What Can I Do with a Major in COMPUTER SCIENCE

How to use this guide
DePaul’s Career Roadmap was designed to help students and alumni navigate the career development process by describing the Career Center’s services and resources as they relate to four steps: Know Yourself, Explore and Choose Options, Gain Knowledge and Experience, and Putting it all Together. This major guide uses the same four steps to help you explore and consider the possibility of pursuing a degree in Computer Science:

Step 1 Know Yourself: Helps you explore whether this field suits your interests, skills, and values.
Step 2 Explore and Choose Options: Provides you with information about the major and occupations related to it.
Step 3 Gain Knowledge and Experience: Teaches you how to gain relevant knowledge and experience for your occupational interest.
Step 4 Putting It All Together: Helps you embark on your job search process.

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Step 1: Know Yourself

Think about what has attracted you to Computer Science and why it might be the right major for you. Take some time to consider your interests, skills, and values, and compare them with the information below. Keep in mind that you may not identify with everything noted below, but be conscious of whether the listed interests, skills, and values complement or run contrary to how you identify.

Interests, Skills and Values:

People who major in Computer Science often have:

<table>
<thead>
<tr>
<th>Interests</th>
<th>Skills</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creative problem solving</td>
<td>Critical Thinking</td>
<td>Achievement</td>
</tr>
<tr>
<td>Math- applied and theoretical</td>
<td>Complex problem solving</td>
<td>Independence</td>
</tr>
<tr>
<td>Logical structures and systems</td>
<td>Systems analysis</td>
<td>Working Conditions</td>
</tr>
<tr>
<td></td>
<td>Operation analysis</td>
<td>Recognition</td>
</tr>
<tr>
<td></td>
<td>Troubleshooting</td>
<td>Relationships</td>
</tr>
</tbody>
</table>

If what is listed above matches, or is related in a way to your own interests, skills and values, a degree in Computer Science may be for you. Continue to explore this resource to learn more.

Another Look at Interests:

John Holland’s Occupational Themes

Learning about your interests will help you identify opportunities to pursue and the topics you are most naturally drawn to. John Holland developed a theory of occupational interests that described six major interest areas (learn about all six interest areas here). Of those six interest areas, Computer Science students often identify with interests in the following categories:

Investigative: People with Investigative interests have a strong scientific, inquiring orientation. Learn more: http://careercenter.depaul.edu/_documents/hexagon_investigative.pdf

Conventional: People with Conventional interests have numerical abilities and prefer structured situations. Learn more: http://careercenter.depaul.edu/_documents/hexagon_conventional.pdf

Learn more about “Step 1: Knowing Yourself”…Check out these Career Center Workshops

- Myers-Briggs Type Indicator (MBTI) - Work Values
- Skills and Accomplishments
- Strong Interest Explorer
Step 2: Explore and Choose Options

Whether you have already chosen Computer Science as a major or are still considering it among other possibilities, it is important to explore the career and academic options this major will open up for you.

Concentrations:

DePaul’s department of Computer Science offers the following concentrations within the major:

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>Programming and software development skills, the technical tools of the IT trade. An understanding of modern Computer Systems, which you will use to develop computer applications. Skills in application areas such as security and cryptography, robotics and computer vision, data mining and databases, distributed and mobile systems, intelligent systems and gaming, computational biology, etc.</td>
</tr>
<tr>
<td>Software Engineering</td>
<td>This concentration provides students with skills, knowledge, and experiences in state-of-the-art software engineering methodologies, techniques, and applications.</td>
</tr>
</tbody>
</table>

Learn more:
DePaul:  
http://www.cdm.depaul.edu/academics/Pages/bs%20computerscience%20standard.aspx  
http://www.cdm.depaul.edu/academics/Pages/bs%20computerscience%20softwareengineering.aspx

Curriculum:

Please follow this link to review the curriculum for a degree in Computer Science. Also, note the classes you will need to take.


Learn more about these classes:  
http://sr.depaul.edu/catalog/catalogfiles/Current/Undergraduate%20Course%20Descriptions/pg98.html
**Occupations:**
The following list, organized by suggested concentration, offers a sampling of career paths that might appeal to Computer Science students. It is not meant to be all inclusive or limiting, but rather is intended to provide you with a starting point for considering the possibilities.

