

INDES 390 - Interior Building Systems

Fall 2018

W 6:30-9:20 pm

room L110

item# 1720HYA

credits 5

instructor

Max Lin Ph.D., LEED AP

contact

G.lin@bellevuecollege.edu

office hours

By appointment and email

Course Description

Introduces the physical components of building construction. Topics include industry wide classification systems, standards and resources, basic physical properties of building materials, typical building construction systems, mechanical and electrical systems, and building codes related to interiors.

Either INDES 190 or INDES 390 may be taken for credit, not both. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes

After completing this class, students should be able to:

- Accurately identify, describe and compare basic building construction materials and finishes, their characteristics, installation methods, applications, etc.; for example: composition of concrete, its strengths and weaknesses, how it is placed, typical uses
- Incorporate accurate trade vocabulary about building materials and processes into written and oral communication with design professionals, clients, and others; for example: in written specifications or drawing notes
- Research, analyze and effectively use a variety of resources to gather information about building materials and methods; for example: manufacturers' information, trade organizations, standards and testing institutes, etc.
- Present and apply the standard classification system for organization and description of building materials, methods, and specifications; for example:

when researching information about a building product or writing a simple materials specification

- Identify and critically analyze the appropriateness and installation of construction materials in existing examples of the local built environment; for example: by completing a case study analysis
- Evaluate the specification and use of materials in the built environment that are consistent with their physical, functional, and aesthetic properties; justify choices made and incorporate those evaluations into a case study analysis of existing examples of the local built environment
- Document basic building infrastructure and materials information by incorporating that information into drawings following industry standards and best practices; for example: by completing a simple wall section
- Present an analysis of the ways in which building codes are applied to interior architecture in all phases of the interior design process and discuss emerging trends in life safety, energy and construction codes Assess examples of building materials and construction from a sustainability perspective
- Analyze complex building construction systems, including mechanical and electrical systems based on building function and principles, and identify critical decisions that were made in the design and construction phases

Required Textbooks

***The Codes Guidebook for Interiors*, 7th Edition** by Sharon K. Harmon, Katherine E. Kennon

from John Wiley & Sons, Inc

ISBN: 978-1-119-34319-6

***Building Systems for Interior Designers*, 3rd Edition** by Corky Binggeli

from John Wiley & Sons, Inc

ISBN: 978-1-118-92554-6

2018 International Building Code, International Code Council, Inc.

Public access Online. You may view the 2018 International Building Code online by following this link: <https://codes.iccsafe.org/public/document/IBC2018>

Class Requirements

1. This is a professional program that demands a **professional attitude**.
2. This is a hybrid class that divides instruction into online and in-class activities. Thus, you have **two classrooms to attend**:

Online Classroom. The classroom is open 24/7 and you can come to class when and where it is convenient for you. A greater degree of self-discipline is a key element for success.

On-campus Classroom. Your **100% attendance** is mandatory. You should be **on time** for class. Consistent late arrivals will affect your overall grade. Per [Arts and Humanities Division attendance expectations for Hybrid and in-Person classes](#), miss more than 20% of the total class time scheduled (**more than 2 classes**) and you may receive an automatic “F” for the class.

3. If you do miss a class, even if excused, it is **your responsibility**, not the instructors, to find out what you missed (get a fellow student’s contact information now before you need it).
4. **Work is to be turned in on time. No Late work will be accepted except emergency circumstances.**
5. This course will involve **criticism**. You will be required to give and receive constructive criticism.
6. Students are required to **back up** all of their computer/digital files and are responsible for any lost files.
7. Please **read and obey** all posted lab use policies, and comply with all requests by Public Safety or custodial staff.

Grading

Grades reflect overall levels of achievement in relation to the course outcomes, and are a necessary part of helping you establish personal learning goals.

