DESIGN INNOVATION (DI)

DI 10010  SURVEY OF DESIGN INNOVATION NODES  3 Credit Hours
Develop awareness and actively utilize the wide array of shared-resource laboratories and environments across Kent State University's eight campus system that are connected as part of the Design Innovation (DI) Ecosystem. Explore the context of maker-communities, emerging technologies and social innovation resources while working in collaborative cross-disciplinary teams to tackle projects that intentionally connect the capabilities of multiple DI Nodes.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

DI 20100  INTRODUCTION TO DESIGN INNOVATION  3 Credit Hours
This course is designed for graduate students and will introduce the multi-disciplinary nature of design and innovation. It provides an understanding of the technologies that make the smartphone possible. Specifically, the course covers the role of research and design in product development, the changed in patterns and nature of our communications through smartphones, and the implications for businesses, markets and society. The aim of this course is to introduce the multidisciplinary nature of innovation using the smartphone as an example. It presents the complexities, challenges, and opportunities that the smartphone has created.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

DI 20200  BE SMARTER THAN YOUR SMARTPHONE  3 Credit Hours
This course uses the development of the smart phone to illustrate the multi-disciplinary nature of design and innovation. It provides an understanding of the technologies that make the smartphone possible. Specifically, the course covers the role of research and design in product development, the changed in patterns and nature of our communications through smartphones, and the implications for businesses, markets and society. The aim of this course is to introduce the multidisciplinary nature of innovation using the smartphone as an example. It presents the complexities, challenges, and opportunities that the smartphone has created.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

DI 30100  CHALLENGE-BASED INNOVATION  3 Credit Hours
(Repeatable for credit) Challenge-Based Innovation (CBI) is a project and problem-based learning course, where multidisciplinary student teams and their instructors collaborate with faculty researchers, community and industry partners to discover novel solutions for the future of humankind. The projects are an elaborate mixture, proposed by cross-disciplinary faculty teams and derived from using research to tackle messy or complex problems to meet societal, human-driven needs. The multidisciplinary student teams act as catalysts in creating novel solutions to pressing problems.
Prerequisite: DI 20100.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 3 lab
Grade Mode: Standard Letter

DI 49095  SPECIAL TOPICS IN DESIGN INNOVATION STUDIO  1-6 Credit Hours
(Repeatable for credit) Analysis and cross-disciplinary problem-solving of significant and current issues in design innovation not covered in existing design innovation courses. This studio course is offered when opportunities and resources permit; the topic is announced when the course is scheduled.
Prerequisite: DI 20100.
Schedule Type: Studio
Contact Hours: 2-6 other
Grade Mode: Standard Letter

DI 49900  DESIGN INNOVATION WORKSHOP  1-4 Credit Hours
This course supports brief, intensive and interactive activities that address a narrowly defined range of problems in which the content is practical and concentrates on the acquisition of specific information and skills related to practices in design innovation. The variable credit format allows for intensive challenges that might occur in short periods, and that it might be focused on a single problem.
Prerequisite: DI 20100.
Schedule Type: Workshop
Contact Hours: 1-4 other
Grade Mode: Satisfactory/Unsatisfactory

DI 49995  SPECIAL TOPICS IN DESIGN INNOVATION WORKSHOP  1-6 Credit Hours
(Repeatable for credit) Analysis and cross-disciplinary problem-solving of significant and current issues in design innovation not covered in existing design innovation courses. This course is offered when opportunities and resources permit; the topic is announced when the course is scheduled.
Prerequisite: DI 20100.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter
DI 49999  DESIGN INNOVATION GRAND CHALLENGES STUDIO
PROJECT (ELR)  3 Credit Hours
A cross disciplinary project-based capstone course that collaboratively
focuses on a single grand challenge. Challenges range from those
identified by Grand Challenges.org, "solving global health and
development problems for those most in need" to one of the “Grand
Challenges for Engineering”, to one from the list regularly updated by
the National Science Foundation, to a pressing challenge identified by
the faculty. Taught by a multidisciplinary team of primary instructors
with input from industry leaders with complementary expertise, the
collaborative effort of students, faculty members, industry partners and-
or community leaders, focuses on developing robust multi-perspective,
actionable solutions considering multiple criteria including but not limited
to technical, socio-cultural and economic dimensions. Outcomes range
from early designs, to physical prototypes or policy solutions with an
understanding of how to take them to a next phase. Travel component
may be included.
Prerequisite: DI 20100 and DI 30100.
Schedule Type: Project or Capstone
Contact Hours: 6 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement