

# IDSD 3870 - SUSTAINABLE OFFICE DESIGN

Credits: 3

Students in this junior-level studio course gain the technical and practical knowledge and skills necessary to design large-scale work environments based on human productivity and business organizations and their goals. Emphasis is on advanced programming, space planning, furniture, finish and equipment specification, and building system integration while adhering to fire and safety codes and ADA requirements as part of design development and presentation. 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 formulate and communicate a comprehensive design for a work environment based on research and advanced problem-solving strategies.

Prerequisites: ID 3715 - Building Information Modeling: Revit, ID 3530 - Lighting Layout + Design, IDSD 2870 - Sustainable Holistic Design

Notes: (Formerly IDSD 3870 Office Design - Sustainable Design, ID 3810 Office Design - Sustainable Design)

Course Learning Outcomes	Exceeding	Meeting	Developing	Not meeting	Program Outcomes	Institutional Outcomes	CIDA Standards
Define the contexts for interior design practice.	Applies the contexts for interior design practice.	Defines the contexts for interior design practice.	Recalls the contexts for interior design practice.	Does not define the contexts for interior design practice.	ID3 BUSINESS PRACTICES + PROFESSIONALISM	Design Competence, Critical Thinking	CIDA Standard 6. Business Practices and Professionalism
Engage with role models who are qualified by education and experience in interior design.	N/A	Engages with qualified role models who have advanced education and experience in interior design.	N/A	Does not engage with qualified role models who have advanced education and experience in interior design.	ID3 BUSINESS PRACTICES + PROFESSIONALISM	Communication Competence, Design Competence	CIDA Standard 6. Business Practices and Professionalism
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 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
<b>ID5 DESIGN PROCESS</b> Apply all aspects of the design process to creatively solve a design problem.	Analyzes the aspects of the design process and how they creatively solve design problems.	Applies all aspects of the design process to creatively solve a design problem.	Understands the aspects of the design process, but inconsistently recognizes how they apply to creatively solve design problems.	Does not apply all aspects of the design process nor how they creatively solve design problems.	ID5 DESIGN PROCESS	Design Competence, Critical Thinking	CIDA Standard 8. Design Process
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 synthesize information to generate evidence-based design solutions.	Generates evidence-based design solutions.	Synthesizes information within design solutions.	Analyzes information within design solutions.	Does not synthesize information to generate evidence-based design solutions.	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
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

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Prerequisites: ID 3715 - Building Information Modeling; Revit, ID 3530 - Lighting Layout + Design, IDSD 2870 - Sustainable Holistic Design

Notes: (Formerly IDSD 3870 Office Design - Sustainable Design, ID 3810 Office Design - Sustainable Design)

