

COURSE OUTLINE			
TERM: FALL 2022		COURSE NO: APSC 111	
INSTRUCTOR:		COURSE TITLE: COMPUTER AIDED DESIGN-SolidWorks	
OFFICE:	LOCAL:	SECTION NO(S):	CREDITS: 1.0
E-MAIL:			
OFFICE HOURS:			
COURSE WEBSITE:			

Capilano University acknowledges with respect the Lilwat7úl (Lil'wat), x^wməθk^wəyám (Musqueam), shíshálh (Sechelt), Skwxwú7mesh (Squamish), and Səlílwətaʔ/Selilwitulh (Tsleil-Waututh) people on whose territories our campuses are located.

COURSE FORMAT

One hour of class time for a 15-week semester, which includes two weeks for final exams.

COURSE PREREQUISITES

Pre-calculus 12 or BMTH 054 or MATH 105 or Calculus MPT

CALENDAR DESCRIPTION

In this project-based course, leading to a micro-credential, students will be introduced to the principles of computer aided design. Case studies and sample problems will be used to elucidate these principles and conventions. The main software tool used in this course will be SOLIDWORKS, a common design tool used in Industrial design. Students will participate in the design of an original solution that will be fabricated using 3D printers.

COURSE NOTE

APSC 111 is an approved Science course.

APSC 111 is an approved Quantitative/Analytical course for baccalaureate degrees.

This course is not intended for students in the Engineering programs. Students who receive credit for APSC 130 or APSC 140 cannot receive credit for APSC 111.

REQUIRED TEXTS, RESOURCES, AND TECHNOLOGY

Required Texts

None

Required Technology

To participate in this course, you will need to have access to a device (laptop or computer) and WIFI.

COURSE STUDENT LEARNING OUTCOMES

On successful completion of this micro-credential course, students will be able to do the following:

- Apply their creativity and their existing mathematical, scientific, drafting and technical knowledge to the solution of design problems.
- Demonstrate an introductory knowledge of computer aided design and computer aided engineering to solve design problems in a selection of engineering disciplines.
- Show proficiency in the use of CAD tools such as SolidWorks
- Build and evaluate the performance of a specific design using CAD.

COURSE CONTENT

The following topics will be covered in the course, not necessarily in the listed order:

Topics	Hours (approx.)
Introduction to SolidWorks, basic part modeling	2.0
SolidWorks advanced part modeling	4.0
SolidWorks assembly modeling	4.0
SolidWorks advanced assembly	4.0
SolidWorks design and 3D printing	1.0
Total	15.0

LECTURES

The lectures will illustrate and discuss principles of modern Computer Aided Design process. Students will complete a given engineering design and 3D print it for evaluation.

COMPUTER ACCESS

Drop-in access to the University computers is available during the hours posted outside each lab, subject to computer availability. Please respect the directions of the instructor in the lab if asked to leave the lab due to a class booking.

EVALUATION PROFILE

Final grades for the course will be computed based on the following schedule:

Class Participation	10%
In-class exercises	30%
Design project and 3D printing	30%
Final Exam	30%
TOTAL	100%

Participation grades are based on the consistency, quality, and frequency of contributions to class discussions and in-class group activities. A detailed rubric will be provided by the instructor.

GRADING PROFILE

Letter grades will be assigned according to the following guidelines:

A+ = 90-100	B+ = 77-79	C+ = 67-69	D = 50-59
A = 85-89	B = 73-76	C = 63-66	F = 0-49
A- = 80-84	B- = 70-72	C- = 60-62	

Students should refer to the University Calendar for the effect of the above grades on grade point average.

LATE ASSIGNMENTS

Late assignments will receive a late penalty of 10% per day.

INCOMPLETE GRADES

Grades of Incomplete "I" are assigned only in exceptional circumstances when a student requests extra time to complete their coursework. Such agreements are made only at the request of the student, who is responsible to determine from the instructor the outstanding requirements of the course.

MISSED EXAMS/QUIZZES/LABS

Normally, a score of zero will be given for a missed exam, test, quiz, lab, etc. In some exceptional situations, the student will be permitted to write a make-up test, defer the lab to a later date or to replace the score by other marks.

The situations in which a score of zero may be avoided are those for which the student meets all of the following conditions:

1. Circumstances are beyond the control of the student which resulted in the exam, test, quiz, lab, etc. to be missed. Such circumstances include serious illness or injury, or death of close family member. They do not include forgetting about the test, lack of preparation for the test, work-related or social obligations.
2. The student has notified the instructor (or the School of STEM office staff, if the instructor is not available) about the missed exam, test, quiz, lab, etc. Such notification must occur in advance, if possible, or at the latest, on the day of the exam, test, quiz, lab, etc.
3. Proof of the circumstances must be provided. Proof of illness or injury may require a note from a doctor, who may also be consulted.
4. The student has been fully participating in the course up until the circumstances that prevented the writing of the exam, test, quiz, lab, etc. Fully participating means attending almost all classes and turning in almost all assignments in the course.

