





Applied Studies (APST) 255

Computer Aided Design (Revision 1)

Status:

Replaced with new revision, see the [course listing](#)  for the current revision 

Delivery mode:

Individualized study online 

Credits:

3

Area of study:

Applied Study

Prerequisites:

Basic trigonometry and algebra are recommended

Precluded:

None

Challenge:

APST 255 has a challenge for credit option.

Faculty:

Faculty of Science and Technology 

Notes:

APST 255: Computer Aided Design is intended for students enrolled in the BSc (Architecture) program at the RAIC Centre for Architecture at Athabasca University. For those students interested in pursuing a career as a registered architect, this course



also contributes to the [RAIC Syllabus Diploma](#) .

Overview

APST 255: Computer Aided Design explores the fundamentals of Computer Aided Design (CAD). In this course, you will explore the use of computer technology to develop your ability to create innovative design solutions using critical thinking.

APST 255 is one of three communications courses that introduces the basic techniques and drawing systems of graphic representation in architecture. Together, these three courses are designed to help you develop a process of visualization, analysis, practice, and representation for the purpose of graphic communication.

Outline

APST 255 is comprised of the following projects:

- Project 0: The Architecture of Computer Aided Design
- Project 1: Massing in Three Dimensions
- Project 2: Drafting in Two Dimensions
- Project 3: Building Information Modeling
- Project 4: Implementing CAD
- Project 5: CAD and the Future of Architecture – Reflecting on What You Have Learned

Learning outcomes

After successfully completing this course, you will acquire proficiency in the following areas:



1. *Ability* to use representational media, specifically computer technology, to convey essential information at each stage of the pre-design and design process. This will include techniques for two- and three-dimensional representation.
2. *Ability* to articulate a design process grounded in theory and practice, an understanding of design principles and methods, and the critical analysis of architectural precedents.
3. *Ability* to assess, as an integral part of design, the appropriate combinations of materials, components, and assemblies in the development of detailed architectural elements through drawing and modeling.
4. *Ability* to make technically precise drawings in order to document a design project.
5. *Understanding* of how computerization is affecting architectural practice.
6. *Ability* to raise clear and precise questions; record, assess, and comparatively evaluate information; synthesize research findings and test potential alternative outcomes against relevant criteria and standards; and reach well-supported conclusions related to computerization.
7. *Ability* to write, speak, and use visual media effectively to appropriately communicate on structural matters related to the architectural discipline within the profession and with the general public.


Evaluation

Your work in this course will be evaluated based on five projects. A final course grade of 67% or higher is required to pass the course. Grading information is summarized in the following table:

Activity	Weight
Collection 1: Massing in Three Dimensions	25%
Collection 2: Drafting in Two Dimensions	25%




Activity	Weight
Collection 3: Building Information Modeling	25%
Collection 4: Implementing CAD	15%
Collection 5: CAD and the Future of Architecture – Reflecting on What You Have Learned	10%
Total	100%

To learn more about assignments and examinations, please refer to Athabasca University's [online Calendar](#) .

Students who wish to be certified by the Canadian Architectural Certification Board must achieve and maintain a grade point average of 67% or greater.

Materials

This course either does not have a course package or the textbooks are open-source material and available to students at no cost. This course has a **Course Administration and Technology Fee** , but students are not charged the Course Materials Fee.

Each project may include required reading or online resources linked through the Study Guide.

Students must also have access to the following CAD packages (which are available as student versions at no charge):

- SketchUp
- AutoCAD
- Revit

Challenge for credit

Overview



The challenge for credit process allows you to demonstrate that you have acquired a command of the general subject matter, knowledge, intellectual and/or other skills that would normally be found in a university-level course.

Full information about **challenge for credit** [↗](#) can be found in the Undergraduate Calendar.

Evaluation





To **receive credit** [↗](#) for the APST 255 challenge registration, you must achieve a grade of at least **D (50 percent)** [📄](#) on each collection.

Activity	Weight
Examples of 3D Massing Models	25%
Examples of 2D Drafting	25%
Examples of Building Information Models	25%
Summary of Student CAD Experience	15%
Reflections on the Future of CAD + 2 images for the Online Gallery	10%
Total	100%

[📄](#) **Challenge for credit course registration form**



Important links

- › [Academic advising](#) 
- › [Program planning](#) 
- › [Request assistance](#) 
- › [Support services](#) 

Athabasca University reserves the right to amend course outlines occasionally and without notice. Courses offered by other delivery methods may vary from their individualized study counterparts.

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