



Cardinal Leger Secondary School

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We believe that each one, created in the image and likeness of God, is called by name into the Dufferin-Peel community to realize the Ontario Catholic School Graduate Expectations to the fullest extent possible as we all journey from the early years to vocation.

COURSE OUTLINE

Department:	Business and Technology Department
Course:	Computer Science – University
Course Code:	ICS 4U1

Common Course Calendar	Course Description:	
	<p>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.</p> <p>This course will help students address the Ontario catholic Graduate Expectation that they become effective communicators who use and integrate the Catholic faith tradition in a critical analysis of the arts, media, technology and information systems.</p>	
Ministry/ICE Curriculum Documents	Strand/Unit Title	Corresponding Catholic Graduate Expectation Indicators for each Strand/Unit
	<p>Programming Concepts and Skills</p> <ul style="list-style-type: none"> • Use different data types and expressions in writing computer programs • Describe and use modular programming concepts in the creation of computer programs • Use subprocedures when designing and writing computer programs • Use proper code maintenance techniques when creating computer programs <p>Software Development</p> <ul style="list-style-type: none"> • Manage the software development process effectively through all of its stages • Apply standard project management techniques in the context of a student-managed team project <p>Designing Modular Programs</p> <ul style="list-style-type: none"> • Apply modular design concepts • Analyze algorithms for their effectiveness in solving a problem, including various searching or sorting algorithms, and the use of recursion 	<p>CGE3c</p> <p>CGE2b</p> <p>CGE4b</p> <p>CGE2b</p> <p>CGE3c</p> <p>CGE5a</p> <p>CGE5g CGE3c</p>

	<p>Topics in Computer Science</p> <ul style="list-style-type: none"> • Learn strategies that promote environmental stewardship regarding computer use and related technologies • Analyze ethical issues, strategies and practices related to the use of computers • Analyze the impact of emerging computer technologies on society and the economy • Describe areas of research and careers related to computer science 	<p>CGE7i</p> <p>CGE5e</p> <p>CGE5e</p> <p>CGE5h</p>
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Assessment and Evaluation:

Category Weightings	Weight %
Knowledge/Understanding	25
Thinking	25
Application	30
Communication	20

Final Summative Assessments	Overall Weighting
Term Work	70 %
Course Culminating	15%
Exam	15%

Learning Skills and Work Habits

E= excellent G= good S=satisfactory N= needs improvement

Responsibility	<ul style="list-style-type: none"> • fulfills responsibility and commitments • takes responsibility for and manages own behavior • completes and submits class work, homework, and assignments according to agreed-upon timelines
Organization	<ul style="list-style-type: none"> • devises and follows a plan and process for completing tasks • establishes priorities and manages time • identifies, gathers, evaluates, and uses information, technology, and resources to complete tasks
Independent Work	<ul style="list-style-type: none"> • independently monitors, assesses, and revises plans to complete and meet goals • uses class time appropriately to complete tasks • follows instructions with minimal supervision

Collaboration	<ul style="list-style-type: none"> • accepts various roles and an equitable share work in a group • builds healthy peer-to-peer relationships • responds positively to the ideas, opinions, values, and traditions of others
Initiative	<ul style="list-style-type: none"> • Looks for and acts on new ideas and opportunities • Approaches new tasks with a positive attitude
Self-Regulation	<ul style="list-style-type: none"> • Sets own goals and monitors progress towards achieving them • Seeks clarification or assistance when needed

Missed/Late/Incomplete Assignments

It is the student's responsibility to address missed, late, or incomplete assignments. Students are expected to complete assignments and to adhere to assignment deadlines as follows.

DUE DATE	10% PENALTY	CLOSURE DATE
A due date is set by teacher	1 school day late -3% 2 school days late – 6% 3 school days late – 10% Maximum penalty of 10%	Once the closure date has passed, work is considered incomplete and a mark of zero applies.

Parent Signature _____ Student Signature _____