INDUSTRIAL DESIGN: CONCENTRATION IN PRODUCT DESIGN AND DEVELOPMENT SF SCHOLARS ROADMAP

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>First Year</td>
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<tr>
<td>Fall Semester</td>
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<tr>
<td>ENG 114</td>
<td>First Year Composition (A2)</td>
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<tr>
<td>GE Area A ^2</td>
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<td>GE Area B: Quantitative Reasoning (B4) ^3</td>
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<tr>
<td>ECON 101</td>
<td>Introduction to Microeconomic Analysis (Major Core, D1)</td>
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<td>PHYS 101</td>
<td>Conceptual Physics (Major Core, B1)</td>
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<td>GE Area B: Life Science (B2) and Laboratory Science (B3) ^4</td>
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<td>GE Area D</td>
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<tr>
<td>DES 305</td>
<td>Lab Safety Basics (Major Concentration)</td>
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<td>DES 322</td>
<td>Computer Graphic Imaging (Major Foundation)</td>
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<td>DES 323</td>
<td>Visual Design Literacy (Major Prerequisite)</td>
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<td>DES 356</td>
<td>A History of Design and Technology (Major Core)</td>
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<td>DES 370</td>
<td>Introduction to Design (Major Core)</td>
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<td>MKTG 431</td>
<td>Principles of Marketing (Major Core)</td>
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<td>DES 300</td>
<td>Design Process (Major Foundation)</td>
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<td>DES 320</td>
<td>Drafting and Sketching for Design (Major Foundation)</td>
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<td>DES 321</td>
<td>Technical Drawing I: Introduction to CAD (Major Concentration)</td>
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<td>DES 324GW</td>
<td>Research and Writing for Design - GWAR (Major Foundation)</td>
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<td>GE Area UD-C: Upper-Division Arts and/or Humanities (Consider SF State Studies Course)</td>
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<td>GE Area UD-D: Upper-Division Social Sciences (Consider SF State Studies Course)</td>
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<td>DES 310</td>
<td>Product Design I (Major Concentration)</td>
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<td>DES 420</td>
<td>Rapid Visualization (Major Concentration)</td>
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<td>DES 421</td>
<td>Technical Drawing II: 3-D Solid Modeling (Major Concentration)</td>
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<td>Concentration Electives (9 Units Total) - Take Two ^5</td>
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<tr>
<td>DES 410</td>
<td>Product Design II (Major Concentration)</td>
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<tr>
<td>DES 460</td>
<td>Rapid Prototyping and Manufacturing Systems (Major Core)</td>
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<td>DES 700</td>
<td>Seminar in Design Research (Graduate Core)</td>
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<td>Graduate Elective (9 units total) - Take One ^6</td>
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<td>GE Area UD-B: Upper-Division Physical and/or Life Sciences (Consider SF State Studies Course)</td>
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### Fifth Year

#### Summer Semester

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<th>Course</th>
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<tbody>
<tr>
<td>DES 505</td>
<td>Senior Design Project (Major Culminating Requirement)</td>
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<tr>
<td><strong>Total</strong></td>
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#### Fall Semester

<table>
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<tr>
<th>Course</th>
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<tr>
<td>DES 724</td>
<td>Graduate Research Methods and Scholarly Writing for Creative Disciplines (Graduate Core)</td>
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<tr>
<td>DES 800</td>
<td>Seminar in Design Topics (Graduate Core)</td>
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<tr>
<td>DES 852</td>
<td>Directed Experience in Design and Industry (Graduate Core)</td>
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<tr>
<td><strong>Graduate Elective (9 units Total) - Take One</strong></td>
<td><strong>Units</strong></td>
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#### Spring Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>DES 755</td>
<td>Seminar in Design Management (Graduate Core)</td>
<td>3</td>
</tr>
<tr>
<td>DES 805</td>
<td>Seminar in Design Methodology (Graduate Core)</td>
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<tr>
<td>DES 894 or DES 898</td>
<td>Creative Work Project (Graduate Core) or Master's Thesis</td>
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</tr>
<tr>
<td><strong>Graduate Elective (9 units total) - Take One</strong></td>
<td><strong>Units</strong></td>
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</tr>
</tbody>
</table>

#### Total Units

| **Total Units** | **152-153** |

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1. ENG 114 can only be taken if you complete Directed Self-Placement (DSP) and select ENG 114; if you choose ENG 104/ENG 105 through DSP you will satisfy A2 upon successful completion of ENG 105 in the second semester; multilingual students may be advised into alternative English courses.

2. To avoid taking additional units, it is recommended that you meet SF State Studies requirements (AERM, GP, ES, SJ) within your GE.

3. Depending on courses completed through Early Start, students in Pathway/Category III or IV may be required to enroll in a support course to complement their Quantitative Reasoning/B4 requirement. There are multiple course options for this pathway. Before enrolling in a B4 course, students should verify their MATH Pathway/Category in their Student Center (http://cms.sfsu.edu/content/student-center). Information regarding the courses that correspond with your MATH Pathway/Category can be found on the Developmental Studies Office Website (http://developmentalstudies.sfsu.edu).

4. Consider taking a class combined with a laboratory or a separate lab to fulfill B3 if not already satisfied.

5. **Electives (9 units)**
- ACCT 100 Introduction to Financial Accounting (3 units)
- DES 210 Industrial Science (3 units)
- DES 332 Electricity and Electronics (3 units)
- DES 340 Design and Materials (3 units)
- DES 360 Model Development Laboratory (3 units)
- DES 475 Topics in Design (3 units)
- DES 524 Information Design II: Exhibit Design (3 units)
- DES 575 Workshop (3 units)*
- DES 576 Practical Experience: Internship (3 units)*

6. **Graduate Electives (9 units)**
   Select supporting upper-division/graduate courses as approved by Graduate Coordinator.

* Students may choose DES 575 or DES 576, but may not choose DES 575 and DES 576.