PRODUCT DESIGN UNDERGRADUATE MAJOR

COVID-19-Related Degree Requirement Changes
For information on how Product Design degree requirements have been affected by the pandemic, see the "COVID-19 Policies tab (p. 1)" in this section of this bulletin. For University-wide policy changes related to the pandemic, see the "COVID-19 and Academic Continuity (http://exploreddegrees.stanford.edu/covid-19-policy-changes)" section of this bulletin.

Product Design (PD)
Completion of the undergraduate program in Product Design leads to the conferral of the Bachelor of Science in Engineering. The subplan Product Design appears on the transcript and on the diploma.

Mission of the Undergraduate Program in Product Design
The mission of the undergraduate program in Product Design is to graduate designers who can synthesize technology, human factors, and business factors in the service of human need. The program teaches a design process that encourages creativity, craftsmanship, aesthetics, and personal expression, and emphasizes brainstorming and need finding. The course work provides students with the skills necessary to carry projects from initial concept to completion of working prototypes. Students studying product design follow the basic Mechanical Engineering curriculum and are expected to meet the University requirements for a Bachelor of Science degree. The program prepares students for careers in industry and for graduate study.

Requirements

<table>
<thead>
<tr>
<th>Mathematics and Science</th>
<th>Units</th>
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<tbody>
<tr>
<td>Mathematics 1,2</td>
<td>20 units minimum</td>
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<tr>
<td>Recommended: one course in Statistics 1</td>
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<tr>
<td>Science 2,3</td>
<td>17 units minimum</td>
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<tr>
<td>17 units minimum : Minimum of 9 units of SoE approved science and 8 units of Behavioral Science 2,3</td>
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<tr>
<td>PHYSICS 41 Mechanics</td>
<td>4-5</td>
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<tr>
<td>or PHYSICS 41E Mechanics, Concepts, Calculations, and Context</td>
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<tr>
<td>PSYCH 1 Introduction to Psychology</td>
<td>5</td>
</tr>
<tr>
<td>PSYCH or HUMBIO elective 3</td>
<td>3-5</td>
</tr>
<tr>
<td>Technology in Society</td>
<td>3-5 units</td>
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<tr>
<td>One course required; must be on the SoE approved TIS courses list at &lt;ughb.stanford.edu&gt; the year it is taken.</td>
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<tr>
<td>Engineering Fundamentals</td>
<td>8 units minimum</td>
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<tr>
<td>CS 106A Programming Methodology</td>
<td>3-5</td>
</tr>
<tr>
<td>ENGR 40M An Intro to Making: What is EE</td>
<td>3-5</td>
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<tr>
<td>or ENGR 40A Introductory Electronics</td>
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Two Art Studio or Computer Science courses, 100 series or higher 8
ENGR 14 Intro to Solid Mechanics 3
ME 80 Mechanics of Materials 3
ME 101 Visual Thinking 4
ME 102 Foundations of Product Realization 3
ME 103 Product Realization: Design and Making 4
ME 104 Mechanical Systems Design 4
ME 110 Design Sketching 2
ME 115A Introduction to Human Values in Design 3
ME 115B Product Design Methods 4
ME 120 History and Ethics of Design 3
ME 215C Analytical Product Design 5 4
ME 216A Advanced Product Design: Needfinding 4
ME 216B Advanced Product Design: Implementation 4
ME 216C Advanced Product Design: Implementation 4

1 Math requirements can be met with the Math 19-21 series, the MATH 50's series, and/or the CME 100 series; STATS 60 is recommended
2 AP units can be applied; have these approved by SoE Dean's Office before asking advisor to sign-off.
3 School of Engineering approved science list available at http://ughb.stanford.edu. PSYCH electives numbered 30-200 or HUMBIO 82A or HUMBIO 160 are pre-approved.
4 ME 216B and/or ME 216C will fulfill the Writing in the Major (WIM) requirement for Product Design beginning 2019-20.
5 ME 215C is the only course that can be waived if a student takes a quarter overseas or at one of the BOSP campuses in New York or Washington DC. Students should plan their overseas quarter to take place in sophomore year, or Spring Quarter of the junior year only. If the student elects to go overseas junior year, the total depth units are reduced by 4; this is approved without petition.
6 You may substitute ME 216B and ME 216C with ME 206A and ME 206B Design for Extreme Affordability.

A course may only be counted towards one requirement; it may not be double-counted. All courses taken for the major must be taken for a letter grade if that option is offered by the instructor. Minimum Combined GPA for all courses in Engineering Topics (Engineering Fundamentals and Depth courses) is 2.0.

For additional information and sample programs see the Handbook for Undergraduate Engineering Programs (UGHB) (http://ughb.stanford.edu).

COVID-19 Policy Changes to Degree Requirements
On this page: Winter Quarter (p. 2) • Spring Quarter (p. 2) • Doctoral Programs (p. ) (if applicable)

For a complete overview of academic policy changes related to the COVID-19 pandemic, see the "COVID-19 and Academic Continuity (http://exploreddegrees.stanford.edu/covid-19-policy-changes)" section of this bulletin.

In response to the COVID-19 pandemic in 2020, Stanford University made a number of emergency changes to policies and procedures that impacted Winter and Spring quarters 2019-20. Those changes, as they relate to degree programs, are compiled on this page. These changes reflect the disruption that students and instructors experienced when the
University transitioned to online learning on March 9, 2020, in addition to the disruption to the Stanford community caused by the pandemic itself.

**Winter Quarter 2019-20**

- University-wide Winter Quarter Academic Changes (http://exploredegrees.stanford.edu/covid-19-policy-changes/#winterquarteracademicchangestext)

The Committee on Undergraduate Standards and Policy (C-USP) and the Committee on Graduate Studies (C-GS) approved an exception for Winter Quarter 2019-20 to permit students to request late class withdrawals and/or changes to class grading basis to CR/NC (for those classes that had CR/NC as an option).

**Undergraduate Degree Requirements**

**Grading Requirements**

The School of Engineering did not make any changes to Product Design undergraduate degree grade requirements for classes taken in Winter Quarter 2019-20.

**Other Requirements**

If a student has difficulty completing an undergraduate degree requirement due to the COVID-19 pandemic, (e.g., a study abroad requirement, a laboratory research requirement), the student should consult with the Director of Undergraduate Studies to identify academic options to fulfill degree requirements.

**Spring Quarter 2019-20**

- University-wide Spring Quarter Academic Changes (http://exploredegrees.stanford.edu/covid-19-policy-changes/#winterquarteracademicchangestext)

The Faculty Senate approved a policy requiring that all undergraduate and graduate classes in Spring Quarter 2019-20 be offered only on the 'S/NC' (Satisfactory/No Credit) grading basis.

The School of Engineering lifted its grading basis requirements for Spring Quarter 2019-20 and allows individual programs to determine whether courses with an 'S' grade may count towards its degrees.

**Undergraduate Degree Requirements**

**Grading Requirements**

The School of Engineering counts any Spring Quarter 2019-20 class in which the student received a final grade of 'S' towards Product Design undergraduate degree requirements that otherwise require a letter grade.

**Other Requirements**

If a student has difficulty completing an undergraduate degree requirement due to the COVID-19 pandemic, (e.g., a study abroad requirement, a laboratory research requirement), the student should consult with the Director of Undergraduate Studies to identify academic options to fulfill degree requirements.