

BS in Computer Science and Design

In order to be considered for admission to the BS in Computer Science and Design, students must have:

- at least a C in all of the following courses, with an average math/science GPA of a 2.50/4.00;

Code	Title	Hours
ENGR 100	Engineering Success Seminar for Freshmen	1
MATH 180	Calculus I	4
MATH 181	Calculus II	4
CS 111	Program Design I	3
or CS 112	Program Design I in the Context of Biological Problems	
or CS 113	Program Design I in the Context of Law and Public Policy	
CS 141	Program Design II	3
CS 151	Mathematical Foundations of Computing	3

- at least a B in the following courses, with an average design GPA of a 3.00/4.00;

Code	Title	Hours
DES 150	Digital Media Design I	4
DES 160	Design Photography	4
or DES 170	Color Theory	

- at least B in the following courses:

Code	Title	Hours
ENGL 160	Academic Writing I: Writing in Academic and Public Contexts	3
ENGL 161	Academic Writing II: Writing for Inquiry and Research	3

All applicants must be in good standing, not on academic notice or undetermined status. Admission to this program is selective and competitive and admissions standards are higher than the minimum grade point average requirement. School of Design and Department of Computer Science summer offerings of prerequisite courses may allow transfer students to obtain the skills necessary to enter the program in the fall semester.

Degree Requirements

To earn a Bachelor of Science in Computer Science and Design from UIC, students need to complete university, college, and department degree requirements. Students should consult the [College of Engineering](#) section for additional degree requirements and college academic policies.

Code	Title	Hours
Summary of Requirements		
General Education and Non-Core Requirements		46
Computer Science Core Requirements		34-36

Design Core Requirements	40
Total Hours	120-122

General Education ^a and Non-Core Requirements

Code	Title	Hours
Required Courses		
ENGL 160	Academic Writing I: Writing in Academic and Public Contexts	3
ENGL 161	Academic Writing II: Writing for Inquiry and Research	3
AH 110	World History of Art and the Built Environment I ^b	4
DES 236	History of Design II: 1925 to the Present ^c	3
DES 355	Design Seminar ^c	3
Exploring World Cultures General Education course		3
Understanding the Individual and Society General Education course		3
Understanding the Past General Education course		3
Understanding U.S. Society General Education course		3
MATH 180	Calculus I ^d	4
MATH 181	Calculus II ^d	4
IE 342	Probability and Statistics for Engineers	3
Science Elective ^e		4
MATH/Science Elective ^f		3
Total Hours		46

a *The UIC General Education Program requires that students complete ENGL 160, ENGL 161, and a minimum of 24 hours of credit with at least one course in each of the six categories of General Education: Analyzing the Natural World, Understanding the Individual and Society, Understanding the Past, Understanding the Creative Arts, Exploring World Cultures, and Understanding U.S. Society.*

b *Understanding the Creative Arts course.*

c *The Department of Computer Science requires that BS in Computer Science students complete 6 hours of Humanities/Social Sciences/Art electives. DES 236 and DES 355 will be used to fulfill this requirement.*

d *Analyzing the Natural World course.*

e *Students have to follow the science electives recommended for the BS in Computer Science degree. See the [Computer Science catalog page](#) for current list of courses.*

f *Students can choose between science electives and required mathematics courses recommended for the BS in Computer Science degree. See the [Computer Science catalog page](#) for current list of courses.*

Computer Science Core Requirements

Code	Title	Hours
Required Courses		
ENGR 100	Engineering Success Seminar for Freshmen ^a	1
Select one of the following:		3
CS 111	Program Design I	
CS 112	Program Design I in the Context of Biological Problems	

