## ID 3510 - BUILDING STRUCTURES + SYSTEMS

Credits: 3

This junior-level course examines the integration of building structural methods and materials with building and environmental systems as they relate to interior design practice. Emphasis is on understanding and illustrating building construction in compliance with building and life safety codes. Upon successful completion of this course, students will understand typical construction materials, methods, and systems, as well as experimental and sustainable alternatives; utilize primary reference sources for specific building systems and materials; and produce a set of residential construction documents within the context of graphic standards in the industry.

Update prerequisit e - pending CC approval coming

standards in the industry.						action documents within th		12/8/20 W
				D) and ID 3715 Building Info				
Course Learning Outcomes  Understand that human and environmental conditions vary according to geographic location and impact design and construction decisions.	Exceeding  Design work and construction decisions demonstrates an exemplary, thorough, and anticipatory understanding of human circumstances, enviornmental conditions, and geographic considerations.	Meeting Explains human circumstances and environmental conditions and how these vary according to geographic location. Explains how these impact design and construction decisions. Design work demonstrates this understanding.	Developing  Defines human circumstances and environmental conditions; however, does not examine how these vary according to geographic location nor their impact on design and construction decisions.	Not meeting  Does not understand that human circumstances and environmental conditions vary according to geographic location and impact design and construction decisions.	Program Outcomes  IDI GLOBAL CONTEXT	Institutional Outcomes  Cultural Competence, Design Competence, Critical Thinking	CIDA Standards  CIDA Standard 4. Global  Context	
Understand how systems thinking informs the practice of interior design.	Applies system thinking to the practice of interior design.	Understands how system thinking informs the practice of interior design.	Recognizes somoe elements of the relationship between system thinking and the practice of interior design.	Does not understand how systems thinking informs the practice of interior design.	IDI GLOBAL CONTEXT	Cultural Competence, Critical Thinking	CIDA Standard 4. Global Context	
Recognize the integration of multi-disciplinary collaboration in design practice.	Applies integrated design practices.	Recognize the integration of multi-disciplinary collaboration in design practice.	Recognizes separate design practices but does not demonstrate an awareness of how these combine or relate to an integrated and holistic design practice.	Does not recognize the integration of multi- disciplinary collaboration in design practice.	ID2 COLLABORATION	Design Competence	CIDA Standard 5. Collaboration	
Understand the terminology and language necessary to communicate effecitvely with members of allied disciplines.	Applies the terminology and language necessary to communicate effectively with members of allied disciplines.	Defines the terminology and language necessary to communicate effectively with members of allied disciplines.	Recalls the terminology and language necessary to communicate effectively with members of allied disciplines.	Does not demonstrates an awareness of the terminology and language necessary to communicate effectively with members of allied disciplines.	ID2 COLLABORATION	Communication Competence, Design Competence	CIDA Standard 5. Collaboration	
Understand technologically- based collaboration methods specific to the problem solving process for built environment disciplines.	Applies technologically-based collaboration methods specific to the problem solving process for built environment disciplines.	Defines technologically-based collaboration methods specific to the problem solving process for built environment disciplines.	for built environment disciplines.	Does not understand technologically-based collaboration methods specific to the problem solving process for built environment disciplines.	ID2 COLLABORATION	Communication Competence, Design Competence	CIDA Standard 5. Collaboration	
