

## ARCH105 : Perspective Graphics with Introduction to SketchUp and Rhinoceros

### General Information

Author:	<ul style="list-style-type: none"><li>David D Martin</li></ul>
Course Code (CB01) :	ARCH105
Course Title (CB02) :	Perspective Graphics with Introduction to SketchUp and Rhinoceros
Department:	ARCH
Proposal Start:	Spring 2025
TOP Code (CB03) :	(0201.00) Architecture and Architectural Technology
CIP Code:	(04.0901) Architectural Technology/Technician.
SAM Code (CB09) :	Clearly Occupational
Distance Education Approved:	No
Will this course be taught asynchronously?:	No
Course Control Number (CB00) :	CCC000564607
Curriculum Committee Approval Date:	05/22/2024
Board of Trustees Approval Date:	07/16/2024
Last Cyclical Review Date:	05/22/2024
Course Description and Course Note:	ARCH 105 is a course in technical perspective. Skills are developed in manual drawing techniques of various architectural subjects using formal two-dimensional methods. Introduction to two three-dimensional drawing programs, SketchUp and Rhinoceros is also included. Software topics include graphics user interface, surface editing, rendering, 2d drawing, extrusions, lofting, and digital output.
Justification:	Mandatory Revision
Academic Career:	<ul style="list-style-type: none"><li>Credit</li></ul>
Author:	

### Academic Senate Discipline

Primary Discipline:	<ul style="list-style-type: none"><li>Architecture</li></ul>
Alternate Discipline:	No value
Alternate Discipline:	No value

### Course Development

Basic Skill Status (CB08) Course is not a basic skills course.	Course Special Class Status (CB13) Course is not a special class.	Grading Basis <ul style="list-style-type: none"><li>Grade with Pass / No-Pass Option</li></ul>
<input type="checkbox"/> Allow Students to Gain Credit by Exam/Challenge	Pre-Collegiate Level (CB21) Not applicable.	Course Support Course Status (CB26) Course is not a support course

## Transferability & Gen. Ed. Options

### General Education Status (CB25)

Not Applicable

### Transferability

Transferable to both UC and CSU

### Transferability Status

Approved

## Units and Hours

### Summary

<b>Minimum Credit Units (CB07)</b>	3
<b>Maximum Credit Units (CB06)</b>	3
<b>Total Course In-Class (Contact) Hours</b>	108
<b>Total Course Out-of-Class Hours</b>	54
<b>Total Student Learning Hours</b>	162

### Credit / Non-Credit Options

#### Course Type (CB04)

Credit - Degree Applicable

#### Noncredit Course Category (CB22)

Credit Course.

#### Noncredit Special Characteristics

No Value

#### Course Classification Code (CB11)

Credit Course.

Variable Credit Course

#### Funding Agency Category (CB23)

Not Applicable.

Cooperative Work Experience  
 Education Status (CB10)

### Weekly Student Hours

	<b>In Class</b>	<b>Out of Class</b>
Lecture Hours	1.5	3
Laboratory Hours	4.5	0
Studio Hours	0	0

### Course Student Hours

<b>Course Duration (Weeks)</b>	18
<b>Hours per unit divisor</b>	0
<b>Course In-Class (Contact) Hours</b>	
Lecture	27
Laboratory	81
Studio	0
<b>Total</b>	108
<b>Course Out-of-Class Hours</b>	
Lecture	54
Laboratory	0
Studio	0
<b>Total</b>	54

## Time Commitment Notes for Students

No value

## Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
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No Value	No Value	No Value	No Value
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## Pre-requisites, Co-requisites, Anti-requisites and Advisories

### Prerequisite

ARCH101 - Drafting And Basic Design (in-development)

#### Objectives

- Describe the meaning of basic architectural vocabulary terms.
- Demonstrate proficiency in drawing on vellum and in the use of drawing instruments by the completion of various drawing assignments.
- Describe limited examples of the use of the International Building Code as it applies to residential construction.

## Entry Standards

Entry Standards

## Course Limitations

Cross Listed or Equivalent Course

## Specifications

Methods of Instruction

Methods of Instruction	Lecture
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Methods of Instruction	Laboratory
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Methods of Instruction	Multimedia
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**Methods of Instruction**

Guest Speakers

**Out of Class Assignments**

- Weekly forum posts (e.g. short written response to weekly forum question)
- Individual and group projects (e.g. completion of projects from lab manual)
- Written research (e.g. writing a research paper on an assigned topic)
- Field trips

**Methods of Evaluation****Rationale**

Project/Portfolio

Individual projects (e.g. projects assigned from the lab manual or by the instructor)

Exam/Quiz/Test

Performance tests (e.g. a timed drawing test)

Exam/Quiz/Test

Midterm examination (e.g. a performance-based drawing project)

Exam/Quiz/Test

Final examination (e.g. performance-based final drawing project)

Project/Portfolio

Portfolio review and critique (e.g. a critique of all of the work that the student has accomplished during the course)

**Textbook Rationale**

No Value

**Textbooks****Author****Title****Publisher****Date****ISBN**

Martin, D.

