IDSD 2860 - SUSTAINABLE RESIDENTIAL DESIGN

Credits: 3

This sophomore-level course examines the functional and aesthetic elements and considerations for residential environments within the context of current design philosophies, contemporary issues impacting housing and shelter, and best practices. Students investigate and apply design solutions for diverse client populations through projects that include appropriate space planning and spatial definition, furniture and finish selections, and presentation methods. As part of the Sustainable Design Specialization, coursework must be completed using the sustainable knowledge and strategies obtained to date. Upon successful completion of this course, students will have the ability to recognize, evaluate, apply, and present different residential design alternatives using problem solving strategies based on socio-cultural needs, contemporary issues for human function, and behavior specifically for safe and supportive residential environments.

Prerequisites: ID 2710 - Introduction to Computer Aided Design (CAD), ID 2750 - Architectural Perspective + Rendering Techniques and ID 2840 - Design Process + Planning

Notes: (Formerly IDSD 2860 Residential Design - Sustainable Design)

Course Learning Outcomes	Exceeding	Meeting	Developing	Not meeting	Program Outcomes	Institutional Outcomes	CIDA Standards
Understand how social, economic, cultural, and physical contexts inform interior design.	Demonstrates a thorough application and informed understanding of social, economic, cultural, and physical contexts.	Understands how social, economic, cultural, and physical contexts inform interior design.	Recognizes social, economic, cultural, and physical contexts; however, these do not inform design work.	Does not understand how social, economic, cultural, and physical contexts inform interior design.	ID1 GLOBAL CONTEXT	Cultural Competence, Design Competence, Critical Thinking	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.	ID1 GLOBAL CONTEXT	Cultural Competence, Critical Thinking	CIDA Standard 4. Global Context
Reconize current and relevant events that are shaping contemporary society and the world.	Analyzes how current and relevant events shape contemporary society and the world.	Recognizes current and relevant events that are shaping contemporary society and the world.	Recognizes some current and relevant events; however, does not explain how these are shaping contemporary society and the world.	Does not recognize current and relevant events that are shaping contemporary society and the world.	ID1 GLOBAL CONTEXT	Cultural Competence, Critical Thinking	CIDA Standard 4. Global Context
Recognize a variety of cultural norms.	Analyzes a variety of cultural norms with criticality and nuance.	Recognizes a variety of cultural norms.	Recognizes some cultural norms.	Does not recognize a variety of cultural norms.	ID1 GLOBAL CONTEXT	Cultural Competence, Critical Thinking	CIDA Standard 4. Global Context
Demonstrate multi-cultural awareness.	Analyzes multi-culturalism with criticality and nuance.	Demonstrates multi-cultural awareness.	Recognizes some multi-cultural differences.	Does not demonstrate multi-cultural awareness.	ID1 GLOBAL CONTEXT	Cultural Competence, Critical Thinking	CIDA Standard 4. Global Context
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 disciplines 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
Define the breadth and depth of interior design's impact and value.	Applies the breadth and depth of interior design's impact and value.	Defines the breadth and depth of interior design's impact and value.	Recalls the breadth and depth of interior design's impact and value.	Does not define the breadth and depth of interior design's impact and value.	ID3 BUSINESS PRACTICES + PROFESSIONALISM	Cultural Competence, Design Competence, Critical Thinking	CIDA Standard 6. Business Practices and Professionaism
Understand theories related to the impact of the built environment on human experience, behavior, and performance.	Applies theories related to the impact of the built environment on human experience, behavior, and performance.	Understands theories related to the impact of the built environment on human experience, behavior, and performance.	Recalls theories related to the impact of the built environment on human experience, behavior, and performance.	Does not understand theories related to the impact of the built environment on human experience, behavior, and performance.	ID4 HUMAN-CENTERED DESIGN	Cultural Competence, Design Comptence, Critical Thinking	CIDA Standard 7. Human-Centered Design
Understand the relationship between the natural, built, virtual, and technological environments as they relate to the human experience, wellbeing, behavior, and performance.	Designs natural, built, virtual, and technological environments that relate to human experience, wellbeing, behavior, and performance.	Understands the relationship between the natural, built, virtual, and technological environments as they relate to the human experience, wellbeing, behavior, and performance.	Recalls the relationship between the natural, built, virtual, and technological environments as they relate to the human experience, wellbeing, behavior, and performance.	Does not understand the relationship between the natural, built, virtual, and technological environments as they relate to the human experience, wellbeing, behavior, and performance.	ID4 HUMAN-CENTERED DESIGN	Cultural Competence, Design Competence, Critical Thinking	CIDA Standard 7. Human-Centered Design