Grades are assigned using descriptors from BC’s general description of achievement: http://bellevuecollege.edu/policies/3/3000_Grading.asp

A	95-100
A-	90-94
B+	86-89
B	83-85
B-	80-82

C+	76-79
C	73-75
C-	70-72
D	60-69
F	<59

- Each assignment is assigned a point total. For each assignment, a grading rubric describes the criteria and translates the points earned into a letter grade. Final grade is based on the total points earned.
- Doing what is required of you is not outstanding; it is satisfactory and will thus entitle you to a “C” in this class.
- No Incomplete Grades will be given.

Class Assignments

You will be assigned activities and discussion questions throughout the quarter. Instructions and information about these assignments are found within the modules. Some assignments will be given in class, and will involve individual or group activities.

You will be expected to participate in the online class discussions on each learning module by answering discussion questions, replying to your classmates’ answers, and reading through the responses of others on a weekly basis.

Late work will not be accepted. Discussions and activity reports are due by 11:59 pm (23:59) on their assigned due date.

Grade Distribution

Completion of all projects *on time* is necessary to succeed the course.

The point distribution may change, depending on the assignments included, modified, or deleted during the course.

Since INDES 390 is requirement for graduation from the Bachelor of Applied Arts (BAA) program, your graduation will be denied until you pass this course with a C or better.

Assignments

Assignment 1 – Building and the Environment	16 pts.
Assignment 2 – Indoor Air Quality	16 pts.
Assignment 3 – Acoustics	10 pts.
Assignment 4 – Building Codes	10 pts.
Assignment 5 – Construction Types	14 pts.
Assignment 6 – Building Systems	24 pts.
Assignment 7 – Means of Egress	24 pts.
Assignment 8 – Fire Protection Systems	12 pts.
Assignment 9 – Heating Systems	24 pts.
subtotal	150 points

Exams

Quiz 1	30 pts.
Quiz 2	30 pts.
Quiz 3	40 pts.
Quiz 4	20 pts.
Quiz 5	30 pts.
subtotal	150 points

Weekly discussion thread

(10 points each x 2) per week	20 pts.
	x 10 weeks
subtotal	200 points

Professional Responsibility

Attendance and Participation	60 pts
subtotal	60 points

TOTAL 560 points

Affirmation of Inclusion

Bellevue College is committed to maintaining an environment in which every member of the campus community feels welcome to participate in the life of the college, free from harassment and discrimination.

We value our different backgrounds at Bellevue College, and students, faculty, staff members, and administrators are to treat one another with dignity and respect. Visit the Bellevue College web site to obtain a printed version of the [Affirmation of Inclusion](#) statement.

Arts and Humanities Student Information

student procedures and expectations:

http://s.bellevuecollege.edu/wp/sites/59/2013/11/STUDENT-PROCEDURES-AND-EXPECT_march22_2016-1.pdf

Student Code

“Cheating, stealing and plagiarizing (using the ideas or words of another as one’s own without crediting the source) and inappropriate/disruptive classroom behavior are violations of the Student Code of Conduct at Bellevue College. Examples of unacceptable behavior include, but are not limited to: talking out of turn, arriving late or leaving early without a valid reason, allowing cell phones/pagers to ring, and inappropriate behavior toward the instructor or classmates. The instructor can refer any violation of the Student Code of Conduct to the Vice President of Student Services for possible probation or suspension from Bellevue College. Specific student rights, responsibilities and appeal procedures are listed in the [Student Code of Conduct](#), available in the office of the Vice President of Student Services.

- Information about Bellevue College’s [copyright guidelines](#) can be found on the Bellevue College web site.
- If you aren’t sure what constitutes plagiarism, view the [article by Indiana University](#) that the Writing Lab site uses to aid students.

Disability Resource Center

The Disability Resource Center serves students with a wide array of learning challenges and disabilities. If you are a student who has a disability or learning challenge for which you have documentation or have seen someone for

treatment and if you feel you may need accommodations in order to be successful in college, please contact us as soon as possible.

