GAVILAN COLLEGE

5055 Santa Teresa Blvd
Gilroy, CA 95023

Course Outline

COURSE: CGD 30   DIVISION: 50   ALSO LISTED AS:

TERM EFFECTIVE: Summer 2017   **Inactive Course**

SHORT TITLE: ENVIRONMENTAL DESIGN

LONG TITLE: Environmental Design

Units	Number of Weeks	Type	Contact Hours/Week	Total Contact Hours
3	18	Lecture:	2	36
		Lab:	3	54
		Other:	0	0
		Total:	5	90

COURSE DESCRIPTION:

Design and develop conceptual plans using freehand sketches and building information modeling (BIM) to produce rendered interior and exterior pictorials. Refine resultant 3D BIM models to address complexity of architectural design by meeting user's needs with an environmentally sound, cost effective, aesthetically pleasing design solution that complies with planning requirements and building code regulations. Generate plans and schedules to produce portions of construction documents required for obtaining building permits and providing bidding documents. Prepares students with technical design sills required for entering environmental planning and construction management. ADVISORY: CGD 2

PREREQUISITES:

COREQUISITES:

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES
        L - Standard Letter Grade

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:
        02 - Lecture and/or discussion
        03 - Lecture/Laboratory
        04 - Laboratory/Studio/Activity
        05 - Hybrid
        72 - Dist. Ed Internet Delayed

STUDENT LEARNING OUTCOMES:

1.   Create working drawings for project in compliance with environmental planning/architectural standards.

Measure: BIM generated working drawings

PLO: 3

ILO: 2.2, 2.3, 3.3

GE-LO: B-3

Year assessed or anticipated year of assessment: 2012

2.   Develop a design that addresses user's needs in a cost effective, environmentally sound, aesthetically pleasing manner.

Measure: Class design projects

PLO: 2, 4, 1, 3

ILO: 1.1, 1.3 2.1, 2.4. 3.2,

4.1. 5.1, 6.4

GE-LO: A-2, B

Year assessed or anticipated year of assessment: 2012

3.   Design and prepare presentations of plans that can be used to apply for position or university to meet career objective.

Measure: portfolio

PLO: 2, 3, 1, 4, 5

ILO: 1.5, 2.6,

GE-LO: 1.5, 2.6,

3.2, 4.2, 5.1, 6.1

Year assessed or anticipated year of assessment: 2012

PROGRAM LEARNING OUTCOMES:

CGD Environmental Design Concentration

1) Describe specialized skills for entry and success in desired environmental career and prepare samples of work that demonstrate entry level proficiencies.

2) Use design problem solving to propose an aesthetically pleasing sustainable environment that satisfactorily addresses clients needs.

3) Apply design principles and color theory when developing presentations.

4) Design environments that that demonstrate knowledge of human factors and ergonomic principles.

5) Develop an electronic portfolio to present to potential clients/employers.

6) Specify materials that are cost effective and environmentally sound.

7) Prepare drawings that are consistent with architectural standards.

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Inactive Course: 02/27/2017 Effective Summer 2017

8 Hours

CONTENT: Introduction to Environmental Design and Planning: Develop Program and Apply Natural and Regulatory considerations to Site and Initial Design—Bubble Diagram to develop room relationships.

SPO: Intro of BIM and initial design of, development of internal spaces structure.

LAB/HOMEWORK: Itemize local building regulations in terms of setbacks and design restrictions. Develop program for client identify design constrains and environmental factors. Develop bubble diagrams. Initiate room layout in BIM. Critique initial plans.

8 Hours

CONTENT: Sustainable Practices, Overview of Wall Framing and Insulation systems and LEED or other environmental rating systems. Intro to BIM Walls and Families.

SPO: Apply LEED or other rating system have students assess various construction materials, Create Wall families for Interior and Exterior walls.

LAB/HOMEWORK: Create sustainable specs for wall system using architectural standards. Create and locate wall systems.

8 Hours

CONTENT: Windows, Doors and Circulation. ID systems and introduction of schedules.