Gather and apply human-centered evidence.	Applies human-centered evidence to designs.	Demonstrates the ability to gather and apply human-centered evidence.	Demonstrates the ability to gather and apply some human-centered evidence but research is not thorough nor critical.	Does not demonstrate the ability to gather and apply human-centered evidence.	ID4 HUMAN-CENTERED DESIGN	Cultural Competence, Design Competence, Critical Thinking	CIDA Standard 7. Human-Centered Design
Analyze and synthesize human perception and behavior patterns to inform design solutions.	Creates design solutions informed by human perception and behavior patterns.	Demonstrates the ability to analyze and synthesize human perception and behavior patterns to inform design solutions.	Explains human perception and behavior patterns to inform design solutions.	Does not demonstrate the ability to analyze and synthesize human perception and behavior patterns to inform design solutions.	ID4 HUMAN-CENTERED DESIGN	Cultural Competence, Design Competence, Critical Thinking	CIDA Standard 7. Human-Centered Design
Apply human factors, ergonomics, and universal design principles to design solutions.	Analyzes human factors, ergonomics, and universal design principles to design solutions.	Demonstrates the ability to apply human factors, ergonomics, and universal design principles to design solutions.	Recalls human factors, ergonomics, and universal design principles and recognizes them within design work.	Does not demonstrate the ability to apply human factors, ergonomics, and universal design principles to design solutions.	ID4 HUMAN-CENTERED DESIGN	Cultural Competence, Design Competence, Critical Thinking	CIDA Standard 7. Human-Centered Design
Apply wayfinding techniques to design solutions.	Analyzes wayfinding techniques within design solutions.	Applies wayfinding techniques to design solutions.	Recognizes wayfinding techniques within design solutions.	Does not apply wayfinding techniques to design solutions.	ID4 HUMAN-CENTERED DESIGN	Communication Competence, Design Competence, Critical Thinking	CIDA Standard 7. Human-Centered Design
Apply space planning techniques throughout the design process.	Analyzes space planning techniques within the design process.	Applies space planning techniques throughout the design process.	Identifies space planning techniques within the design process.	Does not apply space planning techniques throughout the design process.	ID5 DESIGN PROCESS	Design Competence, Critical Thinking	CIDA Standard 8. Design Process
Apply knowledge and skills learned to solve progressively complex design problems.	Solves progressively complex design problems.	Synthesizes progressively complex design problems.	Analyzes progressively complex design problems.	Does not solve progressively complex design problems.	ID5 DESIGN PROCESS	Design Competence, Critical Thinking	CIDA Standard 8. Design Process
Apply knowledge and skills learned to identify and define issues relevant to the design problem.	Analyzes issues relevant to the design problem.	Identifies and defines issues relevant to the design problem.	Recalls issues relevant to the design problem.	Does not identify or define issues relevant to the design problem.	ID5 DESIGN PROCESS	Design Competence, Critical Thinking	CIDA Standard 8. Design Process
Apply knowledge and skills learned to execute the design process: pre-design, schematic design, and design development.	Executes the design process: pre-design, schematic design, and design development.	Synthesizes the design process: pre-design, schematic design, and design development.	Analyzes the design process: pre-design, schematic design, and design development.	Does not execute the design process: pre-design, schematic design, and design development.	ID5 DESIGN PROCESS	Design Competence, Critical Thinking	CIDA Standard 8. Design Process
Apply knowledge and skills learned to design original and creative solutions.	Designs original and creative solutions with professional expertise and polish.	Designs original and creative solutions.	Designs with evidence of some originality and some creative solutions.	Does not design original and creative solutions.	ID5 DESIGN PROCESS	Design Competence, Critical Thinking	CIDA Standard 8. Design Process
Apply knowledge and skills learned to execute the design process: pre-design, quantitative and qualitative programming, schematic design, and design development.	Executes comprehensive and critical design processes: pre-design, quantitative and qualitative programming, schematic design, and design development.	Applies knowledge and skills learned to execute the design process: pre-design, quantitative and qualitative programming, schematic design, and design development.	Applies some knowledge and skills learned to execute some components of the design process: pre-design, quantitative and qualitative programming, schematic design, and design development.	Does not apply knowledge and skills learned to execute the design process: pre-design, quantitative and qualitative programming, schematic design, and design development.	ID5 DESIGN PROCESS	Design Competence, Critical Thinking	CIDA Standard 8. Design Process
Understand the importance of evaluating the relevance and reliability of information and research impacting design solutions.	Creates designs informed by relevant and reliable information and research.	Evaluates the relevance and reliability of information and research impacting design solutions.	Analyzes information and research impacting design solutions.	Does not understand the importance of evaluating the relevance and reliability of information and research impacting design solutions.	ID5 DESIGN PROCESS	Design Competence, Critical Thinking	CIDA Standard 8. Design Process