If you are a person who requires assistance in case of an emergency situation, such as a fire, earthquake, etc, please meet with your individual instructors to develop a safety plan within the first week of the quarter.

If you are a student with a documented autism spectrum disorder, there is an additional access program available to you. Contact asn@bellevuecollege.edu or 425.564.2764. [ASN](#) is located in the Library Media Center in D125.

The DRC office is located in B132 or you can call our reception desk at 425-564-2498. Deaf students can reach us by video phone at 425-440-2025 or by TTY at 425-564-4110. Please visit the [DRC website](#) for application information into our program and other helpful links.

Public Safety and Emergencies 425.564.2400

Public Safety is located in D 171 and can be reached at 425-564-2400 (easy to remember because it's the only office on campus open 24 hours a day—2400). Among other things, Public Safety serves as our Parking Permits, Lost and Found, and Emergency Notification center. Please ensure you are signed up to receive alerts through our [campus alerting system](#).

If you work late and are uneasy about going to your car, Public Safety will escort you to your vehicle. To coordinate this, please phone ahead and let Public Safety know when and where you will need an escort.

Please familiarize yourself with the emergency postings by the door of every classroom and know where to go in the event of an evacuation. Your instructor will be asked if anyone might still be in the building, so check in before you do anything else. Emergency responders will search for anyone unaccounted for.

If a major emergency occurs, please follow these two rules:

- 1) [Take directions from those in charge of the response](#) - We all need to be working together.
- 2) [Do not get in your car and leave campus \(unless directed to\)](#) - Doing so will clog streets and prevent emergency vehicles from entering the scene. Instead, follow directions from those in charge.

Please do not hesitate to call Public Safety if you feel safety questions or concerns at any time.

Final Exam Schedule

The Interior Design Department publishes a schedule of final presentations, coordinating the various courses so that all students and instructors have a reasonable opportunity to attend all presentations. All students are encouraged to attend other final presentations.

Work Release

Bellevue College Interior Design Department reserves the right to collect and keep student work as a part of our ongoing program development and accreditation requirements. Effective Winter quarter 2018, faculty will retain selected student work in all courses within the Interior Design curriculum in order to prepare for our next CIDA site visit.

We thank you for cooperating with the faculty, and hope that you understand that it is an honor to have your work held to represent our program.

Please note: Student work includes all process work, notebooks, digital images, and all finished projects from the beginning of the quarter through final projects. Students may make arrangements with their instructors to photograph or scan their projects, but the college will keep the original work. After the completion of the CIDA site visit in Spring of 2019, work will be returned upon request."

Class Schedule

The instructor reserves the right to amend this schedule as the quarter progresses to best achieve the learning outcomes of the course.

WEEK ONE

9/26 Intro | Info | Course requirements | Projects

Building and the Environment

- 1.1 Environmental Conditions and The Site (Binggeli Ch. 1)
- 1.2 Designing for The Environment (Binggeli Ch. 2)
 - Building Envelop Thermal Performance
 - Energy-Efficient Design

Homework:

- Assignment 1: Building and the Environment
- Reading Assignment: Binggeli Ch. 1, 2, 3, and 12
- Discussion Questions: Environmental Conditions and The Site

WEEK TWO

10/3 Health and Human Experience I

- Designing for Human Health and Safety (Binggeli Ch. 3)
- Thermal Comfort (Binggeli Ch. 12)
- Indoor Air Quality (Binggeli Ch. 13)

Homework:

- Assignment 2: Indoor Air Quality
- Reading Assignment: Binggeli Ch. 7, 8, and 13
- Discussion Questions: Designing for Human Health and Safety

Quiz 1: Binggeli Ch. 1 to 3 (15 questions / 30 pts / 30 minutes)

WEEK THREE

10/10 Health and Human Experience II

- Acoustic Design Principles (Binggeli Ch. 7)
- Architectural Acoustics (Binggeli Ch. 8)
- Barrier-Free Design

