Design Innovation (DES INV)

DES INV 10 Discovering Design 2 Units
Terms offered: Fall 2017, Fall 2016
This course, ideal for students who are looking for an introduction to the broad world of design, covers design careers, design fields, histories of design and ethics in design. Students will gain language for analyzing and characterizing designs. In this course you will be learning design both from theoretical and historical perspectives, and from studio-based design exercises and projects. The weekly assignments and final projects will emphasize foundational design skills in observation, ideation, problem finding and problem solving, formgiving, communication, and critique. Discovering Design: Read More [+]

Rules & Requirements
Prerequisites: Varies by topic. Check syllabus and/or Jacobs Institute website for specific prerequisites
Repeat rules: Repeat requires instructor and advisor consent

Hours & Format
Fall and/or spring: 15 weeks - 2 hours of lecture per week
Summer: 6 weeks - 6 hours of lecture per week
8 weeks - 4 hours of lecture per week
10 weeks - 3 hours of lecture per week

Additional Details
Subject/Course Level: Design Innovation/Undergraduate
Grading/Final exam status: Letter grade. Alternative to final exam.
Discovering Design: Read Less [-]

DES INV 15 Design Methodology 3 Units
Terms offered: Fall 2017, Spring 2017, Fall 2016
This introductory course aims to expose you to the mindset, skillset and toolset associated with design. It does so through guided applications to framing and solving problems in design, business and engineering. Specifically, you will learn approaches to noticing and observing, framing and reframing, imagining and designing, and experimenting and testing as well as for critique and reflection. You will also have a chance to apply those approaches in various sectors. Design Methodology: Read More [+]

Rules & Requirements
Prerequisites: Varies by topic. Check syllabus and/or Jacobs Institute website for specific prerequisites
Repeat rules: Students who have taken E15 cannot take DES INV 15 for credit. Others require instructor consent.

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture per week
Summer: 6 weeks - 8 hours of lecture per week
8 weeks - 6 hours of lecture per week
10 weeks - 5 hours of lecture per week

Additional Details
Subject/Course Level: Design Innovation/Undergraduate
Grading/Final exam status: Letter grade. Alternative to final exam.
Design Methodology: Read Less [-]
DES INV 21 Visual Communication & Sketching 3 Units
Terms offered: Fall 2017, Spring 2017, Fall 2016
Anyone can sketch. Great communicators today should never hesitate to reach for a pen and draw. Sketching is an effective expression of thinking and problem solving. It is a form of visual communication that can be learned and is a skill that can improve with practice and a little guidance. This course will give participants practice and confidence in their ability to communicate through sketching.
Visual Communication & Sketching: Read More [+]

Rules & Requirements
Prerequisites: Varies by topic. Check syllabus and/or Jacobs Institute website for specific prerequisites
Repeat rules: Repeat requires instructor and advisor consent
Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture per week
Summer:
6 weeks - 8 hours of lecture per week
8 weeks - 6 hours of lecture per week
10 weeks - 5 hours of lecture per week
Additional Details
Subject/Course Level: Design Innovation/Undergraduate
Grading/Final exam status: Letter grade. Alternative to final exam.

DES INV 22 Prototyping & Fabrication 3 Units
Terms offered: Fall 2017, Summer 2017 First 6 Week Session, Spring 2017
This course teaches concepts, skills and methods required to design, prototype, and fabricate physical objects. Each week relevant techniques in 2D and 3D modeling and fabrication are presented along with basic electronics and circuit design. Projects are assigned that cover the weekly course material. Topics include a range of prototyping and fabrication techniques including laser-cutting, 3D modeling and 3D printing, soldering, basic circuits, microcontrollers (Arduino), sensors and actuators, and interface mockups.
This course may be used to fulfill College of Engineering undergraduate technical elective requirements.
Prototyping & Fabrication: Read More [+]

Rules & Requirements
Prerequisites: Varies by topic. Check syllabus and/or Jacobs Institute website for specific prerequisites
Repeat rules: Repeat requires instructor and advisor consent
Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture per week
Summer:
6 weeks - 8 hours of lecture per week
8 weeks - 6 hours of lecture per week
10 weeks - 5 hours of lecture per week
Additional Details
Subject/Course Level: Design Innovation/Undergraduate
Grading/Final exam status: Letter grade. Alternative to final exam.
DES INV 90 Special Topics in Design Innovation 1 - 4 Units
Terms offered: Spring 2016, Fall 2015
Selected topics in design innovation. This course cannot be used to complete any course or unit requirement for College of Engineering undergraduates.
Special Topics in Design Innovation: Read More [+]

Prerequisites:
Varies by topic. Check syllabus and/or Jacobs Institute website for specific prerequisites

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format
Fall and/or spring:
7 weeks - 1-8 hours of lecture per week
8 weeks - 1-8 hours of lecture per week
15 weeks - 1-4 hours of lecture per week

Summer:
6 weeks - 2-10 hours of lecture per week
8 weeks - 2-10 hours of lecture per week

Additional Details
Subject/Course Level: Design Innovation/Undergraduate
Grading/Final exam status: Letter grade. Alternative to final exam.