CS 113	Program Design I in the Context of Law and Public Policy	
CS 141	Program Design II	3
CS 151	Mathematical Foundations of Computing	3
CS 211	Programming Practicum	3
CS 251	Data Structures	4
CS 401	Computer Algorithms I	3
CS/DES 427	Creative Coding	3
Select two of the following courses:		6-8
CS 261	Machine Organization	
CS 301	Languages and Automata	
CS 341	Programming Language Design and Implementation	
CS 342	Software Design	
CS 361	Systems Programming	
CS 362	Computer Design	
Computer Science Technical Electives (6 hours from the list below)		6
CS 411	Artificial Intelligence I	
CS 412	Introduction to Machine Learning	
CS 418	Introduction to Data Science	
CS 421	Natural Language Processing	
CS 422	User Interface Design and Programming	
CS 424	Visualization and Visual Analytics	
CS 425	Computer Graphics I	
CS 426	Video Game Design and Development	
CS 428	Virtual, Augmented and Mixed Reality	
CS 474	Object-Oriented Languages and Environments	
CS 478	Software Development for Mobile Platforms	
CS 480	Database Systems	
CS 489	Human Augmentics	
Total Hours		34-36

a ENGR 100 is a one-semester-hour course, but the hour does not count toward the total required for graduation.

Design Core Requirements

Code	Title	Hours
Required Courses		
DES 150	Digital Media Design I	4
DES 160 or DES 170	Design Photography Color Theory	4
DES 208	Typography I: Form	4
DES 209	Typography II: Systems	4
DES 255	Integrative Design Studio I	4
DES 256	Integrative Design Studio II	4
DES 357	Integrative Design Studio III	4
DES 458	Integrative Studio Project	4

Select one of the following Professional Practice tracks (2 courses):		8
DES 420 & DES 421	Professional Practice Project I and Professional Practice Project II	
DES 430 & DES 431	Interdisciplinary Product Development I and Interdisciplinary Product Development II	
DES 452 & DES 453	Information Aesthetics I and Information Aesthetics II	

Total Hours 40

Sample Course Schedule

Course	Title	Hours
First Year		
FALL AND SPRING SEMESTERS		
Prerequisite design, computer science, and math coursework for the major including the equivalent of:		
DES 150	Digital Media Design I	4
DES 160 or DES 170	Design Photography or Color Theory	4
CS 111 or CS 112 or CS 113	Program Design I or Program Design I in the Context of Biological Problems or Program Design I in the Context of Law and Public Policy	3
CS 141	Program Design II	3
CS 151	Mathematical Foundations of Computing	3
ENGR 100	Engineering Success Seminar for Freshmen ^a	1
Prerequisite academic coursework for the major including the equivalent of:		
ENGL 160	Academic Writing I: Writing in Academic and Public Contexts	3
ENGL 161	Academic Writing II: Writing for Inquiry and Research	3
MATH 180	Calculus I	4
MATH 181	Calculus II	4
Hours		31
Second Year		
Fall Semester		
CS 211	Programming Practicum	3
DES 208	Typography I: Form	4
DES 255	Integrative Design Studio I	4
Science Elective		4
Hours		15
Spring Semester		
CS 251	Data Structures	4
DES 209	Typography II: Systems	4
DES 256	Integrative Design Studio II	4
Understanding the Individual and Society General Education course		3
Hours		15
Third Year		
Fall Semester		
IE 342	Probability and Statistics for Engineers	3
DES 357	Integrative Design Studio III	4
AH 110	World History of Art and the Built Environment I	4
DES 355	Design Seminar	3
Understanding U.S. Society General Education course		3
Hours		17
Spring Semester		
CS Selective course (CS 261, CS 301, CS 341, CS 342, CS 361, or CS 362)		3-4
CS 427	Creative Coding	3
DES 236	History of Design II: 1925 to the Present	3
DES 458	Integrative Studio Project	4

Math/Science Elective		3
Hours		16-17
Fourth Year		
Fall Semester		
CS 401	Computer Algorithms I	3
CS Technical Elective		3
Professional Practice Track - Course 1		4
DES 420 or DES 430 or DES 452	Professional Practice Project I or Interdisciplinary Product Development I or Information Aesthetics I	
Exploring World Cultures General Education course		3
Hours		13
Spring Semester		
CS Selective course (CS 261, CS 301, CS 341, CS 342, CS 361, or CS 362)		3-4
CS Technical Elective		3
Professional Practice Track - Course 2		4
DES 421 or DES 431 or DES 453	Professional Practice Project II or Interdisciplinary Product Development II or Information Aesthetics II	
Understanding the Past General Education course		3
Hours		13-14
Total Hours		120-122

a *ENGR 100 is a one-semester-hour course, but the hour does not count toward the total required for graduation.*