Course Learning Outcomes	Exceeding	Meeting	Developing	Not meeting	Program Outcomes	Institutional Outcomes	CIDA Standards
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
Understand the elements and principles of design, including spatial definition and organization.	Applies the elements and principles of design, including spatial definition and organization.	Understand the elements and principles of design, including spatial definition and organization.	Recognizes the elements and principles of design, including spatial definition and organization.	Does not understand the elements and principles of design, including spatial definition and organization.	ID8 DESIGN ELEMENTS + PRINCIPLES	Design Competence	CIDA Standard 11. Design Elements and Principles
Demonstrate the ability to explore a range of two- and three-dimensional design solutions using a variety of media.	Creates designs informed by a range of two- and three-dimensional design solutions using a variety of media.	Explores a range of two- and three-dimensional design solutions using a variety of media.	Explores some two- and three-dimensional design solutions using some variety of media.	Does not explore a range of two- and three-dimensional design solutions using a variety of media.	ID8 DESIGN ELEMENTS + PRINCIPLES	Design Competence	CIDA Standard 11. Design Elements and Principles
Effectively apply the elements and principles of design and related theories throughout the interior design curriculum to three-dimensional design solutions.	Analyze the elements and principles of design and related theories throughout the interior design curriculum to three-dimensional design solutions.	Apply the elements and principles of design and related theories throughout the interior design curriculum to three-dimensional design solutions.	Recognize the elements and principles of design and related theories throughout the interior design curriculum to three-dimensional design solutions.	Does not the elements and principles of design and related theories throughout the interior design curriculum to three-dimensional design solutions.	ID8 DESIGN ELEMENTS + PRINCIPLES	Design Competence	CIDA Standard 11. Design Elements and Principles
Recognize the environmental impact of illumination strategies and decisions.	Analyzes the environmental impact of illumination strategies and decisions to designs.	Recognizes the environmental impact of illumination strategies and decisions.	Identifies some environmental impacts of illumination strategies and decisions.	Does not recognize the environmental impact of illumination strategies and decisions.	ID9 LIGHT + COLOR	Design Competence, Critical Thinking	CIDA Standard 12. Light and Color
Understand the principles of natural and artificial lighting design.	Applies the principles of natural and artificial lighting design.	Understand the principles of natural and artificial lighting design.	Identifies the principles of natural and artificial lighting design.	Does not understand the principles of natural and artificial lighting design.	ID9 LIGHT + COLOR	Design Competence, Critical Thinking	CIDA Standard 12. Light and Color
Understand strategies for using and modulating natural light.	Applies strategies for using and modulating natural light.	Understand strategies for using and modulating natural light.	Identifies strategies for using and modulating natural light.	Does not understand strategies for using and modulating natural light.	ID9 LIGHT + COLOR	Design Competence, Critical Thinking	CIDA Standard 12. Light and Color
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
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
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
Design and specify a broad range of appropriate products, materials, objects, and elements in support of the design intent.	Evaluate a broad range of appropriate products, materials, objects, and elements in support of the design intent.	Design and specifies a broad range of appropriate products, materials, objects, and elements in support of the design intent.	Design and specifies some appropriate products, materials, objects, and elements in support of the design intent.	Does not design or specify a broad range of appropriate products, materials, objects, and elements in support of the design intent.	ID10 PRODUCTS + MATERIALS	Design Competence, Critical Thinking	CIDA Standard 13. Products and Materials
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
Understand how design solutions affect and are impacted by base-building structural systems and construction methods.	Evaluates how design solutions affect and are impacted by base-building structural systems and construction methods.	Understands how design solutions affect and are impacted by base-building structural systems and construction methods.	Recognizes that design solutions affect and are impacted by base-building structural systems and construction methods.	Does not understand how design solutions affect and are impacted by base-building structural systems and construction methods.	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15. Construction
Understand how design solutions affect and are impacted by interior systems, construction, and installation methods.	Evaluates how design solutions affect and are impacted by interior systems, construction, and installation methods.	Understands how design solutions affect and are impacted by interior systems, construction, and installation methods.	Recognizes that design solutions affect and are impacted by interior systems, construction, and installation methods.	Does not understand how design solutions affect and are impacted by interior systems, construction, and installation methods.	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15. Construction
Understand how design solutions affect and are impacted by detailing and specification of interior construction materials, products, and finishes.	Evaluates how design solutions affect and are impacted by detailing and specification of interior construction materials, products, and finishes.	Understands how design solutions affect and are impacted by detailing and specification of interior construction materials, products, and finishes.	Recognizes that design solutions affect and are impacted by detailing and specification of interior construction materials, products, and finishes.	Does not understand how design solutions affect and are impacted by detailing and specification of interior construction materials, products, and finishes.	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15. Construction
Understand how design solutions affect and are impacted by the integration of building systems including electrical (such as power, data, lighting, telecommunications, audio visual) and mechanical (such as HVAC, plumbing, and sprinklers).	Evaluates how design solutions affect and are impacted by the integration of building systems including electrical (such as power, data, lighting, telecommunications, audio visual) and mechanical (such as HVAC, plumbing, and sprinklers).	Understands how design solutions affect and are impacted by the integration of building systems including electrical (such as power, data, lighting, telecommunications, audio visual) and mechanical (such as HVAC, plumbing, and sprinklers).	Recognizes that design solutions affect and are impacted by the integration of building systems including electrical (such as power, data, lighting, telecommunications, audio visual) and mechanical (such as HVAC, plumbing, and sprinklers).	Does not understand how design solutions affect and are impacted by the integration of building systems including electrical (such as power, data, lighting, telecommunications, audio visual) and mechanical (such as HVAC, plumbing, and sprinklers).	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15. Construction