Perspective Graphics Lab  
ManualGlendale:  
Glendale  
Community  
College Bookstore

2019

**Other Instructional Materials (i.e. OER, handouts)****Description**

Rhinoceros Level 1: Training Manual Level 1 v5

**Author**

Fugier, M.

**Citation**

No value

**Online Resource(s)****Materials Fee**

No value

**Learning Outcomes and Objectives****Course Objectives**

Draw formal perspective drawings using manual drawing methods.

Utilize SketchUp drawing software program.

Design models using Rhinoceros drawing software program.

Create a manual and digital portfolio of work completed using traditional drawing techniques, SketchUp, Layout, and Rhinoceros.

## SLOs

**Discuss the concepts used in perspective graphics.**

Expected Outcome Performance: 70.0

ILOs Communicate clearly, ethically, and creatively; listen actively and engage respectfully with others; consider situational, cultural, and personal  
Core contexts within or across multiple modes of communication.  
ILOs

**List and describe the software programs used to complete perspective drawings.**

Expected Outcome Performance: 70.0

ILOs Communicate clearly, ethically, and creatively; listen actively and engage respectfully with others; consider situational, cultural, and personal  
Core contexts within or across multiple modes of communication.  
ILOs

**Describe the process and concepts to create a portfolio of the student's work.**

Expected Outcome Performance: 70.0

ILOs Communicate clearly, ethically, and creatively; listen actively and engage respectfully with others; consider situational, cultural, and personal  
Core contexts within or across multiple modes of communication.  
ILOs

## Additional SLO Information

**Does this proposal include revisions that might improve student attainment of course learning outcomes?**

No

**Is this proposal submitted in response to learning outcomes assessment data?**

No

**If yes was selected in either of the above questions for learning outcomes, explain and attach evidence of discussions about learning outcomes.**

No Value

**SLO Evidence**

No Value

## Course Content

### Lecture Content

#### Traditional Two-Point Perspective (6 Hours)

- Orthographic and isometric projection
- Project setup and procedure

- Traditional drafting techniques

#### **Introduction to the SketchUp Software Program (9 Hours)**

- Toolbars
- Drawing techniques
- Presentation methods
- Window styles
- Adding color and textures to models
- Printing and exporting drawings

#### **Introduction to the Rhinoceros Software Program (8 Hours)**

- User interface
- 2D drawing
- Surface creating and editing
- Extruding
- Lofting
- Rendering
- Printing and exporting drawings

#### **Presentation of Portfolio (2 Hours)**

- Creation of a portfolio
- Final presentation of projects

#### **Introduction to the LayOut Software (2 Hours)**

- Toolbars
- Selecting and modifying the border
- Inserting the SketchUp model views
- Adding text
- Printing the sheet

**Total Hours: 27**

### **Laboratory/Studio Content**

#### **Traditional Two-Point Perspective (6 Hours)**

- Orthographic and isometric projection
- Project setup and procedure
- Traditional drafting techniques

#### **Introduction to the SketchUp Software Program (34 Hours)**

- Toolbars
- Drawing techniques
- Presentation methods
- Window styles
- Adding color and textures to models
- Printing and exporting drawings

#### **Introduction to the Rhinoceros Software Program (26 Hours)**

- User interface
- 2D drawing
- Surface creating and editing
- Extruding
- Lofting
- Rendering
- Printing and exporting drawings

#### **Presentation of Portfolio (6 Hours)**

- Creation of a portfolio
- Final presentation of projects

#### **Introduction to the LayOut Software (9 Hours)**

- Toolbars
- Selecting and modifying the border
- Inserting the SketchUp model views
- Adding text
- Printing the sheet

**Total Hours: 81**

### **Additional Information**

Is this course proposed for GCC Major or General Education Graduation requirement? If yes, indicate which requirement in the two areas provided below.

No

**GCC Major Requirements**

No Value

**GCC General Education Graduation Requirements**

No Value

**Repeatability**

Not Repeatable

**Justification (if repeatable was chosen above)**

No Value

## **Resources**

**Did you contact your departmental library liaison?**

No

**If yes, who is your departmental library liaison?**

No Value

**Did you contact the DEIA liaison?**

No

**Were there any DEIA changes made to this outline?**

No Value

**If yes, in what areas were these changes made:**

No Value

**Will any additional resources be needed for this course? (Click all that apply)**

No Value

**If additional resources are needed, add a brief description and cost in the box provided.**

No Value