LOCKERBY COMPOSITE SCHOOL

Computer Science (ICS 4U)
Mr. Patrick Campeau
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Course Outline

Pathway	University	Credit Value	1
Prerequisite Course	None	**Google Classroom Code**	Available in class
Textbook	None	**Website**	ictedu.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.

Curriculum Strands

The curriculum strands are the following:

- Programming Concepts and Skills
- Software Development
- Computer Environments and Systems
- Topics in Computer Science

Units of Study

- Review Unit - Programming Basics, If Statements & Loops
- Review Unit – Functions, Arrays & Strings*
- Object-Oriented Programming – Part 1
- Object-Oriented Programming – Part 2
- Data Structures
- Artificial Intelligence (project)
- File I/O
- Optional Units: GUI Development, Multi-Threading, Networking

* Introducing multi-dimensional arrays

Learning Skills and Work Habits	Sample Behaviours
Responsibility	**The student:** ● fulfils responsibilities and commitments within the learning environment; ● completes and submits class work, homework, and assignments according to agreed-upon timelines; ● takes responsibility for and manages own behaviour.
Organization	**The student:** ● devises and follows a plan and process for completing work and tasks; ● establishes priorities and manages time to complete tasks and achieve goals; ● identifies, gathers, evaluates, and uses information, technology, and resources to complete tasks.
Independent Work	**The student:** ● independently monitors, assesses, and revises plans to complete tasks and meet goals; ● uses class time appropriately to complete tasks; ● follows instructions with minimal supervision.
Collaboration	**The student:** ● accepts various roles and an equitable share of work in a group; ● responds positively to the ideas, opinions, values, and traditions of others; ● builds healthy peer-to-peer relationships through personal and media-assisted interactions; ● works with others to resolve conflicts and build consensus to achieve group goals; ● shares information, resources, and expertise and promotes critical thinking to solve problems and make decisions.
Initiative	**The student:** ● looks for and acts on new ideas and opportunities for learning; ● demonstrates the capacity for innovation and a willingness to take risks; ● demonstrates curiosity and interest in learning; ● approaches new tasks with a positive attitude; ● recognizes and advocates appropriately for the rights of self and others.
Self-regulation	**The student:** ● sets own individual goals and monitors progress towards achieving them; ● seeks clarification or assistance when needed; ● assesses and reflects critically on own strengths, needs, and interests; ● identifies learning opportunities, choices, and strategies to meet personal needs and achieve goals; ● perseveres and makes an effort when responding to challenges.

Achievement Chart Categories

Achievement Category	Weightings	Assessment
Knowledge/Understanding	20 %	Assignments, Quizzes, Projects, Performance Tasks, ...
Thinking/Inquiry	25 %	Assignments, Quizzes, Projects, Performance Tasks, ...
Communication	20 %	Assignments, Quizzes, Projects, Performance Tasks, ...
Application	35 %	Assignments, Quizzes, Projects, Performance Tasks, ...

TERM   **70%**
FINAL EVALUATION   **30%**

The final evaluation will be a project of your choice related to the course material.

Classroom Requirements

- Binder & Paper
- Pen / pencil
- Calculator
- Device (if you have one)

Attendance & Missed Work

Attendance is a significant part of the evaluation process. Ministry of Education Act Regulation 298 requires: "students to attend classes punctually on a regular basis and take such tests and examinations as may be required." A credit is granted upon the completion of 110-120 hours of classroom instruction. It is the responsibility of the guardian to communicate reasons for all absences with the main office. In the event of a scheduled assessment (i.e. tests, presentations, seminars), it is the guardian's responsibility to notify the main office and the teacher regarding the student's illness in advance of when the assessment is due. If prior communication does not occur, a Doctor's note must be provided within 48 hours of the scheduled assessment, or the student will receive a mark of zero.

Contacting Your Teacher

At school, Mr. Campeau can generally be found in room 101 or room 153.

Mr. Campeau can also be contacted by via email (campeap@rainbowschools.ca).