









# Architecture (ARCH) 525

## Architectural Design: Lighting (Revision 3)

<b>Status:</b>	Replaced with new revision, see the <a href="#">course listing</a>  for the current revision 
<b>Delivery mode:</b>	Individualized study online  with <a href="#">eText</a> 
<b>Credits:</b>	3
<b>Area of study:</b>	Architecture
<b>Prerequisites:</b>	Enrollment in the Graduate Diploma in Architecture program, or referral from the Canadian Architectural Certification Board (CACB) for individuals with a professional degree in architecture from a university outside Canada.
<b>Precluded:</b>	None
<b>Faculty:</b>	<a href="#">Faculty of Science and Technology</a> 
<b>Notes:</b>	For those students interested in pursuing a career as a registered architect, this course contributes to the RAIC Syllabus Diploma. Information about the <a href="#">RAIC Syllabus Diploma</a>  is available on the RAIC website.

**Credit may be transferred for previous work considered equivalent.**

## Overview

*Architecture 525* introduces students to the art and science of light and lighting. It discusses the interaction of light, lighting application technologies, and their physiological and psychological impact on people. ARCH 525 also focuses on visual characteristics, inter-relationships with adjacent systems, performance, and cost efficiency.

Architecture is experienced through all the senses, but the primary mode is visual. Both daylighting and electric lighting play essential roles in shaping the experience.

## Outline

The course is divided into three major parts, and is further divided into a total of nine units, as listed below:

### **Part 1: Human Factors in Lighting**

- Unit 1: Lighting Spaces: An Overview
- Unit 2: Light and Perception
- Unit 3: Lighting Program Requirements: Guides, Standards, and Research for Creative Lighting Solutions

### **Part 2: Lighting Design and Application**

- Unit 4: Lighting Design Principles and Process
- Unit 5: Applied Lighting Design
- Unit 6: Quantitative Analysis in Lighting Design

### **Part 3: Lighting Technology**

- Unit 7: Daylighting
- Unit 8: Electric Lighting Sources
- Unit 9: Electric Lighting Luminaire

## Learning outcomes

ARCH 525 will provide you with an understanding of techniques for evaluating an illumination design for a space considering a wide range of criteria, including perception, physiological requirements and impacts, system efficiency and effectiveness, and sustainable design.

## Evaluation

Your work in this course will be evaluated based on four assignments. Assignments 1, 2, and 3 (worth 25% each) consist of problems and questions drawn from the units. Assignment 4 will cover the entire course and is worth 25% of your final grade.


To **receive credit** [!\[\]\(a03a7eb2f4046e1d3c76772003e549ea\_img.jpg\)](#) for ARCH 525 students must complete all four assignments.


Grades will be distributed as follows:

Activity	Weight
Assignment 1 (Part 1: Units 1, 2, and 3)	25%
Assignment 2 (Part 2: Units 4, 5, and 6)	25%
Assignment 3 (Part 3: Units 7, 8, and 9)	25%
Assignment 4 (entire course)	25%
<b>Total</b>	<b>100%</b>



You must achieve a cumulative grade of 67% or higher to receive credit for ARCH 525.

## Materials

Grondzik, Walter T., & Kwok, Alison G., (2015). *Mechanical and electrical equipment for buildings* (12<sup>th</sup> ed.). Hoboken, NJ: Wiley.  (eText)

Karlen, M., Spangler, C., & Benya, J. (2017). *Lighting design basics* (3<sup>rd</sup> ed.). Hoboken, NJ: Wiley.  (eText)

## eTexts

Registration in this course includes electronic textbooks. For more information on **electronic textbooks** , please refer to our **eText Initiative site** .

## Other Materials

The course materials also include an online study schedule, study guide and course website

## Important links

- › [RAIC Centre for Architecture](#) 
- › [Graduate Diploma in Architecture](#) 
- › [Courses](#) 
- › [Fees and Funding](#) 

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.

*Opened in Revision 3, October 10, 2018*

*Updated February 9, 2024*