Understand the dynamics of team collaboration and the distribution and structure of team responsibilities.	Actively participates in the varying dynamics of team collaboration and contributes to the distribution and structure of team responsibilities.	Understands the dynamics of team collaboration and the distribution and structure of team responsibilities.	Contributes to some team responsibilities; however, does not demonstrate an understanding of teach dynamics, collaboration, and the structure of teams.	Does not understand the dynamics of team collaboration and the distribution and structure of team responsibilities.	ID2 COLLABORATION	Communication Competence	CIDA Standard 5. Collaboration	
Demonstrate the ability to effectively collaborate with multiple disciplines in developing design solutions.	Applies effective collaborations with multiple disciplines in developing critical design solutions.	Demonstrates the ability to effectively collaborate with multiple disciplines in developing design solutions.	Collaborates with some discplines in developing design solutions.	Does not demonstrate the ability to effectively collaborate with multiple disciplines in developing design solutions.	ID2 COLLABORATION	Communication Competence, Design Competence	CIDA Standard 5. Collaboration	ı
Recognize evolving communication technologies.	Anticipates new and evolving communication technologies.	Recognizes evolving communication technologies.	Recognizes some communication technologies.	Does not recognize evolving communication technologies.	ID6 COMMUNICATION	Communication Competence	CIDA Standard 9. Communication	
Understand that design decisions relating to acoustics, thermal comfort, and indoor air quality impact human wellbeing and the environment.	Apply design decisions that relate to acoustics, thermal comfort, and indoor air quality to impact human wellbeing and the environment.	Understand that design decisions relating to acoustics, thermal comfort, and indoor air quality impact human wellbeing and the environment.	Recognize that design decisions relating to acoustics, thermal comfort, and indoor air quality impact human wellbeing and the environment.	Does not understand that design decisions relating to acoustics, thermal comfort, and indoor air quality impact human wellbeing and the environment.	ID11 ENVIRONMENTAL SYSTEMS + HUMAN WELLBEING	Design Competence, Critical Thinking	CIDA Standard 14. Environmental Systems and Comfort	
Understand the principles of acoustical design.	Apply the principles of acoustical design.	Understand the principles of acoustical design.	Recognize the principles of acoustical design.	Does not understand the principles of acoustical design.	ID11 ENVIRONMENTAL SYSTEMS + HUMAN WELLBEING	Design Competence, Critical Thinking	CIDA Standard 14. Environmental Systems and Comfort	
Understand appropriate strategies for acoustical control.	Apply appropriate strategies for acoustical control.	Understand appropriate strategies for acoustical control.	Recognize appropriate strategies for acoustical control.	Does not understand appropriate strategies for acoustical control.	ID11 ENVIRONMENTAL SYSTEMS + HUMAN WELLBEING	Design Competence, Critical Thinking	CIDA Standard 14. Environmental Systems and Comfort	
Understand the principles of thermal design.	Apply the principles of thermal design.	Understand the principles of thermal design.	Recognize the principles of thermal design.	Does not understand the principles of thermal design.	ID11 ENVIRONMENTAL SYSTEMS + HUMAN WELLBEING	Design Competence, Critical Thinking	CIDA Standard 14. Environmental Systems and Comfort	
Understand how active and passive thermal systems and components impact interior design solutions.	Evaluate how active and passive thermal systems and components impact interior design solutions.	Understand how active and passive thermal systems and components impact interior design solutions.	Recognize how active and passive thermal systems and components impact interior design solutions.	Does not understand active and passive thermal systems and components impact interior design solutions.	ID11 ENVIRONMENTAL SYSTEMS + HUMAN WELLBEING	Design Competence, Critical Thinking	CIDA Standard 14. Environmental Systems and Comfort	
Recognize the environmental impact of construction.	Understands the environmental impact of construction.	Recognizes the environmental impact of construction.	Recalls some elements of the environmental impact of construction.	Does not recognize the environmental impact of construction.	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15. Construction	

