Course Catalog

College of Computing and Digital Media Undergraduate Studies

Summer/Autumn 2011-2012
# Table of Contents

Table of Contents .......................................................... 2

General Information ....................................................... 4
  Catalog Version ......................................................... 4

College of Computing and Digital Media (CDM) ..................... 5
  About the College ....................................................... 5
  Administration .......................................................... 5
  Student Services ....................................................... 5
  Facilities ....................................................................... 6
  Admission ..................................................................... 6
  Academic Advisement .................................................. 6
  Professional Development ............................................. 7
  Transfer Credit ........................................................... 8
  Grades and Credit Hours Requirements ........................... 8
  Minors ........................................................................ 8

Programs in CDM ............................................................ 17
  Current Degree Descriptions ......................................... 17

School of Computing (SoC) ................................................... 18
  About the School of Computing ....................................... 18
  Faculty ........................................................................ 18
  Liberal Studies Program and Modern Language Option ....... 22
  CDM Liberal Studies Courses ......................................... 22
  Combined Bachelor/Master Degrees ............................... 31
  Minors ........................................................................ 33
  Bachelor of Arts Degree Programs ................................. 40
    Computing (Joint with SNL) ......................................... 41
    Information Technology ............................................. 41
  Bachelor of Science Degree Programs ............................. 44
    Computer Games Development (Joint with CIM) ............ 44
    Computer Graphics and Motion Technology (Joint with CIM) 48
    Computer Science .................................................... 54
    Information Assurance and Security Engineering .......... 63
    Information Systems .................................................. 65
    Information Technology ............................................. 70
    Interactive Media (Joint with CIM) .............................. 73
    Mathematics / Computer Science (Joint with LA&S) ...... 75
    Network Technologies ................................................. 80

School of Cinema and Interactive Media (CIM) ...................... 88
  About the School of Cinema and Interactive Media .......... 88
  Faculty ........................................................................ 88
  Liberal Studies Program and Modern Language Option ....... 90
  CDM Liberal Studies Courses ......................................... 90
  Combined Bachelor/Master Degrees ............................... 99
  Minors ........................................................................ 101
  Bachelor of Arts Degree Programs ................................. 109
    Animation ................................................................ 109
    Digital Cinema ......................................................... 111
Bachelor of Science Degree Programs ............................... 120
  Animation ............................................................... 121
  Computer Games Development (Joint with SoC) ............. 126
  Computer Graphics and Motion Technology (Joint with SoC) 130
  Digital Cinema ......................................................... 136
  Interactive Media (Joint with SoC) ................................. 139
Bachelor of Fine Arts Degree Programs ............................ 142
  Graphic Design ........................................................ 142
Special Programs ......................................................... 145
  Minors ........................................................................ 145
  Professional Development ............................................. 152
  Combined Bachelor/Master Degrees ............................... 154
Courses ....................................................................... 156
  Courses ..................................................................... 156
General Information

Catalog Version

Undergraduate Update: May 15, 2011

Please use the menu items to the left for current catalog navigation. Access archived catalogs by choosing the link to the right.
About the College

DePaul's College of Computing and Digital Media (CDM) is organized into two schools: the School of Computing (SoC) and the School of Cinema and Interactive Media (CIM) featuring 16 degree programs designed to keep pace with the latest developments in technology while remaining grounded in the liberal arts and sciences. As one of the largest IT programs in the nation, DePaul CDM has a reputation for offering an extraordinary selection of degree programs and courses from traditional computer science, information systems, and network technologies to game development, digital cinema, animation, and our newest undergraduate program in graphic design. At CDM, students will experience a dynamic interdisciplinary curriculum and the opportunity to explore their academic curiosity through 24 minor concentrations that reflect the diverse offerings of CDM's majors.

Administration

DAVID MILLER, PH.D.
Dean
LUCIA DETTORI, PH.D.
Associate Dean
MARTIN KALIN, PH.D.
Associate Dean
LIZ FRIEDMAN, PH.D.
Assistant Dean of Student Services

Student Services

Assistant Dean of Student Services
LIZ FRIEDMAN, PH.D.

Advising Staff

JOHN GLATZ
Director of Advising
BECKY KROCHMAL
Assistant Director of Advising
JIGBIE AGUIRRE
Academic Advisor
SHANNON RESOWSKI
Academic Advisor

Undergraduate Admissions
Facilities

DePaul University maintains an extensive technological infrastructure which is available for students, faculty and staff. In addition, many schools and departments maintain their own resources dedicated for use by their own constituents.

The College of CDM itself operates specialized laboratories in the following:

- Requirements Engineering Lab
- Mobile Commerce Lab
- Solid Objects and Graphics Lab
- Animation Lab
- Network Security Lab
- Game Development Lab
- Console Gaming Lab
- Digital Cinema Advanced Editing Lab
- High Definition Editing Suite
- Medical Informatics Lab
- Digital Cinema Studio
- Usability Testing Lab
- Intelligent Multimedia Processing Lab
- Supercomputing Cluster Lab
- Software Research Lab
- Multimedia Networking Lab
- Centre for Web Intelligence
- E-Commerce Technology Lab

More information on Labs and Resources at CDM.

Admission

Undergraduate Admission to the College of Computing and Digital Media

Candidates interested in admission to the College of Computing and Digital Media should direct all inquires to the Office of Admission, DePaul University, 1 E. Jackson Boulevard, Chicago, Illinois, 60604, admission@depaul.edu, or (312) 362-8300.

For general information on the types of admission, see University Information, Admission.

Academic Advisement

The College believes that academic advising is necessary for the vitality and success of the student's
undergraduate education. Students are assigned a faculty advisor upon admission to the school. All students are encouraged to meet with their faculty advisor at least once each year for assistance in planning a course of study that best reflects their academic and career interests, skills, and lifestyle.

Professional Development

The College of Computing and Digital Media established the Institute for Professional Development in 1985 to offer certificate programs designed to meet the needs of both individuals and businesses in the Chicagoland area. These non-degree offerings provide intensive training in a wide variety of areas, with each standalone certificate program addressing a different set of theoretical concepts and practical skills. Emphasis is placed on gaining practical experience through a combination of lectures and demonstrations complemented by laboratory exercises and homework assignments. Certificate programs are typically taught by a team of instructors, that includes both full-time faculty and part-time instructors from industry. The programs require a substantial commitment of time, as most meet two nights per week and in the morning on approximately half of the Saturdays during the program.

For application and registration information pertaining to the certificate programs offered by the Institute for Professional Development, please call the Institute office at (312) 362-6282.

Current certificate program offerings include:

**IPD 354 Cloud Computing Infrastructure and Operations Program**
A 6-week program in the architectures, infrastructure, and operations of Cloud Computing

**IPD 355 Cloud Computing Fundamentals Program**
An 11-week program in the principles, methods, and technologies of Cloud Computing

**IPD 356 Web Development with Ajax Technologies Program**
A 7-week program covering Web development with Ajax technologies

**IPD 357 Wireless LAN Security Program**
An 8-week program covering the latest solutions in wireless LAN security

**IPD 358 SharePoint Developer Program**
A 10-week comprehensive program covering Microsoft SharePoint development

**IPD 359 Web Development with Python Program**
A 5-week program covering Web development with the Python programming language.

**IPD 360/460 SQL Server Business Intelligence Program**
An 11-week in-depth program covering SQL Server analysis services, integration services, and reporting services

**IPD 363 SQL Server Database Administration Program**
An 11-week in-depth program covering database administration using SQL Server

**IPD 364 Lightweight Java Web Development Program**
An 8-week comprehensive program covering open-source, lightweight Java enterprise Web development using POJOs (Plain Old Java Objects)

**IPD 365 Ruby on Rails Program**
A 8-week in-depth program covering Web development using Ruby on Rails

**IPD 366 Java Web Services Program**
A 7-week concentrated program covering service-oriented architecture and the development of Web services using Java

**IPD 370 Advanced SQL Program**
A 2-week program covering advanced Structured Query Language (SQL) features

**IPD 380  IT Project Management Program**
A 10-week comprehensive program covering best practices in IT project management

**IPD 382  Java Developer Program**
A 10-week comprehensive program covering object-oriented applications development using Java

**IPD 389  .NET Developer Program**
A 10-week comprehensive program covering .NET technologies

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**Transfer Credit**

Prospective students may transfer credit from an accredited college to DePaul University. All transfer credit will be initially evaluated by an Admission counselor; final course placement will be made by an academic advisor in the College of Computing and Digital Media (CDM). For specific information governing transfer admission and evaluation of credit, please consult the DePaul University Undergraduate Transfer webpage. Current CDM students may take courses at another accredited college either in the summer or during the regular school year and transfer the credit back to DePaul University only with prior approval from the students academic advisor.

