

**ADLAI E. STEVENSON HIGH SCHOOL
COURSE DESCRIPTION**

CSC 251 / CSC 252 - MOBILE APP DEVELOPMENT & PROGRAMMING

COURSE DESCRIPTION

This full year course introduces students to the world of app development for iOS mobile devices (such as smartphones and tablets). Students will work in a collaborative, lab-based environment that utilizes industry-standard processes and development strategies similar to those a professional app development company might employ. Each unit begins by introducing students to specific skills and ideas that will be used to modify and redesign existing mobile apps. Each unit concludes with students applying the concepts learned to create an application on their own. Topics include: event-driven programming strategies, app structure, algorithm design, and user-interface design. Successful completion of this course provides students with a strong command of the fundamental strategies necessary to develop high quality iOS apps.

STANDARDS & LEARNING TARGETS

The learning in this course is organized around six (6) Standards that each focus on one specific learning target. Feedback on how well students are meeting proficiency in each learning target is provided using the gradation on pp 3-4 (see Scaled Learning Target.)

Standard 1: Computational Thinking
Target 1A: I can solve a computing problem using computational thinking
Standard 2: Analyzing Computational Artifacts
Target 2A: I can analyze computational artifacts
Standard 3: Creating Computational Artifacts
Target 3A: I can create a functional computer application

PROFICIENCY SCALE

The codes 1, 2, 3, 4, M, and N below will be used to communicate student progress in each learning target.

4	3	2	1	M	N
Exceeds Mastery	Demonstrates Mastery	Approaching Mastery	Developing Foundational Skills	Missing Evidence (hasn't completed yet)	Missing Evidence (refuses to complete)

PERFORMANCE ASSESSMENTS

Feedback on learning will be given through informal and formal assessments. This can occur through in-class work, programming tasks, class presentations, formative events, mid-unit, end of unit, and end-of-course assessments.

SPECIFIC COURSE ACTIVITIES

In order to make satisfactory progress towards course standards, students will need to:

1. Participate in class activities (take notes, contribute to group work, complete in class tasks, ask questions, etc.)
2. Complete assigned activities as needed in order to practice and improve learning.
3. Use formative assessments to track learning progress and identify strengths and weaknesses with the course content and complete outside practice when necessary.
4. Complete all assessments, final unit assessment and final exam.
5. Create and follow through on a plan of improvement, when demonstrating little to no understanding of learning targets.

SPECIFIC COURSE TOPICS OF STUDY

CSC 251/252	Use the Swift programming language to develop iOS applications Apply logical thinking and programming skills to program working iOS applications Select and incorporate user interface (UI) elements and design skills to create a functional user interface Implement common Apple libraries and design patterns to develop iOS apps Use professional software development tools and project management strategies to develop, store, and manage iOS apps
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REQUIRED RESOURCES

Textbook / E-Book	Students will also reference and use Apple’s App Development with Swift digital text that is supplied as a free download through course resources.
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RESOURCES

Apple Documentation	The Swift Programming Language
Developer Documentation	Start Developing iOS Apps in Swift
Canvas	https://d125.instructure.com/

MAKEUP POLICY - Remote Learning

In case of absences due to illness, please contact the teacher as soon as possible and check Canvas for any updates.

If you are missing an assessment, please follow the following steps:

- A parent must notify/email the instructor that they are aware of the absence and the missing of the assessment.
- Email the instructor that you will be out and your planned schedule to make up the assessment (within 2 days).
- Email the instructor once you have completed the assessment.

*If there are extenuating circumstances, please contact the instructor before the deadline to make alternate arrangements.

*Any assessments after the deadline will be marked as "N" and only accepted at teacher discretion for extenuating circumstances.

GRADE DETERMINATION

The Interactive Report Card ([IRC](#)) communicates missing assessments/assignments and teacher comments. The [IRC](#) will be used to communicate students’ proficiency in each learning target, overall trend towards proficiency in each standard, and the *predicted* semester letter grade.

The semester letter grade will be informed by the student’s learning proficiencies over the semester-long body of work with consideration to retained proficiencies and growth over time. Mastery of learning targets leads to mastery of course standards which in turn leads to mastery of the course.	
Semester Letter Grade	Exceeds Mastery (4) Demonstrates Mastery (3) Approaching Mastery (2) Developing Foundational Skills (1) Trends in Proficiency Levels on Course Standards

A	All standards achieved at “3” or “4” levels
B	All standards achieved at “3” or “4” levels with at most one standard at “2” level
C	All standards achieved at “3” or “4” levels with two or more standards at “2” level
D	All standards achieved at “3” or “4” levels with at most one standard at “1” level
F	All standards achieved at “3” or “4” levels with two or more standards at “1” level

Important Note: If a student has missing evidence in the form of M (can be made up) or N (cannot be made up) in any amount, then the student runs the risk of failing the course. In these cases, there may not have enough evidence to determine target proficiency nor a course grade.

SCALED LEARNING TARGETS & SUCCESS CRITERIA

Students will be given feedback on their level of proficiency towards mastery in each learning target using the gradations below. The success criteria helps to communicate the specific actions that will help students to meet the expectations of the learning target. The success criteria will be provided to students in class at the start of each unit of study.

STANDARD 1 - COMPUTATIONAL THINKING

TARGET 1A - I CAN SOLVE A COMPUTING PROBLEM USING COMPUTATIONAL THINKING			
EXCEEDS MASTERY (4) Given a specific programming problem, I can generate a highly efficient or novel solution by decomposing the problem, applying appropriate data and control structures, implementing a logical algorithm and using correct syntax	DEMONSTRATES MASTERY (3) Given a specific programming problem, I can generate an effective solution by decomposing the problem, applying appropriate data and control structures, implementing a logical algorithm and using correct syntax	APPROACHING MASTERY (2) Given a specific programming problem, I can generate a partially effective solution by decomposing the problem, applying relevant data and control structures, implementing a logical algorithm or using correct syntax	DEVELOPING FOUNDATIONAL SKILLS (1) Given a specific programming problem, I can generate a partial solution by decomposing the problem, applying a subset of relevant data and control structures, implementing an algorithm, or using partially correct syntax

STANDARD 2 - ANALYZING COMPUTATIONAL ARTIFACTS

TARGET 2A - I CAN ANALYZE COMPUTATIONAL ARTIFACTS			
EXCEEDS MASTERY (4) I can apply a systematic and intentional methodology to analyze a program for a given purpose in an increasingly complex computational artifact.	DEMONSTRATES MASTERY (3) I can apply a systematic and intentional methodology to analyze a program for a given purpose.	APPROACHING MASTERY (2) I can apply an assumption based methodology and inspection to analyze a program for a given purpose.	DEVELOPING FOUNDATIONAL SKILLS (1) I can apply inspection to analyze a program for a given purpose.

STANDARD 3 - CREATING COMPUTATIONAL ARTIFACTS

TARGET 3A - I CAN CREATE A FUNCTIONAL COMPUTER APPLICATION

<p>EXCEEDS MASTERY (4)</p> <p>I can develop a computational artifact that meets all of the given requirements and which correctly applies an appropriate set of control structures, commands, and logic in a novel or highly efficient way.</p>	<p>DEMONSTRATES MASTERY (3)</p> <p>I can develop a computational artifact that meets all of the given requirements and which correctly applies an appropriate set of control structures, commands, and logic.</p>	<p>APPROACHING MASTERY (2)</p> <p>I can develop a computational artifact that meets a subset of the given requirements and which applies an appropriate set of control structures, commands, or logic.</p>	<p>DEVELOPING FOUNDATIONAL SKILLS (1)</p> <p>With guidance, I can develop a computational artifact that meets a subset of the given requirements and which applies an appropriate set of control structures, commands, and logic</p>
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