ELT2140 Robotics - 2



If you are concerned with how your marks are being determined please consult these rubrics and then your teacher in case of an error.

These assessments are based on the CBE High School Proficiency Scale

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High School Proficiency Scale

Beginning		Developing		Proficient		Exemplary	
1	2	1	2	1	2	1	2
The student demonstrates a level of understanding and/or skill that is **not yet meeting** expectations of the course outcomes. ▪ The quality of work may be **vague** and/or **undeveloped**. ▪ Targeted adjustments to planning and instruction will be necessary for further learning in this area.		The student demonstrates a **basic level** of understanding and/or skill that meets expectations of the course outcomes. ▪ The quality of work may be **adequate** and/or **concrete**. ▪ Adjustments to planning and instruction may be necessary for further learning in this area.		The student demonstrates a **well-developed** level of understanding and/or skill that meets expectations of the course outcomes. ▪ The quality of work may be **clear** and/or **well-reasoned**. ▪ The student can be confident of being prepared for further learning in this area.		The student demonstrates a **mastery** level of understanding and/or skill that meets expectations of the course outcomes. ▪ The quality of work may be **perceptive** and/or **insightful**. ▪ The student can be confident of being prepared for further learning in this area.	
20%	40%	55%	65%	75%	85%	95%	100%

Calgary Board of Education

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Prerequisite: ELT1130: Robotics 1

OR
ELT1140: Robotics Applications

Description: Students demonstrate the fundamental concepts of sensor devices and control systems by building an electronic circuit to control a direct wire or mobile robot.

Assessment

CO2. PLAN, CREATE, EVALUATE. DES1050 [80%]

- Design and build a sensor device and control system for the robotic system
- Identify sensor control systems and subsystems used in robotic systems
- Explain sensory control circuits and components used in the robotic control system
- Operate and demonstrate the capabilities of a robotic system equipped with sensor controls
- Demonstrate established laboratory procedures and safe work practices

Assessment Item

- ☐ Robot Sensors Rubric
- ☐ Sensor Planning Rubric
- ☐ ePortfolio Assessment General Rubric *Specific to Robotics 2 sections of ePortfolio*
- ☐ Lab Procedures Rubric

CO3. COMMON, COMPETENCIES, CONNECTIONS. DES1050 [20%]

- Demonstrate basic competencies
- Make personal connections to the cluster content and processes to inform possible pathway choices

Assessment Item

- ☐ Competencies and Connections General Rubric

Robot Sensors Rubric					
Exemplary 2	Proficient 2	Developing 2	Developing 1	Beginning 2	Beginning 1
100%	85%	65%	55%	40%	20%
The student has demonstrated a clear understanding of at least **two different sensors** and demonstrates them **working together** in an integrated	The student has demonstrated a clear understanding of at least **two different sensors** but cannot demonstrate them working together in a	The student has demonstrated a clear understanding of a **single sensor system** that is functional on their robot. Documentation for how this	The student has demonstrated sensor use in class, but the documentation of how that sensor system works is not complete in the student's ePortfolio.	The student can demonstrate a sensor system separate from a robotic system.	The student has not completed any working sensor systems.

robotic hardware system. Documentation for how this sensor works is clear and presented in the student's ePortfolio.	robotic hardware system. Documentation for how this sensor works is clear and presented in the student's ePortfolio.	sensor works is clear and presented in the student's ePortfolio.			

Sensor Planning Rubric					
Exemplary 2 100%	Proficient 2 85%	Developing 2 65%	Developing 1 55%	Beginning 2 40%	Beginning 1 20%
The student has demonstrated a clear understanding of the function of multiple sensor systems . Their robot code effectively integrates the use of these sensors with motor control. That code is commented on perfectly and/or is published with a clear flowchart or description of how those sensors function. The robot motors are correctly controlled according to the program planning.	The student has demonstrated a clear understanding of the function of multiple sensor systems . Their robot code effectively integrates the use of these sensors with motor control. That code is either poorly commented on or is published without a flowchart or description of how those sensors function.	The student has demonstrated a clear understanding of a single sensor system. Their robot code effectively integrates the use of these sensor with motor control. That code is either poorly commented on or is published without a flowchart or description of how those sensors function.	The student has demonstrated a clear understanding of a single sensor system. Their robot code can read these sensors without motor control. That code is either poorly commented on or is published without a flowchart or description of how those sensors function.	The student has completed most of the documentation for a single robotic sensor system, but has not completed a functional robot.	The student has not attempted a working sensor system.

Lab Procedures General Rubric					
Exemplary 2	Proficient 2	Developing 2	Developing 1	Beginning 2	Beginning 1

100%	85%	65%	55%	40%	20%
Student follows safe work procedures and proper ergonomics while working.			Student occasionally follows safe work procedures and proper ergonomics while working.		Student rarely follows safe work procedures and proper ergonomics while working.

ePortfolio Assessment Rubric

Exemplary 2 100%	Proficient 2 85%	Developing 2 65%	Developing 1 55%	Beginning 2 40%	Beginning 1 20%
Student's ePortfolio is complete and files follow all naming conventions. All files are in the correct file format. Sub folders are used effectively.	Student's ePortfolio is complete and most files follow naming conventions. All files are in the correct file format. Sub folders are used ineffectively.	Student's ePortfolio is mostly complete and most files follow naming conventions. Most files are in the correct file format.	Student's ePortfolio is partially complete and most files follow naming conventions. Many files are not in the correct file format.	Student's portfolio is incomplete OR naming conventions aren't followed.	Student's portfolio is incomplete AND naming conventions aren't followed.