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**Grades and Credit Hours Requirements**

**Grades**

Students must earn grades of C or above in all courses taken for credit in the major field. Grades of C- may be accepted for major field credit provided the overall grade point average within the major is 2.0 or above. All other courses require grades of D or better.

**Credit Hours**

All students must complete a minimum of 192 quarter hours of college credit.

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**Minors**

A minor is a combination of courses that provides a cohesive introduction to an area of study. Typically, courses taken to satisfy minor field requirements are credited as open electives; however, there are some instances where minor field courses may be used for credit in other areas of the student's curriculum. Grades for all courses, taken to fulfill a minor field requirement must be 'C' or above. Grades of 'C-' may be accepted for credit in the minor provided the minor GPA is 2.0 or above. A minimum of one-half of the courses required for a minor must be completed at DePaul University.

**MINORS IN THE COLLEGE OF COMMERCE**

Students enrolled in the College of Computing and Digital Media (CDM) may obtain a minor in Accounting, Business Administration, E-Business, Economics, Management, MIS, Marketing, and Pre-MBA. Please see the
MINORS IN THE COLLEGE OF LIBERAL ARTS AND SCIENCES

Students enrolled in the College of Computing and Digital Media (CDM) may obtain a minor through the College of Liberal Arts and Sciences. Most Liberal Arts and Science departments offer minor concentrations of study. In general, a minor in a Liberal Arts and Sciences discipline consists of a set of introductory courses plus another set of more specialized courses. Most minors require six courses, some of which may also be used for credit in the Liberal Studies Program. For a complete list of minors offered through the College of Liberal Arts and Sciences, please consult that section of this online Bulletin.

MINORS IN THE COLLEGE OF COMPUTING AND DIGITAL MEDIA

Computer technology is an omnipresent part of our world, used in academic disciplines from physics to history to geography. **CDM offers several minors that will appeal to all DePaul University students.**

*Political science* and *geography* majors can pursue a minor in Data Analysis, Databases, or Data Visualization, which is important to understanding how to analyze census or GPS data.

*Communications* majors may be interested in Digital Cinema which will give you skills in creating videos for advertising.

*Art* majors interested in a career in graphics programming, animation or design may be interested in CDM's tech-focused minors in Animation or Computer Graphics Software Development.

An academic foundation in E-Commerce Technology, Networks or Information Systems can give *Commerce* students an edge in a tough job market.

There are other examples too numerous to mention. So if you have questions or want advice on what minor is best for you, can email our CDM Undergraduate Services team: gocdm@cdm.depaul.edu or call them at: 312-362-8714.

**Policies for Academic Minors**

Students must:

1. earn at least a grade of C- in each minor course and a GPA of no less than 2.0 for all courses in the minor;
2. earn at least a cumulative GPA of 2.0 for all courses applied to the minor;
3. not select the pass/fail option for courses in the minor
4. meet the following residency requirement: no more than 50% of the requirements of a minor may be fulfilled by transfer credits, AP credit, IB credit of CLEP credit.

Finally, students cannot earn a minor in their major program. Courses required to fulfill a minor are determined by the unit in which the minor resides.

**CDM Minors for CDM Students**

To obtain a minor in CDM when the major is also in CDM:

1. Satisfy all requirements for the major
2. Satisfy all requirements for the minor
3. Students must take at least 6 courses in the minor area that do not count towards their CDM major

**Note:** If you have already taken some of the courses listed under your minor on this page, work with your advisor to choose other courses within the same program area, i.e. NT minor would look under NT major courses and Computer Graphics Software Development would look under Computer Graphics Courses, in order to have 6 distinct courses.

- Animation Minor
- Computer Graphics Software Development
- Computer Science
- Data Analysis and Data Mining
- Database
- Data Visualization Development
- Digital Cinema
CDM Minor Requirements

Animation Minor

ANI 101  Animation for Non-Majors
or ANI 201  Animation I
ANI 230  3D Design & Modeling
ANI 231  3D Animation
ANI 206  History of Animation
3 courses from the following list: (at least 1 must be ANI)
DC 201  Introduction to Screenwriting
DC 210  Digital Cinema Production I
DC 220  Editing I
Any ANI course

Computer Graphics Software Development Minor

Liberal Studies
GPH 211  Perceptual Principles for Digital Environments I
or GD 105  Intro to Visual Design
GPH 212  Perceptual Principles for Digital Environments II

