

# DIGITAL DESIGN AND FABRICATION (DDF)

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## DDF205. Computer Aided Design I. 3 Credits.

Introduces 3D computer aided design and drawing, rapid manufacturing. Students become acquainted with the virtual spaces of CAD software and NURBS geometry with the intent to output tangible objects through 3D printing. COURSE FEE.

### Restrictions:

- Must have the following level: Undergraduate

### Prerequisites:

- Math Placement Level Minimum Score of 3 or MAT153 Minimum Grade of C or MAT053 Minimum Grade of C

May be repeated for credit

## DDF210. Computer Aided Design II. 3 Credits.

This course furthers knowledge learned from DDF205, developing as advanced understanding of NURBS surfacing along with introducing organic modeling and mesh sculpting. Further application of 3D visualization technologies and advanced manufacturing will be emphasized. COURSE FEE.

### Restrictions:

- Must have the following level: Undergraduate

### Prerequisites:

- DDF205 Minimum Grade of C or ARS 337 Minimum Grade of C

May not be repeated for credit

## DDF220. Introduction to Computation for Media. 3 Credits.

This course serves as an introduction for programming for the digital arts in a visual context. Students will be guided through an introduction to the fundamentals of programming (variables, conditionals, loops and iteration). Further exploration will build on these fundamentals of programming to explore software-based 3D modeling. COURSE FEE.

### Restrictions:

- Must have the following level: Undergraduate

### Prerequisites:

- DDF205 Minimum Grade of C
- DDF210 Minimum Grade of C

May not be repeated for credit

## DDF293. Dgtl Dsgn & Fab Selected Topic. 0 Credits.

Selected topics courses are regularly scheduled courses that focus on a particular topic of interest. Descriptions are printed in the Schedule of Classes each semester. Selected topics courses may be used as elective credit and may be repeated for credit, provided that the topic of the course changes.

May be repeated for credit

## DDF305. Material Studies. 3 Credits.

Inherent in the build world are materials and systems designed to aid the human condition. When designing for rapid manufacture and function the products that we use every day depend on material choices when considering mechanical properties and physical advantages. Through making and theory-based lectures this course will explore materials situated within the advanced manufacturing and 3D printing domains. COURSE FEE.

### Restrictions:

- Must not be enrolled in the following class: Freshman

### Prerequisites:

- DDF205 Minimum Grade of C
- DDF210 Minimum Grade of C

May not be repeated for credit

## DDF310. Making Things Move. 3 Credits.

Making Things Move is the integration of Science, Technology, Engineering, Art, and Math (STEAM) and computer technologies into the synergic design of computer controlled electro-mechanical systems. The instructors approach to this course will be project-based. COURSE FEE.

### Restrictions:

- Must not be enrolled in the following class: Freshman

### Prerequisites:

- DDF205 Minimum Grade of C
- DDF210 Minimum Grade of C
- DDF220 Minimum Grade of C
- DDF305 Minimum Grade of C

May not be repeated for credit

## DDF320. Design Intent. 3 Credits.

This course introduces collaborative team research and interdisciplinary practices that approach real world challenges. Tenets of design practices include being human-centeredness, prototype-driven, and mindful of process. Topics include design processes/innovation methodologies, need finding, human factors, visualization, rapid prototyping, team dynamics, storytelling, and project leadership. COURSE FEE.

### Restrictions:

- Must not be enrolled in the following class: Freshman

### Prerequisites:

- DDF205 Minimum Grade of C
- DDF210 Minimum Grade of C
- DDF310 Minimum Grade of C

May not be repeated for credit

## DDF393. Dgtl Dsgn & Fab Selected Topic. 1-12 Credits.

Selected topics courses are regularly scheduled courses that focus on a particular topic of interest. Descriptions are printed in the Schedule of Classes each semester. Selected topics courses may be used as elective credit and may be repeated for credit, provided that the topic of the course changes.

May be repeated for credit

## DDF495. Indep Study Digital Design Fab. 1-12 Credits.

May be repeated for credit