

PRODUCT DESIGN UNDERGRADUATE MAJOR

COVID-19-Related Degree Requirement Changes

Grading

The Product Design Program counts all courses taken in academic year 2020-21 with a grade of 'CR' (credit) or 'S' (satisfactory) towards satisfaction of undergraduate degree requirements that normally require a letter grade.

Other Undergraduate Policies

The Product Design Program encourages students to take courses for letter grades when possible in order to have complete records for use when seeking future opportunities, including employment in industry and students seeking to apply for graduate studies. Per University policy, students can change grading basis through the end of Week 8 in Autumn, Winter, and Spring, and Week 6 in Summer. Students are encouraged to reach out directly to Product Design Program Director, William Burnett <wburnett@stanford.edu>, for questions about petitions, especially in situations related to COVID-19 policies and grading basis.

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

	Units
Mathematics and Science	36
	units
	minimum
Mathematics ^{1,2}	20
	units
	minimum
Recommended: one course in Statistics ¹	
Science ^{2,3}	17
	units
	minimum
17 units minimum : Minimum of 9 units of SoE approved science and 8 units of Behavioral Science ^{2,3}	
PHYSICS 41 Mechanics	4
PSYCH 1 Introduction to Psychology	5
PSYCH or HUMBIO elective ³	3-5
Technology in Society	3-5
	units

One course required; must be on the SoE approved TiS courses list at <ughb.stanford.edu> the year it is taken..

Engineering Fundamentals		8
		units
		minimum
CS 106A	Programming Methodology (or CS 106B)	5
ENGR 40M	An Intro to Making: What is EE (or ENGR 40A)	3-5
or ENGR 40A	Introductory Electronics	
Product Design Engineering Depth		54
		units
		minimum
ME 125 and ME 216M OR two Art Studio or Computer Science courses, 100 series or higher		6
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 115C	Designing Your Business	3
ME 125	Visual Frontiers (or ARTSTUDI or CS course)	3
ME 216A	Advanced Product Design: Needfinding ⁷	4
ME 216B	Advanced Product Design: Implementation ^{1 6}	4
ME 216C	Advanced Product Design: Implementation ^{2 6}	4
ME 216M	Introduction to the Design of Smart Products (or ARTSTUDI or CS course)	3-4

- Math requirements can be met with the Math 19, 20, 21 series, or up to 10 units AP or IB Calculus; and courses from the MATH 50 series and/or the CME 100 series; STATS 60 or STATS 160 are recommended
- AP units can be applied; have these approved by SoE Dean's Office (email Darlene Lazar at dlazar@stanford.edu) prior to final quarter and before asking advisor to sign-off.
- School of Engineering approved science list available at <http://ughb.stanford.edu> (<http://ughb.stanford.edu/>). PSYCH electives numbered 30-200 or HUMBIO 82A or HUMBIO 160 are pre-approved.
- ME 216B & ME 216C will fulfill the Writing in the Major (WIM) requirement for Product Design beginning 2019-20.
- ME 115C (not available 2020-21) 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 3; this is approved without petition.
- You may substitute ME 216B and ME 216C with ME 206A and ME 206B Design for Extreme Affordability.
- ME 216A must be taken for 4 units by all PD majors.

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>).