

EID 270 COURSE DESCRIPTION & OBJECTIVES

Class hours: Tu/Th 1:00 – 3:50 pm
Office hours: MWF 12:30 – 1:30pm

Office: Eiben 211
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COURSE DESCRIPTION:

EID 270 Building Systems and Materials (3)

This course is designed to give students an understanding of designing within the context of building systems and how to specify appropriate materials and products. Students will be introduced to building infrastructure and performance design mandates. Installation and material maintenance will be examined as well as codes associated with building construction and material selections. This course explores a wide variety of finish materials and examines sustainable environmentally-friendly products and building practices. Offered Each Semester (Studio Course – 6 contact hours per week)

Prerequisites: EID 201, EID 202, and EID 217.

CLASS FORMAT:

This course explores the various materials and components that make up the interior architect's palette as well as provide an overview of building systems and codes which comprise the context in which the designer operates. The objective of this course is to produce a project that is of professional quality, using the skills and knowledge you will have acquired over the semester. To that end, emphasis will be on understanding all the components that make up a typical design project and how they relate to each other.

Over the duration of the semester, we will examine various facets of a typical interior design project, applying the principles presented in the lecture to a semester-long design project. A different aspect of design will be the focus of each week; the course will culminate in a single comprehensive interior design project that will incorporate all the components you've developed throughout the class.

The first half of each class will consist of a lecture component; the second half will focus on either in-class exercises based on the lecture, a review of the project component assignment, or review of your developing design project. In between the lecture session and the exercise/review session, there will be a 10-minute break from 2:20–2:30pm. It is important that students bring in their work to class for each review, as you—the students—are responsible for the content of that part of class time. There will also be field trips to introduce students to different building products, fixtures, equipment, finish materials, etc.

Each student is expected to possess basic skills in technical drawing and model-building from which you will learn to develop a complete technical drawing package for your design project. The final drawing package will be produced in AutoCAD, so it is imperative that you have either already taken the course, or are taking the course concurrently. That said however, you are expected to do extensive hand drawing and sketching in your process work.

Once a month, exams on the content of the lectures will be given; much of what we will cover in this class will help to prepare you for the 200-level comprehensive exam.

At the end of the semester, there will be a final review of your design project in class. In addition to that however, there are two milestones to prepare for as you conclude your second year: one is the 200-level exam, which tests your knowledge of vocabulary, design theories, and principles of design (such as sustainability and accessibility). The second is a portfolio assessment (practicum), based in large part on the final project of this course, which is intended to evaluate how you apply the knowledge and skills you've acquired thus far to your design projects. To determine whether you are eligible for the 200-level exam and the practicum at the end of this term, arrange an advising appointment with the ID Program Coordinator.

COURSE OBJECTIVES:

- Developing an effective and efficient interior spatial layout based on a complex program
- Understanding of how external conditions and siting impact the design of interior spaces
- Cultivation of the designer's ability to influence the health, safety, welfare and quality of life issues
- Prioritizing design choices based on sustainability criteria
- Continued development of technical skills (drawing, drafting, modelbuilding, presentation)
- Knowledge of building systems and codes associated with the interior spatial structure
- Development of appropriate finish specifications and corresponding technical drawing package
- Recognition of the different requirements for both residential and commercial installations

DESIGN METHODOLOGY:

Remember--design is neither a linear nor sequential process, but an *iterative* one. For each project component assignment, you will be required to develop a minimum of three options. Not all of them have to be good—or even viable for that matter—but should show evidence of both exploration of and/or refinement of ideas (“process”). You are also encouraged to work with others as much as possible and share ideas. Getting feedback from multiple perspectives may help you to see your project in unexpected ways and this will help to strengthen your work.

GRADING:

Evaluation criteria is based on the following:

- quality and creativity of design work
- thoroughness and craft in presentation
- technical proficiency
- contribution of ideas and engagement in class
- willingness to experiment and to challenge yourself
- rigor
- professional demeanor

Your final grade will be weighted as follows:

Design Project	70%
Exams (4)	30%

This is an intensive and demanding studio course, thus regular attendance is crucial. Should you have to miss a class, please inform me in advance when possible; you will be responsible to make up the work. All projects must be complete and submitted on time, unless otherwise arranged. Any unexcused late submissions will be marked down by one letter grade.

