



ICS3U Grade 11 Intro to Computer Science Syllabus

Semester 2 – 2020-2021

Teachers: Mr. Hamilton – ahamilton@rchs.on.ca and Mr. Inrig – sinrig@rchs.on.ca

This course introduces students to computer science. Students will design software independently and as part of a team, using industry-standard programming tools and applying the software development life-cycle model. They will also write and use subprograms within computer programs. Students will develop creative solutions for various types of problems as their understanding of the computing environment grows. They will also explore environmental and ergonomic issues, emerging research in computer science, and global career trends in computer-related fields.

While we recognize and will discuss the benefits of computers to our everyday lives, we will also take the time to reflect on both the pros and cons of computers and their effect on our society and the environment. We will investigate this through a Christian worldview and ask how computers can be used for stewardship, discipleship, evangelism, and many other aspects related to our Christian faith.

Outline of Course Content

Topic	Assessments	Topics	Approximate Time
Unit 1: Computer Hardware	Opportunities in Computing Presentation The Ideal Computer for You Assignment Test	<ul style="list-style-type: none">- Types of computers- Computer parts- How hardware works- Specifications	2 weeks
Unit 2: Computer Software	A Useful App Presentation Test	<ul style="list-style-type: none">- BIOS (Firmware)- System Software- Application Software	3 weeks
Unit 3: Programming	Two small assignments, one culminating assignment Short tests	<ul style="list-style-type: none">- Computer Science Circles- Algorithms (Flowcharts and Pseudocode)- Programming with Python	9 weeks
Unit 4: Communication and Internet	Test	<ul style="list-style-type: none">- History of internet- Protocols- Security Overview	2 weeks
Unit 5: AI, Ethics, and Modern Advancements	Modern Advancements in Computing Presentation	<ul style="list-style-type: none">- What is Artificial Intelligence? How machines learn- Ethics, privacy, and security	2 weeks

Please Note: These units will likely overlap and may not be taught in this linear fashion. For example, computer programming will stretch from near the beginning to the end of our course as it will be dispersed in other units as well.

COURSE MATERIALS:

- No textbook for this course
- Computer provided when at Redeemer. You should have your own at home.
- 3-ring binder. Contents must be maintained in an organized manner.
- *Loose-leaf* lined paper and graph paper.
- Red pen, blue pen, pencils, eraser

STUDENT EXPECTATIONS

As a Christian community, we recognise and affirm that God has created us and that He loves each one of us so much that He sent His Son, Jesus Christ, as a sacrifice in our place. As adopted children of God, we are to be channels of Christ's love to others. The following rules will help us to do this in class.

- 1) **Bring ALL books/materials to class AND take them all with you when you leave.**
- 2) **Be in your assigned seat and ready to learn when the bell rings.**
- 3) **Treat each person in the room with dignity and respect (me and each other).**
- 4) **Follow directions the *first* time they're given. Politely ask if anything is unclear.**
- 5) **Follow all procedures and policies as outlined in the RCHS student handbook.**

Some Classroom Procedures:

- To go to the bathroom, ask during class. You must stay in your classroom at lunch. (Covid-19 protocol)
- Masks and 2 m distancing must be adhered to at all times. Masks may be taken off to eat or drink (when everyone is in your desk).
- The bell does not dismiss you – the teacher does. Stay in your seat until you are told you may go.
- Keep a neat and organized notebook. Notes should have dates and should be in order.
- **You** are responsible for getting any notes or assignments missed when you are absent. If you miss a lesson, check the course website and/or phone a friend and complete the assigned tasks.
- On snow days check the Edmodo page after 10:00 A.M. and complete any assigned task.
- If your assigned tasks from the previous day are not completed, a completion plan will be discussed with you, and, if necessary, your parents.

How will I be assessed?

Assessment can be classified as assessment FOR, AS or OF learning. Assessment FOR and AS learning are

Assessments FOR Learning:	Assessments AS Learning:	Assessments OF Learning:
<ul style="list-style-type: none"> - Observation - Checks of assigned work - Quizzes - Oral Questioning - Tickets Out of Class 	<ul style="list-style-type: none"> - Peer assessments including working on homework and activities together - Checking Hmk Answers 	<ul style="list-style-type: none"> - Programs you write - Assignments/Presentations - Tests - Exam

designed to help you improve your understanding (and do not count towards your mark).

According to Ontario Curriculum Policy Documents, 70% of your final mark comes from evaluations done during the course and 30% of your final mark comes from your performance on the final evaluations at the end of the course. The mark breakdown for this course is as follows:

	CATEGORY	Approximate Value	Evaluation	Type of Work	Weight
Term Assessments OF Learning 70%	K/U	20%	Term Work 70%	Tests	20%
	T/I	15%		Programs	30%
	Comm	15%		Assignments/Presentations	20%
	App	20%	Final 30%	Culminating Programming Project	15%
Exam	30%	Final Exam		15%	

*These numbers are approximate and subject to change based on assignments given.

Learning Skills are evaluated and reported separately. Each Learning Skill is reported using E, G, S or N (Excellent, Good, Satisfactory, Needs Improvement). Even though Learning Skills are not part of your mark, they are critical to your success in this course and their development is an integral part of your learning.

I encourage ongoing communication between teacher, student and parent/guardian throughout the course. Mr. Hamilton can be reached by email at ahamilton@rchs.on.ca. I hope you have a great semester!

What are the Learning Skills?

- Responsibility
- Organization
- Independent work
- Collaboration
- Initiative
- Self-regulation