Chaminade University
Environmental + Interior Design Program
EID 220 Building Systems – Fall 2021
Instructor: Aaron Shimizu, Architect

#### **EID 220 SYLLABUS**

Class hours: Tu/Th 4:30-5:50 Email: <u>aaron.shimizu@chaminade.edu</u>

Office: None Zoom Course ID#: NA

Office hours: By appointment Zoom Course Password: NA

#### COURSE DESCRIPTION

EID 220 Building Systems & Components (3cr) This course focuses on understanding the different systems and components that comprise a building, how they relate to and affect one another, and how to design within the context of those systems. Students will be introduced to building infrastructure and performance design mandates—as well as relevant building codes—with emphasis on coordination and integration of the various systems within the building interior. Content includes building codes and life safety; site analysis; fire safety; structural/mechanical/electrical/plumbing systems; wall, floor, ceiling, and stair assemblies; and various interior building components.

Prerequisites: EID 200 and EID 202.

### **CLASS FORMAT**

Over the duration of the semester, we will examine various facets of a building that are typical to interior design projects. Each class will consist of a lecture on a specific topic, followed by in-class exercises that apply the principles from the lecture. Any online sessions will be synchronous (in real-time), so you must attend the online classes during the class period via Zoom.

Homework will be collected regularly every week, so make sure you upload the assignments to the Canvas course folder by the specified due date. Much of what we will cover in this class will also help to prepare you for the Comprehensive Exam at the end of this semester, which will test your knowledge of concepts, design theories and principles, technical skills, and building systems. The final grade for this course will be based on participation, completion, and accuracy of the in-class exercises and homework assignments; there will be no formal exams. All homework must be complete and submitted on time, unless otherwise arranged. Any unexcused late submissions will be subject to point reductions.

# **REQUIRED TEXTS**

Building Systems for Interior Designers (Second Edition), Corky Binggeli [PDF format] Interior Graphic Standards: Student Edition, Corky Binggeli

## REFERENCE TEXT

Interior Design Reference Manual (Sixth Edition), David Kent Ballast

## **GRADING**

The final grade will be based on an accrual of points for the body of in-class exercises and homework assignments over the semester. If an assignment is completed competently, it will receive full points; if there are some minor errors, it will receive reduced points, and if incomplete or mostly incorrect, no points will be received. Extra credit points will be awarded if an assignment is done exceptionally, or beyond the requirements of the assignment.

### **COURSE LEARNING OUTCOMES**

- Building Systems and Integration Students should demonstrate a basic knowledge of the components and functions of various building systems, and understand how they are integrated.
   [CIDA 14 / PO 4] – EMERGING
- Building Codes and Regulations Students should demonstrate basic knowledge of the building codes and regulations, and an awareness of how building codes inform design.
   [CIDA 16 / PO 4] EMERGING
- Occupant Safety and Comfort Students should be able to correlate how the design of building systems, and their compliance with building codes, impact occupant safety and comfort.
   [CIDA 14, 16 / PO 4,6] EMERGING
- Architectural Components and Construction Students should be able to identify the various types of interior architectural elements, demonstrate a basic understanding of their construction details, and identify their appropriate applications.
   [CIDA 15 / PO 3] EMERGING
- Schedules and Specifications Students should understand the function of schedules and specifications, and be able to execute a basic schedule and specifications.
   [CIDA 15 / PO 2] – EMERGING

### **E+ID PROGRAM OUTCOMES**

Students are expected to:

- Understand, and operate within, the dictates and standards of the design profession/industry (PLO #1: **Professionalism**) CIDA 2, 3, 4, 5, 6, 7, 8, 11, 12, 13, 14
- Explore and apply the design process from project inception to realization (PLO #2: Process) - CIDA 4, 6, 9, 10, 11, 12, 13, 14
- Integrate principles of design in order to synthesize and optimize design solutions (PLO #3: Principles) CIDA 2, 3, 4, 5, 6, 8, 9, 10, 12, 13, 14
- Safeguard the welfare of occupants and the public at large, and promote the ecological balance between the natural and built environments

(PLO #4: Protection) - CIDA 2, 3, 4, 7, 8, 10, 12, 13, 14

 Communicate design concepts, design solutions, and problem-solving rationales through written, oral, and visual media

(PLO #5: Presentation) - CIDA 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14

 Evaluate, articulate, and actualize the social, environmental and ethical impact of design on the health, safety and welfare of the public to further service, justice and peace (PLO #6: Marianist Values)