REQUIRED TEXTS:

Interior Design Materials and Specifications (Second Edition), Lisa Godsey
Building Systems for Interior Designers (Second Edition), Corky Binggeli

REFERENCE TEXTS:

Interior Design Reference Manual (Sixth Edition), David Kent Ballast
Interior Graphic Standards (Student Edition), M. McGowan & K. Kruse (out of print)

ID PROGRAM OUTCOMES:

1) Professionalism – understand, apply and participate in ethical design practices on a personal, project, peer and industry-wide level. (CIDA 2, 3, 4, 5, 6, 7, 8, 11, 12, 13, 14)

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. (CIDA 4, 6, 9, 10, 11, 12, 13, 14)

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. (CIDA 2, 3, 4, 5, 6, 8, 9, 10, 12, 13, 14)

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. (CIDA 2, 3, 4, 7, 8, 10, 12, 13, 14)

5) Presentation – demonstrate ability to communicate design concepts and problem solving justifications through written, oral and a variety of visual media. (CIDA 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14)

SHOWROOMS & SUPPLIERS:

Students should take it upon themselves to visit the showrooms and suppliers on the island, either individually or with a group. Below is a list of local vendors, but you may find others that are of personal interest to you or your project.

- Home Depot – Alakawa Ave
- Wisteria Lane (flooring) – behind Iwilei Costco gas station
- Daltile (tile showroom) – Nimitz Hwy
- Ferguson's (bath & kitchen fixtures) – Kokea Street
- Fiddler's (K&B fixtures & accessories) – Kamani Street
- 87Zero (residential & hotel/resort supplier)
- Lokahi Stone (custom concrete) – Queen Street
- Selective Stone (stone & tile showroom) – Koapaka Street

EID 270 COURSE SCHEDULE

Week #01:

Tu 8/27 - Course Overview & Project Introduction
Review: CD template package
Lecture: Site Issues & Analysis

Th 8/29 - Lecture: Codes & Accessibility
Field trip: Waimanalo Village

Sa 8/31 – Field trip: Matson, Kaka’ako homeless shelter

Assignment:

BSID pp. 10-15, 24-27
IGS handouts (codes, accessibility)
IDRM chs. 5, 7, 8, 9

project assn:
precedent research & concept dev

Week #02:

Tu 9/03 - Lecture: Programming & Space Planning
Review: precedent research & concept

Th 9/05 - Lecture: Sustainability
Review: precedent research & concept

BSID pp. 9-10, 114-116, 193-198
IGS handout (sustainability)

project assn:
precedent research & concept dev

Week #03:

Tu 9/10 - Lecture: Conveyance Systems, HVAC
(infrastructure)
Review: precedent & concept presentations

Th 9/12 - Lecture: Electrical, Plumbing, Structural Systems
Review: spatial analyses; exam study guide

IGS handout

BSID pp. 68-76, 228-232, 250, 257-58,
261-62, 98-101, 109, 31-33, 36-38, 42-58
IDRM chs. 12 & 13
project assn: spatial analysis

Week #04:

Tu 9/17 - Lecture: Fire Safety & Suppression
Review: conceptual diagrams

Th 9/19 - Exam #1
Review: blocking diagrams

BSID pp. 329-350, 366-372

project assn:
blocking diagrams

Week #05:

Tu 9/24 - Lecture: Acoustics
Review: schematic design; review exam #1

Th 9/26 - Lecture: Thermal Principles
Review: schematic design

IDM&S pp. 377-381 (acoustics)
IGS handout (acoustics)
BSID pp. 379, 389-400, 406-413, 140-150
IDRM ch. 14
project assn: schematic design

Week #06:

- Tu 10/01 - Lecture: Wall Assemblies
Review: schematic design
- IGS handout (assemblies)
BSID pp. 150-156
- Th 10/03 - Lecture: Wall Sections/Types
Review: schematic design
- project assn:
schematic design

Week #07:

- Tu 10/08 - Lecture: Kitchen Design
Review: schematic design
- BSID pp. 118-134
IDM&S pp. 269-277, 285-6 (tile/brick)
- Th 10/10 - Lecture: Bathroom Design
Review: schematic design; exam study guide
- IDM&S pp. 301-310, 318-320 (stone)
IDM&S pp. 325-332, 335-6 (terr/conc)
project assn: schematic design

Week #08:

- Tu 10/15 - Schematic Design Final Review (juried)
- Th 10/17 - Exam #2
Review: schematic design revisions

Week #09:

