

## EID 220 SYLLABUS

Class hours: Tu/Th 2:30-3:50 (Recorded lecture)

Office hours: By appointment (Online)

Email: [ming.hu@chaminade.edu](mailto:ming.hu@chaminade.edu)

### 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 heating and cooling system, lighting system, acoustic system, vertical transportation system, electrical system, plumbing systems, building codes and life safety; fire safety; and various interior building components. Prerequisites: EID 200 and EID 202.

### CLASS FORMAT:

This is on-Line course, watching **pre-recorded lecture videos (located in Panopto Recording)**. Timing of lectures therefore has some flexibility. There are typically two lectures per each week, I will send out the weekly announcement to remind you at every Monday. The flexible framework does not require you to be in a specific location or specific time to watch the lecture. However, the online nature of this class will push you to take an active role in the learning process.

Every week there will be a **videoconference** for student to ask questions and to go over key points of the prior week's lecture (if needed). Video-conferences will use **Zoom**, and time is **Tuesday 2:30pm -3:00pm**, starts from **August 23rd**, end at **November 29th**. The video-conference times varies depending on the questions you have. At the scheduled time of the Videoconference, you should be able to enter **ZOOM** via the Canvas website where it says " **Web Meeting** "

All homework must be complete and submitted on time, unless otherwise arranged. Any unexcused late submissions will be marked down by one letter grade.

### REQUIRED TEXT:

*Heating, Cooling, Lighting: Sustainable Design Methods for Architects (Fourth Edition)*, Norbert Lechner (PDF on Canvas)

*Building Systems for Interior Designers (Second Edition)*, Corky Binggeli [PDF format on Canvas]

### GRADING:

Assignment	Percentage %
Homework (4)	70%
Final Project	30%
<b>Total</b>	<b>100%</b>

COURSE LEARNING OUTCOMES:

- **Building Systems and Integration** – Students should have 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 have 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] – EMERGING
- **Architectural Components and Construction** – Students should be able to identify the various types of interior architectural elements, have a basic understanding of their construction details, and know their appropriate applications.  
[CIDA 15 / PO 3] – EMERGING

EID PROGRAM OUTCOMES:

- 1) **Professionalism** – understand, apply and participate in ethical design practices on a personal, project, peer and industry-wide level.
- 2) **Process** – ability to identify problems/challenges and demonstrate an understanding of the complete design process from inception to installation, execute documentation supporting design decisions and effect comprehensive, creative, focused and functional design solutions.
- 3) **Principles & Priorities** – integration of pedagogy, research, historic contexts, theory, and interdisciplinary collaboration to effectively and creatively analyze, evaluate and execute best design practices resulting in functional and aesthetically inspiring design.
- 4) **Public & Environmental Protection** – demonstrate an understanding of the concepts, resources and implications of design decisions relative to the human interaction, technological impact and ecological balance of the built environment.
- 5) **Presentation** – demonstrate ability to communicate design concepts and problem-solving justifications through written, oral and a variety of visual media.

Refer to CUH Student Handbook for mandatory adherence to the following policies:

- **Academic Honesty**
- **ADA Accommodation**
- **Title IX Compliance**
- **E+ID Professional Code of Conduct**

**EID 220 COURSE SCHEDULE (tentative)**

Week	Date	Topic	Due date	Reading
<b>W01</b>	Tu 8/23	Lecture 1: Introduction		Chapter 1
	Th 8/25	Lecture 2: Basic Principles Lecture 3: Heat + Energy + <b>Homework 1</b>		Chapter 3
<b>W02</b>	Tu 8/30	Lecture 4: Thermal comfort		Chapter 4
	Tu 9/01	Lecture 5: Climate		Chapter 5
<b>W03</b>	Tu 9/06	Lecture 6: Illumination & Lighting		Chapter 12/13
	Th 9/08	Lecture 7: <b>Homework 2</b> assignment	HW1	Chapter 14

<b>W04</b>	Tu 9/13	Homework day (no lecture)		Chapter 14
	Th 9/15	Video (youtube) Lighting Design in Architecture: A Conversation with Hervé Descottes and Steven Holl		
<b>W05</b>	Tu 9/20	Lecture 9: Acoustic design (guest lecture)		
	Th 9/22	Lecture 10: Mechanical system and designer's role	HW2	Chapter 16
<b>W06</b>	Tu 9/27	Lecture 11: Heating System		Chapter 16
	Th 9/29	Lecture 12: Cooling System		Chapter 16
<b>W07</b>	Tu 10/04	Lecture 13: Cooling System + Homework 3 assignment		Chapter 16
	Th 10/06	Homework day (no lecture)		
<b>W08</b>	Tu 10/11	Lecture 14: Water & Plumbing Systems		On Canvas
	Th 10/13	Lecture 15: Electrical Systems		
<b>W09</b>	Tu 10/18	Video (youtube) Tesla vs Edison - Battle to Light the World - Full Documentary	HW3	
	Th 10/20	Lecture 16: Vertical transportation system I		
<b>W10</b>	Tu 10/25	Lecture 17: Fire-Protection Systems (guest lecture)		On Canvas
	Th 10/31	Lecture 18 Building code		On Canvas
<b>W11</b>	Tu 11/01	Lecture 19 Building exit		
	Th 11/03	Video: Britain's Fire Safety Crisis		
<b>W12</b>	Tu 11/08	Lecture 20 Glass and Window + Homework 4 assignment		
	Th 11/10	Lecture 21: Utilization of material in construction: Wood, Concrete & Others (guest lecture)		
<b>W13</b>	Tu 11/15	Lecture 22: Passive Heat (solar) design	HW4	Chapter 7
	Th 11/17	Lecture 23: Materials and code requirement (Guest lecture)		
<b>W14</b>	Tu 11/22	Working on final project		
	Th 11/24	Thanksgiving [holiday]		
<b>W15</b>	Tu 11/29	<b>Last class</b>		
<b>W16</b>	12/05		Final Project	

## 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 on their own; this is not the responsibility of the instructor. Three unexcused 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**

<b>Marianist Values</b>	<b>Native Hawaiian Values</b>
Education for formation in faith	(Mana) E ola au i ke akua ('Ōlelo No'eau 364) - May I live by God
Provide an integral, 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 peace	(Aloha) Ka lama kū o ka no'eau ('Ōlelo No'eau 1430) - Education is the standing torch of wisdom
Educate for adaptation and change	(Aina) 'A'ohe pau ka 'ike i ka hālau ho'okahi ('Ōlelo No'eau 203) - All knowledge is not taught in the same school