

ID - Innovative Design

Courses numbered 500 to 799 = *undergraduate/graduate*. (Individual courses may be limited to undergraduate students only.) Courses numbered 800 to 999 = *graduate*.

ID 506. Leadership Development for Innovation (3).

Examines what makes or breaks a great leader, not just in companies, but in life. Studies the six “C’s” of leadership: character, charisma, commitment, competence, communication and courage, and how each one can enhance or take away from leadership ability. Intended for students with diverse interests and nontechnical backgrounds.

ID 507. Tech Talent Development (1).

Prepares students for integration into the rapidly growing technology industry using applied problem solving exercises within the area of technology development. Students are exposed to a diverse array of real-world problems faced by technology startups and established companies, and taught how to facilitate successful outcomes while adapting to the culture. Focuses on team-building exercises, estimating solutions effort and cost, resolving conflicts, developing interpersonal skills, and identifying roles within teams. Intended for students with interests in the technology industry.

ID 508. Design Sprints (2).

As a method to quickly solve big problems and test new ideas, design sprints are a very efficient ideation and problem solving process. Attendees learn the collaborative sprint process and how to use it to develop new products and services, and to solve complex problems. Course is ideal for students who intend to work in the tech, product or service development industries, are UX designers, are looking to grow their collaboration and team leadership skills, or intend to run their own business.

ID 509. Applied Sustainability in Innovation (3).

Students participate in thoughtful discussion on sustainability, adoption of sustainable practices and policies, and employ hands-on analysis of the long-term sustainability of innovative solutions to today’s wicked problems.

ID 511. Agile Product Management (3).

Prepares students for integration into a professional Agile product development environment using applied problem-solving exercises. Students are exposed to a diverse array of complex product development challenges and are taught how to facilitate and document successful outcomes. The focus is on problem-solving within a team environment, establishing an Agile product development workflow, estimation of solutions effort and cost, and learning to fail gracefully.

ID 512. Structuring Your Startup (3).

Explores how startups and new business ventures can benefit from thinking deeply about their customers, the value they bring, and how they will actually make money before launching the business. This course is designed to help entrepreneurs reduce their risk in a new venture. Offers entrepreneurs, innovators and startups a strategic approach utilizing design thinking principals to create a well thought out business plan that identifies and establishes the core values of the business, target audience, value proposition, product positioning, revenue streams and channels for delivering customer value. Focuses on building a relevant business model, testing the model’s assumptions, prototyping the business concept and testing it.

ID 513. Design Thinking (2).

Helps students learn, understand and appreciate the process of design thinking. This course focuses on the various techniques of developing empathy and understanding, effectively defining a problem, exploring ideas, rapid prototyping, and testing. Students observe and collaborate

with interdisciplinary teams to discover user insights, improve user experiences, innovate new products and services, create team alignment and overall problem-solving. The course is intended for students with diverse interests and technical or nontechnical backgrounds.

ID 513H. Design Thinking Honors (2).

Helps students learn, understand and appreciate the process of design thinking. This course focuses on the various techniques of developing empathy and understanding, effectively defining a problem, exploring ideas, rapid prototyping, and testing. Students observe and collaborate with interdisciplinary teams to discover user insights, improve user experiences, innovate new products and services, create team alignment and overall problem-solving. The course is intended for students with diverse interests and technical or nontechnical backgrounds.

ID 514. Design Thinking Challenges (3).

Develop and prototype solutions for complex social and environmental challenges. This course helps students develop robust business or mission plans to deliver valuable impacts to identified customer segments based on a challenge prompt. Students end the course with a business plan and pitch to be used towards potential funding opportunities.

ID 515. Blockchain Fundamentals (2).

Provides students with a working understanding of the blockchain, cryptocurrencies and tokens, NFT’s, and Web3.0. Course topics include the history of centralized and decentralized computer systems, the birth and core concepts of blockchain, tokenomics and microeconomies, the evolution of the blockchain to now, and current examples of applied blockchain technology.

ID 516. Blockchain Applications (2).

Provides an overview of the basics of blockchain technologies, and then dives deeper into four applications used in the blockchain ecosystem: Smart Contracts, decentralized applications, blockchain platforms and NFT’s. Course topics include an overview of a few of the programming languages behind Smart Contracts with a walkthrough of a Smart Contract in Solidity, the technology and use of decentralized applications, the various platforms in blockchain and how and why they are useful, and Non-Fungible Tokens in use today as well as what projects are being worked on to use them in the future.

ID 555. Innovating for Social Justice (3).

Achieving sustainable globalization requires a rejuvenation of entrepreneurial and innovation based on a better understanding of the impact of social context. Course is intended for students with diverse interests and nontechnical backgrounds.

ID 705. Seminar in Applied Innovation (1-6).

An umbrella course created to explore a variety of subtopics differentiated by letter (e.g., 705A, 705B). Not all subtopics are offered each semester – see the course schedule for availability. Students enroll in the lettered courses with specific topics in the titles rather than in this root course.

ID 705D. Agile Software Development for Web (3).

