WEB TECHNOLOGIES (BA)

Web technologies are ever evolving. New tools, apps, sites, and algorithms constantly change norms and best practices in the field shift on a constant basis. Earning a degree in Web Technologies from the School of Continuing and Professional Studies (SCPS) at Loyola University Chicago prepares you for this fast-paced, ever-changing world.

Designed for those interested in careers in web development or design, web or social media analytics, or software engineering, SCPS's Web Technologies degree program provides students a strong foundation in the design and development of websites and web applications.

Curriculum

The B.A. in Web Technologies comprises 120 credit hours. Courses are offered in an 8-week session format with online, evening, and weekend options.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>COMM 275</td>
<td>Web Design and Usability</td>
<td>3</td>
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<tr>
<td>CPST 242</td>
<td>Design for the Web</td>
<td>3</td>
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<tr>
<td>CPST 342</td>
<td>Introduction to Web Application Development</td>
<td>3</td>
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<tr>
<td>COMP 317</td>
<td>Social, Legal, and Ethical Issues in Computing</td>
<td>3</td>
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Tracks

Students complete six courses within a chosen track: 18

Design and Media Track

- CPST 248 User Experience Design Fundamentals
- CPST 249 User Experience Design Tools and Techniques
- CPST 341 User Experience Design to Drive Business
- COMM 175 Introduction to Communication
- COMM 200 Digital Communication and Society
- COMM 261 Social Media

Data Track

- COMP 170 Introduction to Object-Oriented Programming
- COMP 271 Data Structures I
- CPST 343 or another course selected with assistance from faculty advisor. (Elective Course)
- COMP 251 Introduction to Database Systems
- CPST 291 Dynamic Programming Languages
- CPST 325 Data Processing, Analysis, and Visualization

Development Track

- COMP 170 Introduction to Object-Oriented Programming
- COMP 271 Data Structures I
- CPST 291 Dynamic Programming Languages (or another course selected with assistance from faculty advisor)

Select three from the following:

- COMP 422 Software Development for Wireless and Mobile Devices
- COMP 424 Client-Side Web Design
- COMP 441 Human-Computer Interaction
- COMP 425 Rapid Applications Development

SCPS Courses

- CPST 200 Introduction to Degree Completion 3

Core Requirements

The number of hours remaining toward Core requirements can vary due to transfer credit.

Mission Specific Requirements

Mission specific requirements can vary from 0 to 15 credit hours based on your prior credit.

General Elective Requirements

Students may have some general elective coursework to complete if their transfer credit and remaining required hours (Core, mission specific, major, etc.) do not total 120.

Total Hours 120

Additional Undergraduate Graduation Requirements

All Undergraduate students are required to complete the University Core, at least one Engaged Learning course, and UNIV 101. SCPS students are not required to take UNIV 101. You can find more information in the University Requirements (https://catalog.luc.edu/undergraduate/university-requirements/university-core/) area.

Learning Outcomes

Students in this program will be able to:

- Critique the aesthetics, navigability, and usability of websites.
- Become familiar with graphic design principles that relate to web design and learn how to implement theories into practice.
- Design and implement wireframes and mockups for websites.
- Plan, design, and construct websites to work properly in modern web browsers, conforming to web standards while following best practices.
- Develop, implement, and deploy a web application using HTML+CSS +JS (including JS libraries and frameworks such as jQuery and React).
- Use client-side services to interact with web-based server-side APIs.
- Model and implement web-service based applications from the client-side
- Manage basic hosting and version control.
- Articulate an understanding of laws and issues in areas such as privacy, encryption, freedom of speech, copyrights and patents, computer crime, and computer/software reliability and safety; understanding of philosophical perspectives related to Ethics and the basics of the U.S. legal system; and the ability to identify ethical issues that arise in information technology and determine how to address them technically and ethically.

Design and New Media Track

- Apply the User Experience Design process, including the use of personas, task models, and user journey mapping. Connect and align business objectives with User Experience Design goals.
• Explore the ways technology affects personal, cultural and mass communication through examining the historical, societal and ethical implications of newer and interactive forms of media.
• Use audio, video and digital tools to research and produce essays, projects and presentations that analyze the impact of technology on communication.
• Articulate how the Internet and social media has changed the way we produce and consume content and how social media has affected the way we work, shop, and interact online and off.

Data Track
• Design, implement, test, and debug a program that uses each of the following fundamental programming constructs: basic computation, variables, expressions, I/O, standard conditional and iterative structures (loops), the definition of functions, parameter passing, and recursion.
• Articulate knowledge of elementary data structures, their implementation and the ability to choose an appropriate data structure to solve a given problem; and the ability to evaluate algorithms, to select from a range of possible options, to provide justification for that selection, and to implement the algorithm in a particular context.
• Evaluate, clean, and prepare datasets for analysis, perform data analysis in Python using standard toolkits and libraries, and report the results of analyses using clear, accessible language and appropriate visualizations.

Development Track
• Design, implement, test, and debug a program that uses each of the following fundamental programming constructs: basic computation, variables, expressions, I/O, standard conditional and iterative structures (loops), the definition of functions, parameter passing, and recursion.
• Articulate knowledge of elementary data structures, their implementation and the ability to choose an appropriate data structure to solve a given problem; and the ability to evaluate algorithms, to select from a range of possible options, to provide justification for that selection, and to implement the algorithm in a particular context.
• Demonstrate proficiency in the use of Object Oriented Programming; and develop applications incorporating a variety of both client-side and server-side Web technologies, using appropriate protocols.