Quiz 1 DUE @ 11:59pm

Homework:

- Assignment 3: Acoustics
- Reading Assignment: Harmon and Kennon Ch. 1 and 2 / Binggeli Ch. 9 and 11
- Discussion Questions: Acoustic Design

Quiz 2: Binggeli Ch. 11 to 13 (15 questions / 30 pts / 30 minutes)

WEEK FOUR

10/17 Building Codes

- About the Codes (Harmon and Kennon Ch. 1)
- Occupancy Classifications and Loads (Harmon and Kennon Ch. 2)

Quiz 2 DUE @ 11:59pm

In-Class Group Exercise:

- Occupant Load

Homework:

- Assignment 4: Building Codes
- Reading Assignment: Harmon and Kennon Ch. 3 / Binggeli Ch. 4 and 10
- Discussion Questions: Building Codes

Quiz 3: Binggeli Ch. 7 to 10 (20 questions / 40 pts / 40 minutes)

WEEK FIVE

10/24 Building Systems

- Construction Types and Building Sizes (Harmon and Kennon Ch. 3)
- Building Forms, Structures, and Elements (Binggeli Ch. 4)

Quiz 3 DUE @ 11:59pm

Homework:

- Assignment 5: Construction Types
- Reading Assignment: Binggeli Ch. 5
- Discussion Questions: Building Systems

WEEK SIX

10/31 Building Components I

- Floor Systems I – Steel and Concrete (Binggeli Ch. 5)
- Floor Systems II – Wood, Floating, and Access (Binggeli Ch. 5)

Homework:

- Assignment 6: Building Systems
- Discussion Questions: Floor Systems

WEEK SEVEN

11/7 Building Components II

- Wall Systems (Binggeli Ch. 5)

Homework:

- Reading Assignment: Harmon and Kennon Ch. 4
- Discussion Questions: Wall Systems

WEEK EIGHT

11/14 Means of Egress (Harmon and Kennon Ch. 4)

Stair Design (Binggeli Ch. 5: P. 75 – 81)

In-Class Group Exercise:

- Means of Egress
- Stair Design Inspection

Homework:

- Assignment 7: Means of Egress
- Reading Assignment: Harmon and Kennon Ch. 5 and 6 / Binggeli Ch. 18
- Discussion Questions: Means of Egress

Quiz 4: Binggeli Ch. 4 and 5 (10 questions / 20 pts / 20 minutes)

WEEK NINE

11/21 Fire Safety

- Fire Resistant Materials and Assemblies (Harmon and Kennon Ch. 5)

- Fire Protection Systems (Harmon and Kennon Ch. 6) (Binggeli Ch. 18)

Quiz 4 DUE @ 11:59pm

Homework:

- Assignment 8: Fire Protection Systems
- Reading Assignment: Harmon and Kennon Ch. 7 and 8 / Binggeli Ch. 14 to 16
- Discussion Questions: Fire Safety

WEEK TEN

11/28 MEP Systems (Mechanical, Electrical, and Plumbing Systems)

- Heating and Cooling (Binggeli Ch. 14)
- Electrical Systems (Binggeli Ch. 15)
- Plumbing and Mechanical Requirements (Harmon and Kennon Ch. 7)
- Electrical Requirements (Harmon and Kennon Ch. 8: p.365 – p.398)

Homework:

- Assignment 9: Heating Systems
- Reading Assignment: Binggeli Ch. 20 / Harmon and Kennon Ch. 8
- Discussion Questions: MEP Systems

Quiz 5: Binggeli Ch. 14 to 16 (15 questions / 30 pts / 30 minutes)

FINAL

12/5 Security and Communication Systems

- Communications, Security, and Control Equipment (Binggeli Ch. 20)
- Communication System Requirements (Harmon and Kennon Ch. 8: p.398 – p.415)

Quiz 5 DUE @ 11:59pm