Course Requirements
CSC 261  Programming Languages I: C/C++
CSC 262  Programming Languages II: C/C++
CSC 393  Data Structures in C++
GPH 329  Computer Graphics Development II
GPH 339  Advanced Rendering Techniques
GPH 372  Principles of Computer Animation

Computer Science Minor
CSC 241  Introduction to Computer Science I
and CSC 242  Introduction to Computer Science II
and CSC 224  Java for Programmers
or
CSC 211  Programming in Java I
and CSC 212  Programming in Java II
and CSC 309  Object-Oriented Programming in C++
or
CSC 261 Programming Languages I: C/C++
and CSC 262 Programming Languages II: C/C++
and CSC 224 Java for Programmers
CSC 393 Data Structures in C++
or CSC 383 Data Structures and Algorithms in Java
MAT 140 Discrete Mathematics I
CSC 373 Computer Systems I
CSC 374 Computer Systems II

Data Analysis and Data Mining Minor

IT 240 Introduction to Desktop Databases
IT 223 Data Analysis
CSC 324 Data Analysis and Statistical Software II
CSC 367 Introduction to Data Mining
CSC 334 Advanced Data Analysis
2 CDM Electives

Database Minor

CSC 211 Programming in Java I
and CSC 212 Programming in Java II
IT 223 Data Analysis
IT 240 Introduction to Desktop Databases
CSC 352 Database Programming
CSC 367 Introduction to Data Mining
1 CDM Elective

Data Visualization Development Minor

Liberal Studies

GPH 211 Perceptual Principles for Digital Environments I
GPH 212 Perceptual Principles for Digital Environments II

Course Requirements

CSC 261 Programming Languages I: C/C++
CSC 262 Programming Languages II: C/C++
CSC 323 Data Analysis
CSC 393 Data Structures in C++
GPH 329 Computer Graphics Development II
GPH 372 Principles of Computer Animation
GPH 380 Visualization

Digital Cinema Minor

DC 205 Foundations of Cinema
DC 225 Digital Still Photography
DC 201 Introduction to Screenwriting
DC 220 Editing I
3 courses from the following list:
ANI 101 Animation for Non-Majors
DC 210 Digital Cinema Production I
DC 270 Topics in Digital Cinema
DC 215  Digital Sound Design  
DC 275  Cinematography  
DC 310  Digital Cinema Production II  
DC 320  Editing II  
DC 389  The Big Picture: The Entertainment Industry

**E-Commerce Technology Minor**

IT 130  The Internet and the Web  
CSC 211  Programming in Java I  
CSC 212  Programming in Java II  
IT 230  Building Internet Applications  
ECT 330  Advanced Internet Application Development  
IM 210  Introduction to Human-Computer Interaction  
1 course from the following list:  
ECT 355  Internet Systems: Collaboration, Commerce, and Media  
ECT 360  Introduction to XML  
ECT 365  Web Server Operations

**Game Design Minor**

DC 201  Introduction to Screenwriting  
ANI 105  Intro to Visual Design  
ANI 101  Animation for Non-Majors  
or ANI 201  Animation I  
ANI 230  3D Design & Modeling  
GAM 224  Introduction to Game Design  
or GAM 226  Game Design for Majors  
GAM 244  Game Development I  
GAM 245  Game Development II

**Game Programming Minor**

GAM 224  Introduction to Game Design  
or GAM 226  Game Design for Majors  
GAM 244  Game Development I  
GAM 245  Game Development II  
GAM 374  Action Games Programming  
2 courses from the following list:  
ANI 230  3D Design & Modeling  
GPH 321  Computer Graphics Development I  
GPH 329  Computer Graphics Development II  
GPH 350  Digital Modeling II  
Any other 300-Level GAM or GPH course

**Graphic Design Minor**

GD 105  Intro to Visual Design  
GD 200  Graphic Design I  
GD 300  Graphic Design II  
GD 230  Typography  
3 courses from the following list and/or any GD course (at least 1 must be GD):  
ANI 101  Animation for Non-Majors  
ANI 201  Animation I
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANI 230</td>
<td>3d Design and Modeling</td>
</tr>
<tr>
<td>ANI 260</td>
<td>Motion Graphics</td>
</tr>
<tr>
<td>ANI 360</td>
<td>Advanced Motion Graphics</td>
</tr>
<tr>
<td>DC 125</td>
<td>Digital Still Photography for Non-Majors</td>
</tr>
<tr>
<td>DC 220</td>
<td>Editing I</td>
</tr>
<tr>
<td>DC 225</td>
<td>Digital Still Photography</td>
</tr>
<tr>
<td>DC 321</td>
<td>Production Design</td>
</tr>
<tr>
<td>DC 376</td>
<td>Visual Design</td>
</tr>
<tr>
<td>IM 220</td>
<td>Interactive Media I</td>
</tr>
<tr>
<td>IM 222</td>
<td>Information Visualization</td>
</tr>
<tr>
<td>IM 320</td>
<td>Interactive Media II</td>
</tr>
<tr>
<td>IM 270</td>
<td>User-Centered Web Design</td>
</tr>
<tr>
<td>IT 130</td>
<td>The Internet and the Web</td>
</tr>
</tbody>
</table>

