



**SCIENCE DEPARTMENT**

**COURSE OUTLINE – FALL 2019**

**CS 1010: Introduction to Computing-3 (3-0-3) 90 Hours for 15 Weeks**

**INSTRUCTOR:** Dr. Ubaid Abbasi                      **PHONE:** 780-539-2976  
**OFFICE:** C-427    **E-MAIL:** UAbbasi@gprc.ab.ca  
**OFFICE HOURS:** Monday 2:30-3:30 PM or appointment by email

**CALENDAR DESCRIPTION:**

This course provides an overview of computing science concepts for students with little or no programming background. Topics include representation of data, machine architecture, operating system concepts, properties of algorithms and computational problems, syntax of a high-level procedural programming language, basic data types and control structures. Students do introductory programming in this course.

**PREREQUISITE(S)/COREQUISITE:** None

**REQUIRED TEXT/RESOURCE MATERIALS:**

Invitation to Computer Science, 8th ed., G. Michael Schneider and Judith L. Gersting. ISBN: 978-1-337-56191-4.

Introduction to Programming Using Python, Y. Daniel Liang. ISBN: 978-0132747189

**DELIVERY MODE(S):**

This course includes 3-hours of lecture per week and a 3-hour lab per week

<b>Lectures:</b>	J204	Monday	13:00 - 14:20
	J204	Friday	11:30 - 12:50
<b>Labs:</b>	E306	Wednesday	14:30 – 17:20

**COURSE OBJECTIVES:**

Be able to analyze and design algorithms. Have experience writing programs in high level languages. Be introduced to the systems software, computer architecture and computer circuits that comprise computer systems.

## LEARNING OUTCOMES:

Students will be able to analyze simple problems, design algorithms and implement solutions in a high level language. They will have a basic knowledge of computer circuits, computer architecture, and systems software.

## TRANSFERABILITY:

UA, UC, UL, AU, KUC, GMU.

**\*Warning:** Although we strive to make the transferability information in this document up-to-date and accurate, **the student has the final responsibility for ensuring the transferability of this course to Alberta Colleges and Universities.** Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at Alberta Transfer Guide main page <http://www.transferralberta.ca> or, if you do not want to navigate through few links, at <http://alis.alberta.ca/ps/tsp/ta/tbi/onlinesearch.html?SearchMode=S&step=2>

**\*\* Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability**

## EVALUATIONS:

Your final grade will be determined in the following manner:

<b>Lab Assignments</b>	<b>20%</b>
<b>Quizzes</b>	<b>20%</b>
<b>Midterm Exam</b>	<b>25%</b>
<b>Final Exam</b>	<b>35%</b>

**GRADING CRITERIA: (The following criteria may be changed to suite the particular course/instructor)**

Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**.

<b>Alpha Grade</b>	<b>4-point Equivalent</b>	<b>Percentage Guidelines</b>		<b>Alpha Grade</b>	<b>4-point Equivalent</b>	<b>Percentage Guidelines</b>
A+	4.0	90-100		C+	2.3	67-69
A	4.0	85-89		C	2.0	63-66
A-	3.7	80-84		C-	1.7	60-62
B+	3.3	77-79		D+	1.3	55-59
B	3.0	73-76		D	1.0	50-54
B-	2.7	70-72		F	0.0	00-49

## **COURSE SCHEDULE/TENTATIVE TIMELINE:**

<b>Weeks</b>	<b>Topics</b>
<b>1</b>	Introduction, Outline, Discussion and Expectations
<b>2</b>	The Algorithmic Foundations of Computer Science
<b>3</b>	Algorithm Discovery and Design
<b>4</b>	The Efficiency of Algorithms
<b>5</b>	Binary Numbers, Boolean Logic and Gates
<b>6</b>	Computer System Organization
<b>7</b>	Computer System Organization (Cont)
<b>8</b>	Introduction to Programming Language using Python
<b>9</b>	Midterm
<b>9</b>	Variables, Data types and Expressions
<b>10</b>	Mathematical Functions and Strings
<b>11</b>	Iterative Statements
<b>12</b>	Loops
<b>13</b>	Loops (Cont)
<b>14</b>	Functions
<b>15</b>	Revision

## **STUDENT RESPONSIBILITIES:**

### **STATEMENT ON PLAGIARISM AND CHEATING:**

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the College Calendar at <http://www.gprc.ab.ca/programs/calendar/> or the College Policy on Student Misconduct: Plagiarism and Cheating at <https://www.gprc.ab.ca/about/administration/policies>

\*\*Note: all Academic and Administrative policies are available on the same page.