DES INV 90E Technical Special Topics in Design Innovation 1 - 4 Units
Terms offered: Prior to 2007
Selected topics in design innovation. This course counts towards the technical elective requirement for College of Engineering undergraduates.
Technical Special Topics in Design Innovation: Read More [+]

Prerequisites:
Varies by topic. Check syllabus and/or Jacobs Institute website for specific prerequisites

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format
Fall and/or spring:
7 weeks - 1-8 hours of lecture per week
8 weeks - 1-8 hours of lecture per week
15 weeks - 1-4 hours of lecture per week

Summer:
6 weeks - 2-10 hours of lecture per week
8 weeks - 2-10 hours of lecture per week

Additional Details
Subject/Course Level: Design Innovation/Undergraduate
Grading/Final exam status: Letter grade. Alternative to final exam.

DES INV 98 Directed Group Study for Undergraduates 1 - 4 Units
Terms offered: Spring 2017
Directed group study on various topics in design innovation.
Directed Group Study for Undergraduates: Read More [+]

Prerequisites:
Varies by topic. Check syllabus and/or Jacobs Institute website for specific prerequisites

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format
Fall and/or spring: 15 weeks - 1-4 hours of lecture per week

Additional Details
Subject/Course Level: Design Innovation/Undergraduate
Grading/Final exam status: Offered for pass/not pass grade only. Alternative to final exam.

DES INV 190 Special Topics in Design Innovation 1 - 4 Units
Terms offered: Fall 2017, Summer 2017 Second 6 Week Session, Spring 2017
Selected topics in design innovation. This course cannot be used to complete any course or unit requirement for College of Engineering undergraduates.
Special Topics in Design Innovation: Read More [+]

Prerequisites:
Varies by topic. Check syllabus and/or Jacobs Institute website for specific prerequisites

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format
Fall and/or spring:
7 weeks - 1-8 hours of lecture per week
8 weeks - 1-8 hours of lecture per week
15 weeks - 1-4 hours of lecture per week

Summer:
6 weeks - 2-10 hours of lecture per week
8 weeks - 2-10 hours of lecture per week
10 weeks - 2-6 hours of lecture per week

Additional Details
Subject/Course Level: Design Innovation/Undergraduate
Grading/Final exam status: Letter grade. Alternative to final exam.

Technical Special Topics in Design Innovation: Read Less [-]
DES INV 190E Special Topics in Design Innovation 1 - 4 Units  
Terms offered: Summer 2017 10 Week Session  
Selected topics in design innovation. This course includes sufficient treatment of engineering principles that it may be used to fulfill College of Engineering undergraduate unit requirements.

Rules & Requirements  
Prerequisites: Varies by topic. Check syllabus and/or Jacobs Institute website for specific prerequisites

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format  
Fall and/or spring:  
7 weeks - 1-8 hours of lecture and 0-4 hours of laboratory per week  
8 weeks - 1-8 hours of lecture and 0-4 hours of laboratory per week  
15 weeks - 1-4 hours of lecture and 0-4 hours of laboratory per week  

Summer:  
6 weeks - 2-10 hours of lecture and 0-6 hours of laboratory per week  
8 weeks - 2-10 hours of lecture and 0-8 hours of laboratory per week  
10 weeks - 2-6 hours of lecture and 0-6 hours of laboratory per week  

Additional Details  
Subject/Course Level: Design Innovation/Undergraduate  
Grading/Final exam status: Letter grade. Alternative to final exam.

DES INV 290 Advanced Special Topics in Design Innovation 1 - 4 Units  
Terms offered: Fall 2017  
Selected advanced topics in design innovation.

Rules & Requirements  
Prerequisites: Varies by topic. Check syllabus and/or Jacobs Institute website for specific prerequisites

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format  
Fall and/or spring:  
7 weeks - 1-8 hours of lecture per week  
8 weeks - 1-8 hours of lecture per week  
15 weeks - 1-4 hours of lecture per week  

Summer:  
6 weeks - 2-10 hours of lecture per week  
8 weeks - 2-10 hours of lecture per week  

Additional Details  
Subject/Course Level: Design Innovation/Graduate  
Grading: Letter grade.

DES INV 198 Directed Group Study for Undergraduates 1 - 4 Units  
Terms offered: Fall 2017, Spring 2017, Fall 2016  
Directed group study on various topics in design innovation.

Rules & Requirements  
Prerequisites: Varies by topic. Check syllabus and/or Jacobs Institute website for specific prerequisites

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format  
Fall and/or spring:  
15 weeks - 1-4 hours of lecture per week  

Additional Details  
Subject/Course Level: Design Innovation/Undergraduate  
Grading/Final exam status: Offered for pass/not pass grade only. Alternative to final exam.

Directed Group Study for Undergraduates: Read Less [-]