519-938-9355   **Course Outline**   www.ugdsb.on.ca/westside

Course: ICS4U **Teacher(s): Mr. D. Pinizzotto** **Program Leader: Mr. R. Marchildon**	
Email: daniel.pinizzotto@ugdsb.on.ca	

Course Description: This course enables students to further develop knowledge and skills in computer science. Students will use modular design principles to create complex and fully documented programs, according to industry standards. Student teams will manage a large software development project, from planning through to project review. Students will also analyse algorithms for effectiveness. They will investigate ethical issues in computing and further explore environmental issues, emerging technologies, areas of research in computer science, and careers in the field.

Prerequisite - a grade 11 university computer science (ICS3U).

Big Ideas (overall learning outcomes for the course):
- Relate specifications of a program to user requirements and following the software development process the entire time
- Use control structures (loops and if statements) and simple algorithms to complete processes in a computer program in a modular way and while implementing proper Object Oriented Programming Techniques
- Develop efficient ways to complete programs using subprograms in the code in terms of creating an algorithm for one specific task
- Create efficient and effective algorithms to solve a problem
- Take input from the user in a variety of ways and process it to display the output in a unique way
- Use proper code maintenance and techniques when creating programs

Assessment and Evaluation:
Formative assessments are used to improve student learning by providing varied opportunities to demonstrate an understanding of course expectations in preparation for summative evaluations. Summative evaluations test groups of key expectations. Failure to complete a summative evaluation may result in the expectations of the course not being met and the credit not being granted.
The following soft skills will be assessed:
        Responsibility, Organization, Independent Work, Collaboration, Initiative, Self-Regulation

More details about Westside's Assessment and Evaluation Policy is available at:http://www.ugdsb.ca/westside/wp-content/uploads/sites/74/2016/12/Westside-Assessment.pdf

	Term Work (60%)
Unit of Study	**Summative Evaluations**
Discovering Computational Thinking	Knowledge Building Summative Task
Basic Computing Concepts and GUI	Unit Assignment
Arrays (Single and Multi-Dimensional), Classes and Object Oriented Programming	Unit Assignment
File Input/Output, Recursion, Searching, and Sorting	Unit Assignment
20 - Time Project	Final Product, Timeline, and Reflection
Observations and Conversations	**Assessment of Critical Thinking (10%)**
	Final Summative (30%)
	Culminating Final Assignment
	Interview/Reflection of Learning

Achievement Categories: Student learning is assessed and evaluated with respect to the following four categories of knowledge and skills.	**Knowledge and Understanding:** 25% **Thinking:** 25% **Communication:** 25% **Application:** 25%

Course Materials and Replacement Cost
None

Late Policy
Students are expected to complete all assigned work and submit it by the teacher's established due date. Every attempt will be made to encourage students to complete all assigned work on time so their grade represents their actual achievement. For late and missed summative assessments, please see the ***Westside Students' Contract for Missing Evidence of Learning***.

Student Expectations

Every student enrolled in mathematics at Westside is expected to:
- be on time to class
- be prepared for class each and every day. This means you bring a writing utensil, calculator and paper with you to class
- actively participate in class discussions
- complete homework assigned
- learn to problem solve using the techniques you will learn in class

Final Assessments/Examinations

Culminating activities for each unit must be completed by the student in order to achieve the credit. Failure to complete any one of them may result in loss of credit.

There are no extensions or exemptions for final assessments without the approval from an administrator.

The following soft skills will be assessed:

Responsibility, Organization, Independent Work, Collaboration, Initiative, Self-Regulation

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I have read and understand the course outline: (front and back)

Student Name (please print): _____

Signature: _____

Parent/Guardian Name (please print): _____

Signature: _____

Parent/Guardian email (please print):
_____