<table>
<thead>
<tr>
<th>Standard</th>
<th>Computer science teachers, computer and information scientist, computer systems analyst, computer programmer, computer hardware engineer, network system engineer, data communications analysts, information technology project coordinator, web page designer, sales and marketing (of technological products and services)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Engineering</td>
<td>Computer software - systems software engineer, computer software-applications software engineer, software quality assurance engineers and testers, electronics engineering technician, aerospace engineer, civil engineering technician</td>
</tr>
</tbody>
</table>

Learn more: O*NET: Source of detailed descriptions of different occupations including its job responsibilities, educational requirements, typically associated interests and values, job outlook and more.
http://online.onetcenter.org/find/quick?s=computer+Science

**Occupational Outlook Handbook**

**Alumni Sharing Knowledge (ASK):**
Learn from DePaul alumni about how they have used their computer science degree. ASK is a great way to begin building your network by connecting with these mentors. Below is a sample of job titles reported by alumni with Computer Science degrees:

- Systems Analyst
- Consulting systems Analyst Programmer
- System Integration Manager
- Software Consultant
- Developer
- IT Professional
- Information Security and Privacy Officer
- Operations Supervisor
- Network Services Manager
- Graphic Web Designer
- Solutions Developer
- IT Auditor
- Design and Visual Identity
- Systems Administrator
- Program Analyst
- Desktop Analyst
- User Interface Designer

Learn more on how to connect with alumni: http://ask.depaul.edu/

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You can also network through Alumni Relation’s Corporate Connector Program:
http://alumni.depaul.edu/benefits/career/CorporateConnectors.aspx

Through the Corporate Connectors program, several hundred alumni have offered to meet or correspond with fellow alumni and students who are applying to their companies. These volunteers welcome DePaul-affiliated new hires or interns who’ve recently joined their firms. The program is designed to help DePaul students and alumni make a smooth transition to a new job or prepare for an upcoming interview at a specific corporation.
Online Resources:
Research more about Computer Science:

- American Association for Artificial Intelligence: http://www.aaai.org/home.html
- Association for Computing Machinery: http://www.acm.org/
- Computing Research Association: http://cra.org/
- IEEE Computer Society: http://www.computer.org/portal/web/guest/home
- Internet Society: http://www.isoc.org/isoc/
- Internet Technical Group: http://www.internettg.org/purpose/purpose.html
- Society for Industrial and Applied Mathematics: http://www.siam.org/
- Computerworld.com: http://www.computerworld.com/s/topic/10/Careers
- Career One Stop: http://www.careeronestop.org/
- Glossary of Job Descriptions for Technology: http://www.roberthaltechnology.com/FreeResources
- SC Magazine for IT security professionals: http://www.scmagazineus.com/reviews/section/107/
- Tech Careers: http://www.techcareers.com/
- CareerOne Stop Videos: A Day In the Life-
  - Computer Software Engineer Video: http://www.youtube.com/watch?v=CL-vlg4Ivqy
  - Computer Systems Analyst: http://www.youtube.com/watch?v=tChuHB4eHQM&feature=related
  - Computer Programmer: http://www.youtube.com/watch?v=RQ_HdHSPEge&feature=related
- Gamasutra: http://Gamasutra.com
- Animation World Network: http://Awn.com
- Mandy: http://www.Mandy.com
- ProductionHUB: http://Productionhub.com
- Creative Hotlist: http://Creativehotlist.com
- Midwest Directory of Companies: http://Creativedir.com
- Film Music Network: http://www.filmmusic.net/
- Warner Brothers (Turner Careers) http://www.warnerbroscareers.com/
- Walt Disney Animation Student Program: http://www.disneyanimation.com/careers/student_programs.html
- Pixar University Programs: http://www.pixar.com/companyinfo/jobs/index.html
- Lucas Films Internships: https://jobs.lucasfilm.com/internships.html
- Guru.com (Freelancers can post their portfolios): http://www.guru.com/pro/index.aspx
- WritersMarket.com (For freelancers): http://www.writersmarket.com/
- MovieBytes (screenwriting contests): http://moviebytes.com/

Learn more about “Step 2: Explore and Choose Options”…Check out these Career Center Workshops
- LinkedIn & Other Social Media
- Networking Skills
Step 3: Gain Knowledge and Experience

Complementing your coursework in Computer Science with internship, volunteer, work, and organization experiences is one of the smartest moves you can make in relation to your career development. By doing so, you will have the opportunity to apply and build upon the knowledge you are gaining in the classroom, while also developing content for your resume in preparation for future opportunities.

Internships:
Here is a sample list of internships you might consider while pursuing a degree in Computer Science. Please note, any mentioned internship below is not restricted to its respective concentration.

<table>
<thead>
<tr>
<th>Standard</th>
<th>Software Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT Support Analyst, Data Organizer, Graphic Designer, Graphic Web Developer, C# Programmer, IT Technician, Web Designer, Software Developer, Network and System Administrator</td>
<td>Software Developer, Web Engineering, Programming, Database, and development Intern, Search Engine Marketing Support Intern, Data Organizer, Analytics Intern</td>
</tr>
</tbody>
</table>

Search and apply for internships listed by employers specifically seeking DePaul candidates at: http://depaul.experience.com

Find Internships:
Visit these sites to search and apply for more internships:

DePaul Resources:
- Career Center’s DePaulExperience website: http://depaul.experience.com

Computer Science Specific Resources:
- http://dice.com
- http://computerjobs.com
- http://sologig.com
- http://techcareers.com
- http://www.internabroad.com/search/computer-science

Additional Resources:
- Indeed.com: http://www.indeed.com
- Collegegrad.com: http://www.collegegrad.com
- CollegeRecruiter.com: http://www.collegerecruiter.com
- Careeronestop.org: http://www.careeronestop.org
- Careerbuilder.com: http://careerbuilder.com
To gain more knowledge and experience, as well as to network and build your resume, consider joining student and professional organizations related to Computer Science.

### Professional Organizations

| Association for Computing Machinery: http://www.acm.org/ |
| Computing Research Association: http://www.cra.org |
| Computer Technology Industry Association (CompTIA): http://www.comptia.org/home.aspx |
| IEEE Computer Society: http://www.computer.org/portal/web/guest/home |
| National Workforce Center for Emerging Technologies: http://nwcet.org |
| Software Engineering Institute: http://www.sei.cmu.edu/ |
| The League of Professional System Administrators: http://www.lopsa.org/ |
| Women in Technology International: http://witi.org |

### Student Organizations at DePaul

| CDM Undergraduate Peer Mentoring Program: http://depaul.collegiatelink.net/Community?action=getOrgHome&orgID=15929 |
| Computer Science Society: http://depaul.collegiatelink.net/Community?action=getOrgHome&orgID=17621 |
| More on CDM’s website: http://www.cdm.depaul.edu/Current%20Students/Pages/StudentOrganizations.aspx |

### Research and Guide Books

- *Careers for Computer Buffs and Other Technological Types* by: Majorie Eberts and Margaret Gisler
- *Opportunities in Computer Careers* by: Julie Kling Burns
- *Exploring Business and Computer Careers* by: June Atkinson and Grady Kimbrell
- *No-nonsense Guide to Computing Careers* by: Mark Rettig
- *Careers in Computers* by Lila Stair and Leslie Stair

Learn more about the library and how to borrow these books: [http://library.depaul.edu/](http://library.depaul.edu/)

### Graduate and Doctoral Programs

Learn more about DePaul’s graduate and doctoral computer science programs: [http://www.cdm.depaul.edu/academics/Pages/MSinComputerScience.aspx](http://www.cdm.depaul.edu/academics/Pages/MSinComputerScience.aspx)


### Learn more about “Step 3: Gain Knowledge and Experience”…Check out these Career Center Workshops

- How to Prepare for Graduate School
- How to Work a Job & Internship Fair
- University Internship Program (UIP) Orientation
- Cooperative Education (Co-Op) Orientation
- iPrep: Find Your Dream Internship
- Navigating Student Employment
Step 4: Putting it all Together

The job search process can be challenging, but with the right tools, guidance, and persistence, success can be yours. Below are a number of resources that you are invited to take advantage of as a DePaul student and/or alumni.

Career Advisors for LA&S:
If you have not already done so, set an appointment with a Career Advisor to discuss your post-graduation goals and strategies for achieving them. To set an appointment with your advisor, please call the Loop Campus at (312) 362-8437. The Career Specialists for students in Computing and Digital Media are:

Mel Caliwliw-Johnson
icaliwli@depaul.edu

Attend Workshops:
The Career Center’s career development workshops are designed to help you build and strengthen your career-related skills so you can make well-informed decisions and prepare for your job or internship search.

The Career Center offers free workshops on over 25 topics throughout the year, including resume writing, interviewing skills, effective self-marketing techniques, networking, managing your career path and many more. Workshops facilitators have in-depth knowledge in the topics covered and allow you the opportunity to ask questions throughout each session.

Pre-register for all workshops online through DePaul.Experience.

Learn more: http://careercenter.depaul.edu/events/workshops.aspx
**Prepare your Resume:**
Depending on the internship or job you are applying to, consider including the following types of information on your resume:

<table>
<thead>
<tr>
<th>Entry Level Professionals</th>
<th>Experienced Professionals</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Objective</td>
<td>• Career Summary</td>
</tr>
<tr>
<td>• Education</td>
<td>• Technical Summary</td>
</tr>
<tr>
<td>• Certifications</td>
<td>• Certifications</td>
</tr>
<tr>
<td>• Technical Summary</td>
<td>• Experience</td>
</tr>
<tr>
<td>• Course Projects</td>
<td>• Education</td>
</tr>
<tr>
<td>• Experience</td>
<td>• Professional Organizations</td>
</tr>
<tr>
<td>• Activities</td>
<td></td>
</tr>
</tbody>
</table>

To view resume samples and an online resume tutorial, visit: [http://careercenter.depaul.edu/resumes/default.aspx](http://careercenter.depaul.edu/resumes/default.aspx)

Or meet with a Peer Career Advisor to plan, develop and/or critique your resume. Peer Career Advising is a good place for students and alumni to begin the process of career planning. The Peer Career Advisors are undergraduate and graduate students who have been carefully selected and trained by the Career Center to work with students and alumni in an advisory capacity.

**Prepare for Interviews:**
To prepare for an interview for an internship or job, the Career Center offers:

- **Alumni Sharing Knowledge (ASK) Practice Interviews** – Sign up in DePaulExperience for a practice interview with DePaul alum. This real interview scenario will allow you to gain feedback from your practice interviewer on your interviewing strengths and areas for improvement.
- **Alumni Sharing Knowledge (ASK) Mentors** – ASK mentors are willing to meet with you individually to help you with your interviewing skills. ASK mentors are a good option to consider as they have valuable industry-specific interviewing tips.
- **Peer Career Advisors** – Meet with a Peer Career Advisor on a walk-in basis to go over the interviewing process, as well as running through a mock interview. Peer Career Advisors are a good option to consider if you need quick interviewing help.
- **Career Advisors** – Set up an appointment with your Career Advisor to go over the interviewing process, as well as running through a more advanced mock interview. Career Advisors are a good option to consider if you are seeking more job specific interviewing tips.
- **Career Center Workshops** – Register for such interviewing workshops as “Interviewing Skills” or “Advanced Interviewing Skills” in DePaulExperience.
- **For other interviewing resources** – Please visit: [http://careercenter.depaul.edu/resumes/interviewprep.aspx](http://careercenter.depaul.edu/resumes/interviewprep.aspx)
Salary Resources:

- Salaries specific to Computer Science -
  http://www.computermajors.com/starting-salaries-for-computer-science-grads
- Salary.com: http://www.salary.com
- Wage web: http://www.wageweb.com
- NACE Salary Survey 2008: http://careercenter.depaul.edu/downloads/sschartSP08.gif
- Indeed.com’s Salary Search: http://www.indeed.com/salary
- Vault.com’s Salaries and Compensation: http://www.vault.com/salaries.jsp
- Careeronestop.org’s Salary Information:

Learn more about “Step 4: Putting it all Together”…Check out these Career Center Workshops

- How to Build a Portfolio
- Interviewing Skills
- Job Search Strategies in a Challenging Job Market
- Negotiation Skills