type	Points
11/22	Video & Quiz - Exception #2	Quiz	5
11/22	Video & Quiz - Exception #3	Quiz	5
11/25	Video & Quiz - Class File	Quiz	4
11/27	Video & Quiz - Files and Streams	Quiz	3
11/29	Video & Quiz - Reading from a File	Quiz	6
12/2	Video & Quiz - Serialization	Quiz	8
12/2	Video & Quiz - Writing to a File	Quiz	7
12/5	Final Exam Project	Assignment	100

Assignment Schedule
Sections 001, 501, 503

Due Date	Assignment Name	Assignment Type	Points
	Any Questions?	Discussion	0
	Check it Out	Discussion	0
	Roll Call Attendance	Assignment	100
	Team Group Discussion	Discussion	0
8/20	Academic Honesty	Quiz	5

Due Date	Assignment Name	Assignment Type	Points
8/21	Is Hybrid /Online Learning Right for Me?	Quiz	5
8/21	Quiz Orientation	Quiz	16
8/22	CSIS-1400 Exercise review - Triangle	Assignment	20
8/22	Lab - Getting Started With Eclipse	Assignment	10
8/25	Discussion - This Is Me	Discussion	6
8/25	Review - 1400 Java Terms	Quiz	23
8/26	Video & Quiz - Java Doc #1	Quiz	6
8/26	Video & Quiz - Java Doc #2	Quiz	2
8/26	Video & Quiz - Runnable JAR	Quiz	3
8/27	Lab - Doc Comments	JAR	Assignment	10
8/28	Video & Quiz - Class String	Quiz	5
8/28	Video & Quiz - Class StringBuilder	Quiz	5
8/29	Lab - Text Manipulation	Assignment	10
9/2	Video & Quiz - jUnit #1	Quiz	5

Due Date	Assignment Name	Assignment Type	Points
9/2	Video & Quiz - jUnit #2	Quiz	4
9/5	Lab - jUnit	Assignment	10
9/5	Team Assignment - Doc Comments	Review 1400	Assignment	40
9/10	Assignment - Text Manipulation	jUnit	Assignment	40
9/11	Video & Quiz - Recursion #1	Quiz	5
9/12	Assignment - Recursion	JUnit	Assignment	40
9/13	Module 01 Test	Quiz	50
9/16	Video & Quiz - Inheritance Part 1	Quiz	5
9/16	Video & Quiz - Inheritance Part 1 Code	Quiz	3
9/16	Video & Quiz - Inheritance Part 2	Quiz	6
9/16	Video & Quiz - Inheritance Part 2 Code	Quiz	3
9/16	Video & Quiz - Polymorphism Part 1	Quiz	5
9/16	Video & Quiz - Polymorphism Part 2	Quiz	5

Due Date	Assignment Name	Assignment Type	Points
9/17	Lab - Inheritance | Polymorphism	Assignment	10
9/18	Video & Quiz - abstract | final	Quiz	8
9/19	Lab - Abstract	Assignment	10
9/23	Video & Quiz - UML Associations and Multiplicity	Quiz	9
9/24	Discussion - Class Relationships	Discussion	15
9/26	Assignment - Inheritance | Polymorphism	Assignment	40
9/30	Practice - Interfaces from Java API	Quiz	0
9/30	Video & Quiz - Interfaces Part 2	Quiz	12
9/30	Video & Quiz - Interfaces Part 1	Quiz	4
10/1	Lab - Interface	Assignment	10
10/2	Video & Quiz - Object Class	Quiz	6
10/3	Assignment - Interface	Assignment	40
10/6	Module 02 Test	Quiz	50
10/7	Lab - Getting Started With WindowBuilder	Assignment	5

Due Date	Assignment Name	Assignment Type	Points
10/7	Video & Quiz - Intro to GUI and Dialogs	Quiz	3
10/7	Video & Quiz - Intro to Swing Components	Quiz	8
10/8	Final Project_Team	Assignment	10
10/8	Lab - Intro to GUI	Assignment	10
10/9	Video & Quiz - GUI Event Handling	Quiz	4
10/10	Lab - Dice	Assignment	10
10/14	Assignment - Red Counter	Assignment	40
10/14	Video & Quiz - More GUI Layouts	Quiz	7
10/15	Lab - GUI Layout Manager	Assignment	10
10/18	Assignment - Changing Images	Assignment	40
10/20	Module 03 Test	Quiz	50
10/21	Video & Quiz - Autoboxing	Wrapper Classes	Quiz	5
10/22	Lab - Wrapper Class	Assignment	10
10/23	Video & Quiz - Class Collections	Quiz	3
10/23	Video & Quiz - Generic Collections #1	Quiz	8

Due Date	Assignment Name	Assignment Type	Points
10/23	Video & Quiz - Generic Collections #2	Quiz	3
10/28	Video & Quiz - Lambdas	Quiz	7
10/29	Lab - Collection	Assignment	10
10/31	Assignment - Generic Collections	Assignment	40
11/1	Video & Quiz - Generic Methods and Types | Bounded Types	Quiz	9
11/1	Video & Quiz - Wildcards | Erasure	Quiz	4
11/5	Lab - KeyValuePair	Assignment	15
11/7	Team Assignment - Design	Assignment	20
11/12	Module 04 Test	Quiz	50
11/12	Video & Quiz - Exception #1	Quiz	5
11/12	Video & Quiz - Exception #2	Quiz	5
11/13	Video & Quiz - Exception #3	Quiz	5
11/18	Video & Quiz - Class File	Quiz	4
11/18	Video & Quiz - Files and Streams	Quiz	7

Due Date	Assignment Name	Assignment Type	Points
11/18	Video & Quiz - Reading from a File	Quiz	6
11/18	Video & Quiz - Writing to a File	Quiz	7
11/19	Lab - Reading from a File	Assignment	10
11/19	Lab - Writing to a File	Assignment	10
11/21	Lab - BufferedReader/Writer	Assignment	10
11/21	Team Assignment - Significant Progress	Assignment	20
11/25	Video & Quiz - Serialization	Quiz	8
11/26	Lab - Serialization	Assignment	10
12/2	Course Evaluation	Assignment	15
12/2	Jamboree Video	Assignment	15
12/2	Team Assignment - Project	Assignment	60
12/4	Team Assignment - Reflection	Quiz	10
12/6	Module 05 Test	Quiz	50