Recognize a range of problem identification and problem solving methods.	Applies a range of problem identification and problem solving methods.	Recognizes a range of problem identification and problem solving methods.	Recognizes some problem identification and problem solving methods.	Does not recognize a range of problem identification and problem solving methods.	ID5 DESIGN PROCESS	Design Competence, Critical Thinking	CIDA Standard 8. Design Process
Recognize innovation and risk taking.	Analyzes innovation and risk taking.	Applies innovation and risk taking.	Recognizes innovation and risk taking.	Does not apply innovation and risk taking.	ID5 DESIGN PROCESS	Design Competence, Critical Thinking	CIDA Standard 8. Design Process
Recognize methods of idea generation and design thinking.	Applies a range of methods of idea generation and design thinking.	Recognizes a range of methods of idea generation and design thinking.	Recognizes some methods of idea generation and design thinking.	Does not recognize methods of idea generation and design thinking.	ID5 DESIGN PROCESS	Design Competence, Critical Thinking	CIDA Standard 8. Design Process
Effectively interpret and communicate data and research.	Effectively interprets and communicates data and research with clarity and criticality.	Effectively interpret and communicate data and research.	Interprets and communicates data and research but without criticality or clarity.	Does not effectively interpret and communicate data and research.	ID6 COMMUNICATION	Communication Competence	CIDA Standard 9. Communication

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Effectively express ideas and their rationale in oral communication.	Effectively expresses ideas and their rationale in oral communication and actively engages audience with the material and content.	Effectively expresses ideas and their rationale in oral communication.	Expresses ideas in oral communication but without fully explaining rationale and without clarity or detail.	Does not effectively express ideas and their rationale in oral communication.	ID6 COMMUNICATION	Communication Competence	CIDA Standard 9. Communication
Effectively express ideas and their rationale in written communication.	Effectively expresses ideas and their rationale in written communication and actively engages readers with the material and content.	Effectively expresses ideas and their rationale in written communication.	Expresses ideas in written communication but without fully explaining rationale and without clarity or detail.	Does not effectively express ideas and their rationale in written communication.	ID6 COMMUNICATION	Communication Competence	CIDA Standard 9. Communication
Effectively express ideas developed in the design process through visual media: ideation drawings and sketches.	Effectively expresses ideas developed in the design process through visual media (ideation drawings and sketches) and actively engages audience with the material and content.	Effectively expresses ideas developed in the design process through visual media: ideation drawings and sketches.	Expresses ideas developed in the design process through visual media but without clarity or detail.	Does not effectively express ideas developed in the design process through visual media: ideation drawings and sketches.	ID6 COMMUNICATION	Communication Competence	CIDA Standard 9. Communication
Effectively express project solutions using a variety of visual communication techniques and technologies appropriate to a range of purposes and audiences.	Effectively expresses project solutions using a variety of visual communication techniques and technologies appropriate to a range of purposes and audiences. These expressions demonstrate nuance, criticality, and engagement.	Effectively expresses project solutions using a variety of visual communication techniques and technologies appropriate to a range of purposes and audiences.	Expresses project solutions using some visual communication techniques and technologies although these are not always appropriate to a range of purposes and audiences.	Does not effectively express project solutions using a variety of visual communication techniques and technologies appropriate to a range of purposes and audiences.	ID6 COMMUNICATION	Communication Competence	CIDA Standard 9. Communication
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
Competently select and apply luminaires and light sources.	Competently selects and applies luminaires and light sources with criticality and creativity.	Competently selects and applies luminaires and light sources.	Selects and applies luminaires and light sources with inconsistency.	Does not competently select and apply luminaires and light sources.	ID9 LIGHT + COLOR	Design Competence, Critical Thinking	CIDA Standard 12. Light and Color
Understand color terminology.	Applies color terminology.	Understands color terminology.	Recognizes color terminology.	Does not understand color terminology.	ID9 LIGHT + COLOR	Design Competence, Critical Thinking	CIDA Standard 12. Light and Color
Understand color principles, theories, and systems.	Applies color principles, theories, and systems.	Understands color principles, theories, and systems.	Recognizes color principles, theories, and systems.	Does not understand color principles, theories, and systems.	ID9 LIGHT + COLOR	Design Competence, Critical Thinking	CIDA Standard 12. Light and Color
Understand color in relation to materials, textures, light, and form.	Applies color in relation to materials, textures, light, and form.	Understands color in relation to materials, textures, light, and form.	Recognizes color in relation to materials, textures, light, and form.	Does not understand color in relation to materials, textures, light, and form.	ID9 LIGHT + COLOR	Design Competence, Critical Thinking	CIDA Standard 12. Light and Color