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Understand how design solutions affect and are impacted by monitoring systems pertaining to energy, security, and building controls systems.	Evaluates how design solutions affect and are impacted by monitoring systems pertaining to energy, security, and building controls systems.	Understands how design solutions affect and are impacted by monitoring systems pertaining to energy, security, and building controls systems.	Recognizes that design solutions affect and are impacted by monitoring systems pertaining to energy, security, and building controls systems.	Does not understand how design solutions affect and are impacted by monitoring systems pertaining to energy, security, and building controls systems.	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15. Construction
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
Understand the formats, components, and accepted standards for an integrated and comprehensive set of interior construction documents.	Evaluates the formats, components, and accepted standards for an integrated and comprehensive set of interior construction documents.	Understands the formats, components, and accepted standards for an integrated and comprehensive set of interior construction documents.	Recognizes the formats, components, and accepted standards for an integrated and comprehensive set of interior construction documents.	Does not understand the formats, components, and accepted standards for an integrated and comprehensive set of interior construction documents.	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15. Construction
Read and interpret base-building construction documents.	Reads and critically interprets base-building construction documents with nuance.	Reads and interprets base-building construction documents.	Reads but cannot adequately interpret base-building construction documents.	Does not read or interpret base-building construction documents.	ID12 CONSTRUCTION	Design Competence	CIDA Standard 15. Construction
Contribute to the production of interior contract documents including drawings, detailing, schedules, and specifications appropriate to project size and scope.	Generates interior contract documents including drawings, detailing, schedules, and specifications appropriate to project size and scope.	Contributes to the production of interior contract documents including drawings, detailing, schedules, and specifications appropriate to project size and scope.	Contributes to the production of some interior contract documents but lacks the ability to contribute to all forms of drawings, detailing, schedules, and specifications appropriate to project size and scope.	Does not contribute to the production of interior contract documents including drawings, detailing, schedules, and specifications appropriate to project size and scope.	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
Understand standards and guidelines related to sustainability and wellness.	Analyzes the standards and guidelines related to sustainability and wellness.	Understands the standards and guidelines related to sustainability and wellness.	Recognizes some of the standards and guidelines related to sustainability and wellness.	Does not understand the standards and guidelines related to sustainability and wellness.	ID13 REGULATIONS + GUIDELINES	Design Competence	CIDA Standard 16. Regulations and Guidelines
Understand sector-specific regulations and guidelines related to construction, products, and materials.	Analyzes sector-specific regulations and guidelines related to construction, products, and materials.	Understands sector-specific regulations and guidelines related to construction, products, and materials.	Recognizes some of the sector-specific regulations and guidelines related to construction, products, and materials.	Does not understand sector-specific regulations and guidelines related to construction, products, and materials.	ID13 REGULATIONS + GUIDELINES	Design Competence	CIDA Standard 16. Regulations and Guidelines
Apply federal, state/provincial, and local codes including fire and life safety.	Analyzes federal, state/provincial, and local codes including fire and life safety.	Applies federal, state/provincial, and local codes including fire and life safety.	Understands federal, state/provincial, and local codes including fire and life safety.	Does not apply federal, state/provincial, and local codes including fire and life safety.	ID13 REGULATIONS + GUIDELINES	Design Competence	CIDA Standard 16. Regulations and Guidelines
Apply barrier-free and accessibility regulations and guidelines.	Analyzes barrier-free and accessibility regulations and guidelines.	Applies barrier-free and accessibility regulations and guidelines.	Understands barrier-free and accessibility regulations and guidelines.	Does not apply barrier-free and accessibility regulations and guidelines.	ID13 REGULATIONS + GUIDELINES	Design Competence	CIDA Standard 16. Regulations and Guidelines