# **EID 220 COURSE SCHEDULE**

		Readings/Assignments:
Week #01:	Tu 8/25 - Building Systems Integration Th 8/27 - Performance Mandates; Site Analysis	Comp Exam handout #1a, 1b, 1c; #2
Week #02:	Tu 9/01 - Structural Systems Th 9/03 - Mechanical Systems	pp. 213-217, 222-228, 230 <mark>-236</mark> #3a, 3b
Week #03:	Tu 9/08 - Electrical Systems Th 9/10 - Plumbing Systems; Conveyance	pp. 41-54, 66-75, 101-107, 194-209 #3c, 3d, 3e
Week #04:	Tu 9/15 - Building Codes Th 9/17 - Construction Types/Occupancy Groups	pp. 12-16, 25-28, 336-337 #4; #5a, 5b; #6a, 6b; #7a, 7b, 7c
Week #05:	Tu 9/22 - Fire Protection Systems Th 9/24 - Fire Protection Systems	pp. 338-343, 345-348 #8a <mark>, 8b</mark>
Week #06:	Tu 09/29 - Life Safety Equipment Th 10/01 - Life Safety Equipment	pp. 360-373 #8c, 8d
Week #07:	Tu 10/06 - Means of Egress Th 10/08 - Means of Egress	pp. 349-353 #9a, 9b, 9c, 9d, 9e
Week #08:	Tu 10/13 - Thermal Principles Th 10/15 - Thermal Principles	pp. 83-100 #10a, 10b, 10c
Week #09:	Tu 10/20 - Acoustics Th 10/22 - Acoustics	pp. 395-428, 433-434 #11a, 11b
Week #10:	Tu 10/27 - Partition Assemblies Th 10/29 - Partition Assemblies	pp. 18-19 #12a, 12b
Week #11:	Tu 11/03 - RCP/Electrical/Lighting Plans Th 11/05 - Ceiling Systems Integration	pp. 345 #13a, 13b, 13c, 13d
Week #12:	Tu 11/10 - Stair Types, Construction & Codes Th 11/12 - Stair Calculations & Layout	#14a, 14b, 14c
Week #13:	Tu 11/17 - Door Types/Details Th 11/19 - Window Types/Details	pp. 76-79 #15
Week #14:	Tu 11/24 - Specifications & Schedules **W 11/25 - Comp Exam Reviewonline TBD** Th 11/26 - Thanksgiving [holiday]	#16a, 16b, #17a, 17b

Week #15: W 12/02 - Comprehensive Exam (Canvas)

### **COURSE POLICIES**

## **Attendance Policy**

Students are expected to regularly attend all their registered courses. Student should notify their instructors by email when illness or other circumstances prevents them from attending class. Student must make arrangements to complete missed assignments <u>on their own</u>; this is not the responsibility of the instructor. Three <u>unexcused</u> absences or tardies may lead to a grade reduction for the course. Six unexcused absences may result in being withdrawn from the course by the instructor.

### **Late Work**

Any assigned coursework not submitted by the prescribed deadline will be considered late, and will be subject to grade reduction at the discretion of the instructor. Should you be unable to complete an assignment on time, you should contact the instructor in advance to discuss the circumstances.

## **Mobile Devices**

Out of consideration for your classmates, please set your cell phone to silent mode during class. Use of cell phones during class time is prohibited, except for emergencies.

## **Disability Access**

If you need individual accommodations to meet course outcomes because of a documented disability, please speak with me to discuss your needs as soon as possible so that we can ensure your full participation in class and fair assessment of your work. If you would like to determine if you meet the criteria for accommodations, contact the Counseling Center at (808) 735-4845 for further information.

### **Title IX Compliance**

Chaminade University of Honolulu recognizes the inherent dignity of all individuals and promotes respect for all people. Sexual misconduct, physical and/or psychological abuse will NOT be tolerated. If you or someone you know has been harassed or assaulted, please report this matter promptly to either the Dean of Students or the Counseling Center.

Refer to CUH Student Handbook for further information on the following policies:

- Academic Honesty
- ADA Accommodation
- Title IX Compliance
- Academic Conduct

# **Social Distancing Safety Protocols**

For the most up to date information, please refer to: https://chaminade.edu/coronavirus/

Marianist Values	Native Hawaiian Values
Education for formation in faith	(Mana) E ola au i ke akua ('Ōlelo No'eau 364) - May I live by God
Prov <mark>ide an int</mark> egral, quality education	(Na'auao) Lawe i ka ma'alea a kū'ono'ono ('Ōlelo No'eau 1957) - Acquire skill and make it deep
Educate in family spirit	('Ohana) 'Ike aku, 'ike mai, kōkua aku kōkua mai; pela iho la ka nohana 'ohana ('Ōlelo No'eau 1200) - Recognize others, be recognized, help others, be helped; such is a family relationship
Educate for service, justice and	(Aloha) Ka lama kū o ka noʻeau (ʻŌlelo No <mark>ʻeau</mark> 1430) - Education is
peace	the standing torch of wisdom
Educate for adaptation and	(Aina) 'A'ohe pau ka 'ike i ka hālau ho'okahi ('Ōlelo No'eau 203) -
change	All knowledge is not taught in the same school