Appropriately select and apply color to support design concepts.	Critically and creatively selects and applies color to support complex design concepts.	Appropriately selects and applies color to support design concepts.	Selects and applies color to design concepts; however, these decisions do not fully support design concepts.	Does not appropriately select and apply color to support design concepts.	ID9 LIGHT + COLOR	Design Competence, Critical Thinking	CIDA Standard 12. Light and Color
Appropriately select and apply color to multiple design functions.	Critically and creatively selects and applies color to multiple design functions.	Appropriately selects and applies color to multiple design functions.	Selects and applies color to some design functions.	Does not appropriately select and apply color to multiple design functions.	ID9 LIGHT + COLOR	Design Competence, Critical Thinking	CIDA Standard 12. Light and Color
Appropriately use color solutions across different modes of design communication.	Critically and creatively uses color solutions across different modes of design communication.	Appropriately uses color solutions across different modes of design communication.	Uses color solutions across some modes of design communication.	Does not appropriately use color solutions across different modes of design communication.	ID9 LIGHT + COLOR	Design Competence, Critical Thinking	CIDA Standard 12. Light and Color
Understand how furnishings, objects, materials, and finishes work together to support the design intent.	Analyze how furnishings, objects, materials, and finishes work together to support the design intent.	Understand how furnishings, objects, materials, and finishes work together to support the design intent.	Recognize how furnishings, objects, materials, and finishes work together to support the design intent.	Does not understand how furnishings, objects, materials, and finishes work together to support the design intent.	ID10 PRODUCTS + MATERIALS	Design Competence, Critical Thinking	CIDA Standard 13. Products and Materials
Understand typical fabrication, installation methods, and maintenance requirements.	Evaluates fabrication, installation methods, and maintenance requirements.	Demonstrates an understanding of typical fabrication, installation methods, and maintenance requirements.	Recognizes some fabrication, installation methods, and maintenance requirements.	Does not demonstrate an understanding of typical fabrication, installation methods, and maintenance requirements.	ID10 PRODUCTS + MATERIALS	Design Competence, Critical Thinking	CIDA Standard 13. Products and Materials
Understand appropriate design or specification of products and materials in relation to project criteria and human and environmental wellbeing.	Evaluates appropriate design or specification of products and materials in relation to project criteria and human and environmental wellbeing.	Demonstrates an understanding of appropriate design or specification of products and materials in relation to project criteria and human and environmental wellbeing.	Recognizes the appropriate design or specification of products and materials but not always in relation to project criteria and human and environmental wellbeing.	Does not demonstrate an understanding of appropriate design or specification of products and materials in relation to project criteria and human and environmental wellbeing.	ID10 PRODUCTS + MATERIALS	Design Competence, Critical Thinking	CIDA Standard 13. Products and Materials
Select and apply products and materials on the basis of their properties and performance criteria, including ergonomics, environmental attributes, life safety, and life cycle cost.	Evaluates products and materials on the basis of their properties and performance criteria, including ergonomics, environmental attributes, life safety, and life cycle cost.	Selects and applies products and materials on the basis of their properties and performance criteria, including ergonomics, environmental attributes, life safety, and life cycle cost.	Selects and applies products and materials but without consideration of their properties and performance criteria, including ergonomics, environmental attributes, life safety, and life cycle cost.	Does not select and apply products and materials on the basis of their properties and performance criteria, including ergonomics, environmental attributes, life safety, and life cycle cost.	ID10 PRODUCTS + MATERIALS	Design Competence, Critical Thinking	CIDA Standard 13. Products and Materials
Understand how design solutions affect and are impacted by vertical and horizontal systems of transport and circulation such as stairs, elevators, or escalators.	Evaluates how design solutions affect and are impacted by vertical and horizontal systems of transport and circulation such as stairs, elevators, or escalators.	Understands how design solutions affect and are impacted by vertical and horizontal systems of transport and circulation such as stairs, elevators, or escalators.	Recognizes that design solutions affect and are impacted by vertical and horizontal systems of transport and circulation such as stairs, elevators, or escalators.	Does not understand how design solutions affect and are impacted by vertical and horizontal systems of transport and circulation such as stairs, elevators, or escalators.	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15. Construction
Recognize the origins and intent of laws, codes, and standards.	Analyzes the origins and intent of laws, codes, and standards.	Demonstrates an awareness of the origins and intent of laws, codes, and standards.	Recognizes some the origins and intent of laws, codes, and standards.	Does not demonstrate an awareness of the origins and intent of laws, codes, and standards.	ID13 REGULATIONS + GUIDELINES	Design Competence	CIDA Standard 16. Regulations and Guidelines