Students don't just learn to code, they learn to develop products. Students use critical thinking tactics to explore how to use their set of coding skills to fit into various real-world applications. This course is for anyone wanting to learn how to apply agile software development practices to solve complex problems. Emphasis is placed on developing the individual technical skills necessary to excel in a cross-functional agile team environment.

ID 705E. Product Development Process (1-3).

Discusses how to launch viable, market-ready products. Practice the use of an outcome bases product roadmap.

ID 705F. Optimizing Design (1-3).

Designed for the nonprofessional graphic designer looking to explore methods and concepts to take ideas and designs to the next step independently.

ID 705I. Introduction to Blockchain 'Intro to Crypto-Currency' (1-3).

Course for the nontechnical audience. Introduces the key concepts behind blockchain technology, digital currency, hyperledger and other use cases.

ID 710. Service Design Thinking (2).

Teaches students how to tailor design-thinking processes to achieve intended outcomes and objectives associated with services, systems and processes using empathy maps, journey maps, storyboards, prioritization grids, and next steps. Additionally, students learn how vision, goals, activities, tasks and steps can help users complete an intended outcome in a way that supports the overall mission of the organization. Course is for anyone who works with or develops services, systems or processes including innovators, engineers, game designers, web designers, operations management, efficiency management and service-related industries such as restaurants, hotels and event centers.

ID 715. Product Development with Python (3).

Python is one of the most popular coding languages in the world, used as the foundational language for both legacy and emerging technologies. Artificial intelligence, data analytics frameworks and even weather ensemble models are all built on Python. This course helps build Python coding skills and literacy for novice and experienced programmers by using Agile software development practices to build valuable products. Both independent study and instructor-guided lessons are included. Students work individually and in teams.

ID 720. Sustainable Teams and Organizations (3).

Assess and discuss the long-term sustainability of various philosophies and techniques used in the management of people and teams. This course looks at the impacts of these approaches in individual, team and organizational settings. Students learn the value of creating psychological safety in a team environment, its impact on transparency and performance, and techniques for facilitating constructive conflict to attain continuous improvement in a complex product development environment – with people. Students also explore the impacts to team performance made by human resource policies, traditional project management techniques, large organizational structures, and compliance and risk mitigation.

ID 721. Pitch to Presentation (2).

Pitching ideas, products and strategies is a vital part of business, yet it is a skill that most people simply have had to learn through experience. This class speeds up that process by addressing the fears that hold people back from making a presentation and provides ways to deal with those fears. Additionally, this course focuses on all the key elements of an effective pitch presentation including how to craft a pitch story, the importance of quality visuals, the impact of words and images, and how to develop a style as a presenter by applying voice, tone and body language. This course covers: the seven deadly fears of public speaking; what someone is selling vs what people are buying; effective communication with words, tone and body language; the strategic elements of a pitch; the art of storytelling for impact; presentation development; and delivering a presentation in person vs online.

ID 752. Product, Service, and Process Prototyping (3).

Provides an overview of prototyping concepts with the specific intent of help innovation design degree students identify various methods of successfully demonstrating the potential of their ideas. Intended for students with diverse interests and nontechnical backgrounds.

ID 753. Design: Intent vs Impact (3).

Explores the ethics behind companies with the least impact vs the companies who create the most negative impact. Addresses why “being less bad” is still not good enough, and tackles the 4R’s — reduce, recycle, reuse and regulations. Students discuss and learn about ethically sourced materials, sustainability, carbon footprints, natural resources, outsource responsibility, product lifecycles, social responsibility, cutting waste, government concerns, respecting diversity and what potential new issues can arise from artificial intelligence. Course is for anyone planning to launch or run a company, innovate new products and services, looking to grow their leadership skills, or lead a team for a company that produces products and services. Intended for students with diverse interests and technical or nontechnical backgrounds. Completion of this course fulfills the Graduate School’s professional/scholarly/integrity training requirement.

ID 840. Innovation in Practice (1-6).

Independent study course for students undertaking the Master of Innovation Design or other related programs. Built around experiential enrichment related to the broad topic of innovation. Topics such as intellectual property, branding, pitching, wire-framing, prototyping and funding are discussed in a group setting and may include guest speakers and/or visits to local companies. Repeatable for credit, but only 6 credit hours may count toward plan of study.

ID 841. Project (1-6).

Independent study course for students undertaking the project development/creativity option for completion of the Master of Innovation Design. Project is a substantive piece of creative work involving primary and/or secondary development, which serves to demonstrate mastery over the discourse, methods and content of at least one academic, creative or professional field. Requires students to synthesize knowledge and skills acquired over the course of the graduate career. Project must be designed and completed under the supervision of a graduate faculty supervisor and at the supervisor’s discretion, may be reviewed by additional faculty advisors. Repeatable for credit.

ID 842. Thesis (1-6).

Independent study course for innovation design degree students undertaking the research and writing of a master’s thesis. A thesis is a substantive piece of scholarship or creative work involving primary and/or secondary research, which serves to demonstrate mastery over the discourse, methods and content of at least one academic, creative or professional field. Requires students to synthesize knowledge and skills acquired over the course of the graduate career. Thesis projects must be designed and completed under the supervision of a graduate faculty thesis supervisor and, at the supervisor’s discretion, may be reviewed by additional faculty advisors. Repeatable for credit.