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standards in the industry.								12/8/20
Prerequisites: ID 2530 - Bui	lding Codes + Regulations,	ID 2710 - Introduction to C	omputer Aided Design (CA	D) and ID 3715 Building Infor	mation Modeling: Revit / I	Notes: (Formerly ID 3750)		1
Course Learning Outcomes	Exceeding	Meeting	Developing	Not meeting	Program Outcomes	Institutional Outcomes	CIDA Standards	
Inderstand how design	Evaluates how design	Understands how design	Recognizes that design	Does not understand how				1
olutions affect and are	solutions affect and are	solutions affect and are	solutions affect and are	design solutions affect and are				
mpacted by base-building	impacted by base-building	impacted by base-building	impacted by base-building	impacted by base-building	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15. Construction	
tructural systems and	structural systems and	structural systems and	structural systems and	structural systems and				
construction methods.	construction methods.	construction methods.	construction methods.	construction methods.				
Inderstand how design	Evaluates how design	Understands how design	Recognizes that design	Does not understand how				
olutions affect and are	solutions affect and are	solutions affect and are	solutions affect and are	design solutions affect and are				
mpacted by interior systems,	impacted by interior systems,	impacted by interior systems,	impacted by interior systems,	impacted by interior systems,	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15. Construction	
construction, and installation	construction, and installation	construction, and installation	construction, and installation	construction, and installation				
nethods.	methods.	methods.	methods.	methods.				4
Inderstand how design	Evaluates how design	Understands how design	Recognizes that design	Does not understand how				
solutions affect and are	solutions affect and are	solutions affect and are	solutions affect and are	design solutions affect and are				
mpacted by detailing and pecification of interior	impacted by detailing and specification of interior	impacted by detailing and specification of interior	impacted by detailing and	impacted by detailing and specification of interior	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15. Construction	
construction materials,	construction materials,	construction materials,	specification of interior construction materials,	construction materials,				
oroducts, and finishes.	products, and finishes.	products, and finishes.	products, and finishes.	products, and finishes.				
Inderstand how design	Evaluates how design	Understands how design	Recognizes that design	Does not understand how				+
olutions affect and are	solutions affect and are	solutions affect and are	solutions affect and are	design solutions affect and are		Design Competence	CIDA Standard 15. Construction	
mpacted by the integration of	impacted by the integration of	impacted by the integration of	impacted by the integration of	impacted by the integration of				
puilding systems including	building systems including	building systems including	building systems including	building systems including				
electrical (such as power, data,	electrical (such as power, data,	electrical (such as power, data,	electrical (such as power, data,	electrical (such as power, data,	ID12 CONSTRUCTION			4
ighting, telecommunications,	lighting, telecommunications,	lighting, telecommunications,	lighting, telecommunications,	lighting, telecommunications,	1512 001101110011011			
judio visual) and mechanical	audio visual) and mechanical	audio visual) and mechanical	audio visual) and mechanical	audio visual) and mechanical				
such as HVAC, plumbing, and	(such as HVAC, plumbing, and	(such as HVAC, plumbing, and	(such as HVAC, plumbing, and	(such as HVAC, plumbing, and				
prinklers).	sprinklers).	sprinklers).	sprinklers).	sprinklers).				
Inderstand how design	Evaluates how design	Understands how design	Recognizes that design	Does not understand how				1
olutions affect and are	solutions affect and are	solutions affect and are	solutions affect and are	design solutions affect and are				
mpacted by monitoring	impacted by monitoring	impacted by monitoring	impacted by monitoring	impacted by monitoring				
systems pertaining to energy,	systems pertaining to energy,	systems pertaining to energy,	systems pertaining to energy,	systems pertaining to energy,	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15. Construction	
security, and building controls	security, and building controls	security, and building controls	security, and building controls	security, and building controls				
systems.	systems.	systems.	systems.	systems.				
Inderstand how design	Evaluates how design	Understands how design	Recognizes that design	Does not understand how				1
olutions affect and are	solutions affect and are	solutions affect and are	solutions affect and are	design solutions affect and are				
mpacted by vertical and	impacted by vertical and	impacted by vertical and	impacted by vertical and	impacted by vertical and	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15, Construction	
norizontal systems of transport	horizontal systems of transport	horizontal systems of transport	horizontal systems of transport	horizontal systems of transport	IDI2 CONSTRUCTION	Design Competence	CIDA Staridard 15. Construction	
and circulation such as stairs,	and circulation such as stairs,	and circulation such as stairs,	and circulation such as stairs,	and circulation such as stairs,				
elevators, or escalators.	elevators, or escalators.	elevators, or escalators.	elevators, or escalators.	elevators, or escalators.				4
Inderstand the formats,	Evaluates the formats,	Understands the formats,	Recognizes the formats,	Does not understand the				
components, and accepted	components, and accepted	components, and accepted	components, and accepted	formats, components, and				
tandards for an integrated	standards for an integrated	standards for an integrated	standards for an integrated	accepted standards for an	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15. Construction	.
and comprehensive set of	and comprehensive set of	and comprehensive set of	and comprehensive set of	integrated and comprehensive		] , , , , , , , , , , , , , , , , , , ,		
nterior construction	interior construction	interior construction	interior construction	set of interior construction				
locuments.	documents.	documents.	documents.	documents.				+
Read and interpret base-	Reads and critically interprets	Reads and interprets base-	Reads but cannot adequately	Does not read or interpret	IDIO CONCEDUCTION	5	CIDA Ct I INF. C I	
ouilding construction	base-building construction documents with nuance.	building construction	interpret base-building construction documents.	base-building construction	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15. Construction	
locuments.	documents with huance.	documents.		documents.				4
Contribute to the production		Contributes to the production	Contributes to the production	Does not contribute to the				
ontribute to the production of interior contract documents	Generates interior contract	of interior contract documents	of some interior contract					
ncluding drawings, detailing,	documents including	including drawings, detailing,	documents but lacks the	production of interior contract documents including				
schedules, and specifications	drawings, detailing, schedules,	schedules, and specifications	ability to contribute to all forms of drawings, detailing,	drawings, detailing, schedules,	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15. Construction	4
appropriate to project size and	and specifications appropriate	appropriate to project size and	schedules, and specifications	and specifications appropriate				
scope.	to project size and scope.	scope.	appropriate to project size and	to project size and scope.				
scope.		scope.	scope.	to project size and scope.				
			scope.					