

Segal Design Certificate

The Segal Design Certificate program enables undergraduate students at Northwestern University to develop design knowledge and skills that will give them a competitive edge in their careers. Certificate students apply design thinking in a team-based, cross-disciplinary settings, and identify and solve real-world problems for real clients.

If you have any questions about the design Certificate or wish to set up an advising appointment, please contact one of the certificate advisors.

Students within McCormick: Stacy Benjamin, sbenjamin@northwestern.edu
Students outside McCormick: John Anderson, jca@northwestern.edu

1 TAKE ONE PREREQUISITE COURSE

Select one of the introductory design thinking courses
DSGN 106-1 Design Thinking and Communication
DSGN 208 Design Thinking and Doing

2 DECLARE YOUR INTENT TO PURSUE

All students can do this in the McCormick Advising System (MAS)
<https://mas.mccormick.northwestern.edu>

3 TAKE 3 UNITS OF APPROVED ELECTIVES

Explore a range of design topics or create your own theme. Be sure your electives address the requirements below.

- Only two courses can overlap between the Design Certificate and the “major requirements” of your primary BS or BA degree as described in the undergraduate catalog.
- Courses must be taken for a grade, not P/N, with the exception of DSGN 375 (Data as Art) and courses impacted by COVID-19
- Grades must be “C” or higher for any course to be applied to the Certificate
- Electives must be from the Approved Elective list, or approved by petition (no more than one unit can be by petition)
- At least one elective must be a DSGN course
- At least two electives must be 300 level
- Half-unit courses must be paired to make a full unit, both halves must be 300 level for the unit to count as a 300-level elective
- Graduate courses cannot be used toward the Certificate

4 TAKE ONE OF THE REQUIRED DESIGN SEQUENCES

Select one of the two-quarter design sequences* to take in your junior or senior year. The two quarters must be back-to-back.

- DSGN 380-1,2 Industrial Design Projects I & II
- DSGN 382-1,2 Service Design Studio I & II
- DSGN 384-1,2 Interdisciplinary Product Design I & II

***Note:** In spring quarter 2023, there will be a pilot of a new, two-unit intensive course, DSGN 395 Digital Product Development, that can be counted by petition to fulfill the design sequence requirement. It is expected that this will become a regular offering.

5 TAKE THE REQUIRED DESIGN PORTFOLIO COURSE

We recommend taking this class after as many design classes as possible, but it is not a requirement to complete the other design courses first.

6 UPDATE COURSE INFO AS NEEDED

If your plans change, you can update your courses in the McCormick Advising System where you first declared the certificate.

Approved Design Electives

Dept	Course	Title
ANTHRO	389	Ethnographic methods & analysis
BMD ENG	380	Medical devices, disease & global health
BUS INST	302	Marketing management
CHEM ENG	345	Process optimization for energy & sustainability
CHEM ENG	367	Quantitative methods in life cycle analysis
CIV ENG	326	Engineering forensics
CIV ENV	327	Finite element methods in mechanics
CIV ENV	368	Sustainability: the city
CIV ENV	385-1	Architectural engineering and design
COG SCI	245	Presenting ideas & data
COMM ST	351	Technology & human interaction
COMM ST	366	Organizational behavior and innovation
COMM ST	392	Global culture & communication
COMP ENG	347-1	Microprocessor Systems Project I
COMP ENG	347-2	Microprocessor Systems Project II
COMP SCI	301	Introduction to robotics laboratory
COMP SCI	315	Design, technology, and research
COMP SCI	330	Human-computer interaction
COMP SCI	376	Game design and development
COMP SCI	377	Game design studio
COMP SCI	393	Software construction
COMP SCI	394	Agile software development
DSGN	Any undergraduate DSGN course can be used. Two half-unit courses are needed to create a full elective unit. To count as a 300-level unit, they must both be 300 level courses, otherwise they count as a 200 level unit.	
ECON	329	Experimental economics
ECON	330	Behavioral economic
ECON	349	Industrial economics

Dept	Course	Title
ELEC ENG	326	Electronic system design I
ENTREP	340	Innovate for impact
ENTREP	360	Leadership, ethics, and you
ENG	205	Intermediate composition
ENG	305	Advanced composition
IEMS	307	Quality improvement by experimental design
IEMS	325	Engineering entrepreneurship
IEMS	342	Organizational behavior
IEMS	343	Project management for engineers
IMC	301	Consumer insight
JOUR	201-2	Multimedia storytelling
LOC	309	Team dynamics
LRN SCI	214	Culture and Cognition
LRN SCI	313	Tangible interaction design and learning
MAT SCI	318	Materials selection
MECH ENG	333	Mechatronics
MECH ENG	340-2	Computer integrated manufacturing II
MECH ENG	341	Computational methods for engineering design
POLISCI	348	Globalization
POLISCI	349	International environmental politics
PSYCH	228	Cognitive psychology
PSYCH	387	Consumer psychology & market research
RTVF	358	Topics in improv
SESP	303	Designing for social change
SESP	372	Methods of observing human behavior
SOCIOL	202	Social problems
SOCIOL	212	Environment & society
SOC POL	312	Social policymaking and implementation

Segal Design Certificate – Design Track Descriptions

DSGN 380-1,2

Industrial Design Projects

Students will study and put into practice today's leading design philosophies, including design thinking, user-centric principles of design, and design for manufacturing. The classroom will be transformed into a functioning design studio with an emphasis on industrial design project execution for personal portfolio development. Topics covered include: concept ideation and sketching, use of discovery research and data visualization, problem framing and prototyping, design for manufacturing, Keyshot rendering, rapid prototyping, and learning to talk about design.

Offered Winter-Spring

Prerequisites

DSGN 220 and DSGN 240, or DSGN 320, or Instructor approval

DSGN 384-1,2

Interdisciplinary Product Design

Students work in teams on a client-based project for two quarters. You will be part of a team that designs physical things that have some technical complexity and will be used by people (and sometimes animals). The projects require a mix of skills from within and outside of engineering, and more importantly, a well-integrated team where everyone brings expertise from your own field of study. When included in a portfolio, these projects can help you demonstrate how you apply your discipline in the context of design, how you tackle a complex problem, how you work on an interdisciplinary team, and how you communicate professionally across diverse audiences and for different purposes.

Offered Fall-Winter

Prerequisites

DSGN 106-1 or DSGN 208

DSGN 382-1,2

Service Design Studio

In the service design studio, students will explore a human centered approach to the design of services. Students will explore and apply design thinking to a client sponsored project and synthesize both user and client needs in the design of consumer touchpoints. This may include user experiences, digital interfaces, communication models, or organizational designs. Coursework will be workshop-based with a majority of team assignments supported by specific individual responsibilities.

Offered Fall-Winter

Prerequisites

DSGN 106-1 or DSGN 208

DSGN 395

Digital Product Development

The Digital Product Design course covers how digital products are built, launched, and continuously improved. You will learn and apply the digital product development process, both individually and as a team. You will work with a professional client, learn from industry experts, and test your products with real people – ultimately showcasing your final product design.

The Digital Product Design course will be taught as a one-quarter intensive worth 2 credits, fitting two quarters into one to meet the requirement of the two-quarter sequence.

Being piloted in Spring 2023

Prerequisites

DSGN 106-1 or DSGN 208