

BACHELOR OF SCIENCE IN INDUSTRIAL DESIGN: CONCENTRATION IN PRODUCT DESIGN AND DEVELOPMENT ROADMAP – QUANTITATIVE REASONING CATEGORY III/IV AND STRETCH ENGLISH

120 Total Units Required
Minimum Number of Units in the Major: 59

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

Course	Title	Units
First Semester		
ENG 104	Writing the First Year. Finding Your Voice Stretch I ¹	3
GE Area A ²		3
GE Area B: Quantitative Reasoning (B4) ³		3
B4 Support Course ³		2-3
SF State Studies or University Elective		3
		Units 14-15
Second Semester		
ENG 105	Writing the First Year. Finding Your Voice Stretch II (A2) ¹	3
GE Area A		3
GE Area B: Physical Science (B1) and Laboratory Science (B3) ⁴		3-4
GE Area C		3
SF State Studies or University Elective		3
		Units 15-16
Third Semester		
GE Area C - Take Two		6
GE Area D - Take Two		6
GE Area E		3
		Units 15
Fourth Semester		
DES 200	Visual Design Literacy (Major Foundation)	3
Select One (Major Foundation):		3
DES 221	Introduction to 3D Digital Design	
DES 222	Introduction to 2D Digital Design	
GE Area B: Life Science (B2) and Laboratory Science (B3) ⁴		3-4

GE Area F		3
U.S. and California Government (http://bulletin.sfsu.edu/undergraduate-education/american-institutions/#usg)		3
		Units 15-16
Fifth Semester		
DES 305	Lab Safety Basics (Major Requirement)	1
DES 320	Drafting and Sketching for Design (Major Requirement)	3
DES 321	Technical Drawing I: Introduction to CAD (Major Requirement)	3
DES 356	A History of Design and Technology (Major Core) ⁵	3
DES 370	Introduction to The School of Design (Major Core)	1
GE Area UD-B: Upper-Division Physical and/or Life Sciences (Consider SF State Studies Course)		3
SF State Studies or University Elective		2
		Units 16
Sixth Semester		
DES 300	Design Process (Major Core)	3
DES 310	Product Design I (Major Requirement)	3
DES 322	Computer Graphic Imaging (Major Core)	3
DES 324GW	Research and Writing for Design - GVAR (Major Core)	3
DES 360	Model Development Laboratory (Major Requirement)	3
		Units 15
Seventh Semester		
DES 340	Design and Materials (Major Requirement)	3
DES 420	Rapid Visualization (Major Requirement)	3
DES 421	Technical Drawing II: 3-D Solid Modeling (Major Requirement)	3
DES 460	Rapid Prototyping and Manufacturing Systems (Major Requirement)	3
GE Area UD-D: Upper-Division Social Sciences (Consider SF State Studies Course)		3
		Units 15
Eighth Semester		
DES 410	Product Design II (Major Requirement)	3

DES 505	Senior Design Project (Major Culminating Requirement)	3
DES 570	Professional Practices for Designers (Major Culminating Requirement)	3
Major Electives (6 Units Total) - Take Two ⁶		6
Units		15
Total Units		120-123

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 the **SF State Studies** (AERM, GP, ES, SJ) requirements within your GE or major.

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 Upper-Division General Education, Arts and/or Humanities (UD-C) is satisfied upon completion of DES 356.

⁶ **Electives**

Select two from the following:

DES 325 Graphic Design I (3 units)

DES 327 Interactive Design I (3 units)

DES 332 Electricity and Electronics (3 units)

DES 405 How to Develop, Patent, and Market an Idea (3 units)

DES 475 Topics in Design (3 units)

DES 510 Product Design III (3 units)

DES 521 Technical Drawing III: Advanced Modeling and Rendering (3 units)

DES 523 Information Design I: Data Visualization (3 units)

DES 560 Prototyping Smart Devices (3 units)

DES 576 Practical Experience: Internship (3 units)*

DES 628 Design Gallery: Exhibitions and Communications (3 units)

DES 685 Projects in the Teaching of Design (1-4 units)

DES 699 Independent Study in Design (3 units)*

Or Elective Approved by Advisement

* Students may choose DES 576 **or** DES 699, but may not choose DES 576 **and** DES 699.