

## 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](mailto:sbenjamin@northwestern.edu)  
Students outside McCormick: John Anderson, [jca@northwestern.edu](mailto: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 noes 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. Outside of the “major requirements” portion of your degree, you can have additional overlapping courses.
- Courses must be taken for a grade, not P/N, with the exception of DSGN 375, Data as Art, or courses from Winter, Spring 2020
- 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 Design Projects I & II

### 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.

## Segal Design Certificate – Approved 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
DSGN	Any undergraduate DSGN course can be used as an elective. 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
EECS	301	Introduction to robotics laboratory
EECS	315	Design, technology, and research
EECS	326	Electronic system design I
EECS	330	Human-computer interaction
EECS	370	Computer game design
EECS	394	Agile software development

Dept	Course	Title
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.

Winter-Spring

*Prerequisites*

DSGN 220 and DSGN 240

**or** DSGN 320**or** Instructor approval

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.

Fall-Winter

*Prerequisites*

DSGN 106-1

**or** DSGN 208

DSGN 384-1,2

**Interdisciplinary Design Projects**

Students will work in interdisciplinary teams on one project across both quarters for an external client. The class model is similar to a design firm, and for each project, teams will create a functional design to meet client and user needs. Students are expected to apply discipline-specific knowledge from upper level courses within their major to their projects.

The first quarter emphasizes project research, concept development, advanced topics in design, and professional communication. It culminates in a conceptual design and a design review with external experts. The second quarter focuses on project implementation and continued professional communication.

Fall-Winter or Winter-Spring

*Prerequisites*

DSGN 106-1

**or** DSGN 208