- Tu 10/22 - Lecture: Specifications & Schedules
Review: schematic design revisions; review exam #2
- IDM&S pp. 15-17 (specs)
BSID pp. 62-67
- Th 10/24 - Lecture: Stair Design & Construction
Review: schematic design revisions
- IDRM handout (ch. 25 & 11)
IGS handout (stairs)
project assn: SD revisions

Week #10:

- Tu 10/29 - Lecture: Room Finishes (walls, ceiling, paint)
Review: design development
- IDM&S pp. 27-39, 41-42 (paint)
IDM&S pp. 45-51, 55-58 (wallcovering)
IDM&S pp. 113-120, 131-133 (carpet)
- Th 10/31 - Lecture: Room Finishes (flooring, carpet)
Review: design development
- IDM&S pp. 155-168, 175-179 (wood)
IDM&S pp. 203-212, 215-6 (flooring)
IDM&S pp. 219-226, 231 (synthetics)
IDM&S pp. 251-255 (metals)
IGS handout (carpet)
BSID pp. 283-284, 273-281
IDRM ch. 16
project assn: DD & specs

Week #11:

- Tu 11/05 - Lecture: Lighting & RCPs
Review: design development, specifications
- IGS handouts (lighting, cabinetry)
IDRM ch. 15 & 17
- Th 11/06 - Lecture: Cabinetry
Review: design development; exam study guide
- project assn: design development
& specifications

Week #12:

Tu 11/12 - Exam #3
Review: design development, specifications

Th 11/14 - Lecture: Hardware, Doors & Windows
Review: design development; review exam #3

project assn:
design development
& specifications

Week #13:

Tu 11/19 - Lecture: AutoCAD techniques
Review: design development, specifications

Th 11/21 - Lecture: TBD
Review: design development, specifications

project assn:
presentation preparation
& specifications

Week #14:

Tu 11/26 - Lecture: TBD
Review: CAD package; exam study guide

Th 11/28 – Thanksgiving [holiday]

project assn:
presentation preparation

Week #15:

Tu 12/03 - Exam #4
Review: presentation deliverables

Th 12/05 - Lecture: 200-level comp exam & practicum
Review: presentation preparation; review exam #4

project assn:
presentation preparation

Week #16:

Tu 12/10 – Exam #4 / Final Project Presentation
W 12/11 – Exam #4 / Final Project Presentation
Th 12/12 – Exam #4 / Final Project Presentation

1:15 – 3:15
1:15 – 3:15
3:30 – 5:30

Week #17:

M 12/16 10:00-12:00 – 200-level Comprehensive Exam

Tu 12/17 10:00-11:30 – Practicum reviews
11:30-1:00 – Practicum reviews
1:00-2:30 – Practicum reviews

W 12/18 10:00-11:30 – Practicum reviews
11:30-1:00 – Practicum reviews
1:00-2:30 – Practicum reviews

EID 270 PROJECT OVERVIEW

PORTABLE TRANSITIONAL CO-HOUSING PROTOTYPE

Oahu has a growing and urgent housing crisis, which is exacerbated by the increasing economic disparity of its inhabitants. As a result, many families are left homeless—even those who are gainfully employed. Unlike the continental U.S., we live on islands surrounded by water—which means that buildable land, as well as the costs to ship goods to Hawaii, are constraining factors.

One possible solution is the re-use of shipping containers which can be converted for other purposes than storage or cargo. As a major port, Honolulu has an abundance of them that are left empty because it is more economical to produce new containers than it is to ship existing containers back to their origins.

The proposed project for this semester has three major components, each of which require specialized study:

Portable – shipping containers can easily be transported to new locations as necessary

Transitional – neither homeless shelter nor permanent housing; proximity to services is crucial

Co-housing – living in a community with shared responsibilities, support, and social life

PROGRAM OBJECTIVES:

Goal:

To design a transitional co-housing facility to accommodate up to 20 currently homeless families. Residential units are intended to afford privacy and family intimacy, while the purpose of the communal center is to encourage social interaction and sense of community.

Client:

Families with children who are at-risk; need assistance, stability and a social network; and are either working, looking for work, or in school.

Location:

Waimanalo, by Hawaii Kai Golf Course

Mission:

To provide safe shelter for homeless families who have suffered setbacks and are making a concerted effort to get back on their feet again. The shelter should not be considered a permanent solution, but rather a transition, or stepping stone, to securing long-term housing. What distinguishes this facility from other homeless shelters, is that it caters specifically to families with children who have demonstrated their commitment to improving their situation, and offers the support and services necessary for families to regain their self-sufficiency.