The options offered to the student who meets the four conditions are decided by the instructor. They will not necessarily meet the convenience of the student.

ATTENDANCE

Attendance at lectures, labs and tutorials is expected. You are responsible for all information given in the lectures, labs and tutorials, including the times of tests and deadlines for assignments.

ENGLISH USAGE

Students are expected to use correct standard English in their written and oral assignments, exams, presentations, and discussions. Failure to do so may result in reduced grades in any part of the Evaluation Profile. Please refer to the guidelines provided in the Capilano Guide to Writing Assignments (available from the University Bookstore).

ONLINE COMMUNICATION

Outside of the classroom, instructors will (if necessary) communicate with students using either their official Capilano University email or eLearn; please check both regularly. Official communication between Capilano University and students is delivered to students' Capilano University email addresses only.

UNIVERSITY OPERATIONAL DETAILS

Tools for Success

Many services are available to support student success for Capilano University students. A central navigation point for all services can be found at: <https://www.capilanou.ca/student-life/>

Capilano University Security: download the [CapU Mobile Safety App](#)

Policy Statement (S2009-06)

Capilano University has policies on Academic Appeals (including appeal of final grade), Student Conduct, Academic Integrity, Academic Probation and other educational issues. These and other policies are available on the University website.

Academic Integrity (S2017-05)

Any instance of academic dishonesty or breach of the standards of academic integrity is serious and students will be held accountable for their actions, whether acting alone or in a group. See policy and procedures S2017-05 Academic Integrity for more information: <https://www.capilanou.ca/about-capu/governance/policies/>

Violations of academic integrity, including dishonesty in assignments, examinations, or other academic performances, are prohibited and will be handled in accordance with the Student Academic Integrity Procedures.

Academic dishonesty is any act that breaches one or more of the principles of academic integrity. Acts of academic dishonesty may include but are not limited to the following types:

Cheating: Using or providing unauthorized aids, assistance or materials while preparing or completing assessments, or when completing practical work (in clinical, practicum, or lab settings), including but not limited to the following:

- Copying or attempting to copy the work of another during an assessment;
- Communicating work to another student during an examination;
- Using unauthorized aids, notes, or electronic devices or means during an examination;
- Unauthorized possession of an assessment or answer key; and/or,
- Submitting of a substantially similar assessment by two or more students, except in the case where such submission is specifically authorized by the instructor.

Fraud: Creation or use of falsified documents.

Misuse or misrepresentation of sources: Presenting source material in such a way as to distort its original purpose or implication(s); misattributing words, ideas, etc. to someone other than the original source; misrepresenting or manipulating research findings or data; and/or suppressing aspects of findings or data in order to present conclusions in a light other than the research, taken as a whole, would support.

Plagiarism: Presenting or submitting, as one's own work, the research, words, ideas, artistic imagery, arguments, calculations, illustrations, or diagrams of another person or persons without explicit or accurate citation or credit.

Self-Plagiarism: Submitting one's own work for credit in more than one course without the permission of the instructors, or re-submitting work, in whole or in part, for which credit has already been granted without permission of the instructors.

Prohibited Conduct: The following are examples of other conduct specifically prohibited:

- Taking unauthorized possession of the work of another student (for example, intercepting and removing such work from a photocopier or printer, or collecting the graded work of another student from a stack of papers);
- Falsifying one's own and/or other students' attendance in a course;
- Impersonating or allowing the impersonation of an individual;
- Modifying a graded assessment then submitting it for re-grading; or,
- Assisting or attempting to assist another person to commit any breach of academic integrity.

Sexual Violence and Misconduct

All Members of the University Community have the right to work, teach and study in an environment that is free from all forms of sexual violence and misconduct. Policy B401 defines sexual assault as follows:

Sexual assault is any form of sexual contact that occurs without ongoing and freely given consent, including the threat of sexual contact without consent. Sexual assault can be committed by a stranger, someone known to the survivor or an intimate partner.

Safety and security at the University are a priority and any form of sexual violence and misconduct will not be tolerated or condoned. The University expects all Students and Members of the University Community to abide by all laws and University policies, including B.401 Sexual Violence and

Misconduct Policy and B.401.1 Sexual Violence and Misconduct Procedure (found on Policy page <https://www.capilanou.ca/about-capu/governance/policies/>)

Emergencies: Students are expected to familiarise themselves with the emergency policies where appropriate and the emergency procedures posted on the wall of the classroom.