DESIGN MODEL MAKING AND RAPID PROTOTYPING

School of Mathematics, Computer Science and Engineering

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COURSES
Rapid model making and prototype design is a valued part of many industries, including transportation, architecture, product and packaging, media, and entertainment. The growth of digital technology has opened up new areas of development in design representation, such as digital simulation and rapid prototyping.

Courses in the program study the elements of creative thinking and interpretation used in the design process, including the techniques and methods used to construct prototypes and models. In advanced courses, students choose a field of specialization to explore methods and materials in a number of options in digital simulation, modeling and rapid prototyping.

MAJOR
The certificate program is designed to prepare students with the skills necessary for product design with both traditional and emerging technologies. Students will be given a unique insight into both the physical and digital disciplines of design, cultivating technical and art skills based on critical thinking.

PROGRAM STUDENT LEARNING OUTCOMES
Upon completion of the design model making and rapid prototyping program, students will be able to

- Have the necessary technical knowledge and communication skills to identify, articulate and solve problems pertaining to the product development environment and perform the tasks required within the product design and development professions.
- Design a simple object within constraints.
- Construct a portfolio that communicates their body of work while in the program.
- Use techniques, processes, and tools needed in the product development practice.
- Create two-dimensional and three-dimensional products and designs using appropriate tools, materials, methods and techniques.
- Analyze and critically evaluate two-dimensional and three-dimensional products using the current principles and language of art and design.

POTENTIAL CAREERS
Examples of careers in this field include industrial design and model making in the following areas:

- Amusement park design
- Architecture
- Media and entertainment
- Product development
- Package design
- The toy industry
- Transportation design

Associate in Science Degree or Certificate of Achievement
Design Model Making and Rapid Prototyping

This program is occupational in nature; the courses in the major are not currently transferable to CSU or UC. Students should consult with their counselors or the Transfer Center to determine the extent to which courses may apply to programs at other four-year institutions.

Complete the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>DMP 200</td>
<td>Introduction to Model Making and Design</td>
<td>1.5</td>
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<tr>
<td>DMP 210</td>
<td>Rapid Visualization</td>
<td>3</td>
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<tr>
<td>DMP 220</td>
<td>Basic Model Making</td>
<td>3</td>
</tr>
<tr>
<td>DMP 221</td>
<td>Advanced Model Making I</td>
<td>3</td>
</tr>
<tr>
<td>DMP 222</td>
<td>Advanced Model Making II</td>
<td>3</td>
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<tr>
<td>DMP 230</td>
<td>3D Computer Design</td>
<td>3</td>
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<td>DMP 240</td>
<td>3D Rapid Model Making and Prototype Development I</td>
<td>3</td>
</tr>
<tr>
<td>DMP 241</td>
<td>3D Rapid Model Making and Prototype Development II</td>
<td>3</td>
</tr>
<tr>
<td>DMP 260</td>
<td>Modeling and Prototyping Methods and Materials</td>
<td>2</td>
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TOTAL UNITS REQUIRED: 24.5

To earn the associate degree: See page 28 for associate degree graduation requirements.
To earn the certificate of achievement: See page 26 for certificate information and requirements.
To transfer: Courses required for the associate degree major at IVC may not be the same as those required for the major at a four-year school. If you plan to transfer, consult a counselor to identify the courses needed for the major at your transfer school and to develop a plan that will best meet your goals.