Though the residents of the facility are at a point in their lives where they are disadvantaged, the design should nevertheless convey a sense of dignity, security, value, and hopefulness.

The facility should also be an environmental amenity, both aesthetically and functionally, and to that end should employ numerous sustainable design features.

Residential units:

Each structure will have two levels for two families. Each level will be comprised of (3) 8' by 20' shipping containers; therefore the structure will be made up of six containers in total. An exterior stair will access the second level. There will be 10 structures which can house up to 20 families. Each family unit will have 2 bedrooms that can accommodate couple or single parent with 2-3 children.

square footage (footprint) = 480 sf
total gross square footage = 960 sf
approximate number of occupants = approximately 80

Spaces include:

- (2) bedrooms each 100-120 sf
- kitchenette 95-100 sf
- eating/sitting area 95-100 sf
- bathroom 35 sf
- storage 20 sf

Total = 445-495 sf

Communal center:

Single story, double-height shell will be comprised of (4) 8' by 40' shipping containers on two levels, for a total of eight containers. There will however, be no second story.

total gross square footage (footprint) = 1280 sf
maximum number of occupants = 50

Activities include:

- food preparation (small commercial kitchen) 225 sf
- group dining (to seat at least 20) 180 sf
- recreation area (events, parties, social gatherings, celebrations, holidays) 480 sf
- daycare (infants & toddlers) 150 sf
- indoor/outdoor play area (for kids afterschool) 225 sf
- reading/study/counseling area 180 sf
- (for homework, job search, tutoring, meetings, information research, etc.)
- laundry (2 washer/dryers, clothesline, folding area) 100 sf
- common storage (large items and supplies for center) 180 sf
- ADA bathroom 40 sf
- outdoor garden at your discretion

Total = 1760 sf

Additional considerations: supervision, security, safety, parking, visitors, pets

Field trips:

Waimanalo Village Transitional Housing
Matson Storage Facility – Sand Island
Kaka’ako Homeless Shelter

Precedents:

shipping container buildings
clustered co-housing
transitional shelter

WEBSITES

Shipping container buildings:

<http://www.archdaily.com/160892/the-pros-and-cons-of-cargo-container-architecture/>
<http://inhabitat.com/tag/shipping-container-architecture/>
<http://www.affordableportablehousing.com/>
<http://www.residentialshippingcontainerprimer.com/action%20it>
<http://www.residentialshippingcontainerprimer.com/howto>

Co-housing prototypes:

http://www.cohousing.org/what_is_cohousing
<http://en.wikipedia.org/wiki/Cohousing>
<http://www.honolulumagazine.com/Honolulu-Magazine/Real-Estate/December-2011/Oahu-first-co-housing-initiative/>
<http://www.cohousingco.com/>
<http://www.cohousingpartners.com/faq.html>:

Transitional housing projects in Hawaii:

<http://asihawaii.org/>
<http://ohanaola.org/>
<http://holomuanaohana.org/>
<http://ulukekukui.org/>
<http://www.hcdch.hawaii.gov/faqs/homelessprograms.html>
<http://the.honoluluadvertiser.com/article/2008/Nov/02/bz/hawaii811020336.html>
<http://www.staradvertiser.com/s?action=login&f=y&id=170917111&id=170917111>

DELIVERABLES

Model at 1"=1'-0" with removable units to show interiors, including stair and exterior features

Drawings at 1/8"=1'-0" (11" x 17"):

- Title Sheet
- Site & Landscaping Plan
- Existing Conditions (typical shipping container units)
- Floor Plans (typical residential unit)
- Floor Plans (communal unit)
- Roof Plan
- Reflected Ceiling & Lighting Plans
- Building Sections
- Exterior Elevations
- Interior Elevations (communal kitchen & bathroom)
- Stair Section
- Window Types/Schedule
- Door Types/Schedule
- Wall partition Types
- FFE Schedule (kitchen & bathroom)

3D representation of your choice (model, axon, perspective rendering)

Concept/Inspiration board

(2) Materials boards (typical residential unit & communal center)

Specifications binder (kitchen, bathroom, finishes (1 residential & 1 communal space), sustainable features)

Process drawings, sketches, model studies, etc.

Photos, analyses, precedent studies

All deliverables will additionally be presented in PPT format.