SPO: Select window and door to support plans to optimize environmental conditions

LAB/HOMEWORK: Layout windows, doors and revise walls to accommodate circulation and door swings.

10 Hours

CONTENT: Floor Systems, Zones and Plumbing Considerations

SPO: Add floors then create zones for different room types add plumbing fixtures to service areas

LAB/HOMEWORK: Create floor systems—slab vs. wood frame, add then room areas, and add plumbing fixtures and total design of Master Bathroom.

10 Hours

CONTENT: Furnishing & Interior Finishes, More families and adding colors and finishes to room schedule.

SPO: Develop Interior Design to support client's activities in aesthetically pleasing manner

LAB/HOMEWORK: Add furnishings that support user's needs develop furniture selections, color schemes and finish materials that create a coordinated life style .

10 Hours

CONTENT: Solar panels, electrical needs and roof and framing plans.

SPO: Integrating roof plans with passive cooling and heating and solar plans and solar angles for passive heating and cooling.

LAB/HOMEWORK: Determine roofing materials - use framing tables for developing roofing plan.

9 Hours

CONTENT: Building elevations and landscape design.

SPO: Create exterior elevations and planting schedules—apply LEED or other environmental rating system for planting selection, in terms of xeriscaping, indigenous vegetation and passive solar design.

LAB/HOMEWORK: Generate elevations. Provide planting schedules.

8 Hours

CONTENT: Standards for assembling plans into a coherent set

SPO: Create a portfolio section that demonstrates skills in environmental design

LAB/HOMEWORK: Create digital set of working drawings using industry standards

2 Hours

Final Exam: Present Final Portfolio

METHODS OF INSTRUCTION:

Lecture, discussion, field experiences, guest lectures, demonstrations to support independent and group design and research projects reinforced by instructor and peer critiques.

METHODS OF EVALUATION:

CATEGORY 1 - The types of writing assignments required:

Percent range of total grade: 10 % to 15 %

Written Homework

Reading Reports

Lab Reports

Other: Written Critiques and Drawing Notes

If this is a degree applicable course, but substantial writing assignments are not appropriate, indicate reason:

Course primarily involves skill demonstration or problem solving

CATEGORY 2 -The problem-solving assignments required:

Percent range of total grade: 10 % to 25 %

Homework Problems

Exams

Other: Design Problems

CATEGORY 3 -The types of skill demonstrations required:

Percent range of total grade: 10 % to 25 %

Class Performance/s

Performance Exams

CATEGORY 4 - The types of objective examinations used in the course:

Percent range of total grade: 10 % to 25 %

Multiple Choice

Matching Items

Completion

Other: Applied Skill Example using CAD or other competency

CATEGORY 5 - Any other methods of evaluation:

Percent range of total grade: 40 % to 60 %

Competed set of working drawings for portfolio

REPRESENTATIVE TEXTBOOKS:

Required:

Francis D. K. Ching & James F. Eckler, Introduction to Architecture, Wiley, 2012, or other appropriate college level text.

ISBN: 1118142063

Reading level of text, Grade: 14.5   Verified by: Flesch Kincaid Grade Level

Other textbooks or materials to be purchased by the student: Recommended Text: Building Construction Illustrated by Francis D. K. Ching

ARTICULATION and CERTIFICATE INFORMATION

     Associate Degree:

     CSU GE:

     IGETC:

     CSU TRANSFER:

          Transferable CSU, effective 199270

     UC TRANSFER:

          Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: N

Classification: Y

Noncredit Category: Y

Cooperative Education:

Program Status: 1 Program Applicable

Special Class Status: N

CAN:
CAN Sequence:
CSU Crosswalk Course Department: CGD
CSU Crosswalk Course Number: 30
Prior to College Level: Y
Non Credit Enhanced Funding: N
Funding Agency Code: Y
In-Service: N
Occupational Course: B
Maximum Hours:
Minimum Hours:
Course Control Number: CCC000136321
Sports/Physical Education Course: N
Taxonomy of Program: 095300