2 of the following courses may substitute for 1 course:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>GD 350</td>
<td>Portfolio Workshop</td>
</tr>
<tr>
<td>GD 150</td>
<td>Illustrator Workshop</td>
</tr>
<tr>
<td>GD 151</td>
<td>Photoshop Workshop</td>
</tr>
<tr>
<td>GD 152</td>
<td>Digital Typography Workshop</td>
</tr>
</tbody>
</table>

### Information and Computing in the Modern World Minor

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECT 350</td>
<td>Internet, Commerce and Society</td>
</tr>
<tr>
<td>HCI 201</td>
<td>Multimedia and the World Wide Web</td>
</tr>
<tr>
<td>IT 201</td>
<td>Introduction to Information Systems</td>
</tr>
<tr>
<td>IT 215</td>
<td>Analysis and Design Techniques</td>
</tr>
<tr>
<td>CSC 223</td>
<td>The Impact of Computing Technology on Our Lives</td>
</tr>
<tr>
<td>or IT 228</td>
<td>Ethics in Computer Games and Cinema</td>
</tr>
<tr>
<td>or CSC 208</td>
<td>The Computer and Social Responsibility</td>
</tr>
<tr>
<td>or IS 208</td>
<td>Information Technology, Economy and Society</td>
</tr>
<tr>
<td>IS 356</td>
<td>Knowledge Management Systems</td>
</tr>
<tr>
<td>or IS 374</td>
<td>Management Support Systems</td>
</tr>
<tr>
<td>or IT 398</td>
<td>Topics in Global Information Technology</td>
</tr>
</tbody>
</table>

### Interactive Media Minor

#### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCI 201</td>
<td>Multimedia and the World Wide Web</td>
</tr>
<tr>
<td>or IT 130</td>
<td>The Internet and the Web</td>
</tr>
<tr>
<td>IM 210</td>
<td>Introduction to Human-Computer Interaction</td>
</tr>
<tr>
<td>GD 105</td>
<td>Intro to Visual Design</td>
</tr>
<tr>
<td>or GPH 211</td>
<td>Perceptual Principles for Digital Environments</td>
</tr>
<tr>
<td>IM 220</td>
<td>Interactive Media I</td>
</tr>
<tr>
<td>IM 270</td>
<td>User-centered Web Design</td>
</tr>
</tbody>
</table>

2 courses from the following list:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM 222</td>
<td>Information Visualization</td>
</tr>
<tr>
<td>IM 208</td>
<td>Virtual Worlds and Online Communities</td>
</tr>
<tr>
<td>IM 230</td>
<td>Scripting for Interactive Media</td>
</tr>
<tr>
<td>IM 320</td>
<td>Interactive Media II</td>
</tr>
<tr>
<td>IM 330</td>
<td>Advanced Scripting for Interactive Media</td>
</tr>
<tr>
<td>IT 231</td>
<td>Web Development I</td>
</tr>
<tr>
<td>IM 320</td>
<td>Interactive Media II</td>
</tr>
</tbody>
</table>

### Information Systems Minor
Information Technology Minor

IT 130 The Internet and the Web
IT 231 Web Development I
IT 240 Introduction to Desktop Databases
IT 263 Applied Networks and Security
or TDC 261 Basic Communication Systems
IT 215 Analysis and Design Techniques
1 CDM Elective

Network Technology Minor

CSC 211 Programming in Java I
or CSC 261 Programming Languages I: C/C++
CSC 212 Programming in Java II
or CSC 262 Programming Language II: C/C++
IT 201 Introduction to Information Systems
IT 263 Applied Networks and Security
TDC 362 Principles of Data Communication
TDC 363 Introduction to Local Area Networks
TDC 365 Network Interconnection Technologies

Screenwriting Minor

DC 201 Introduction to Screenwriting
DC 222 Classic Hollywood Film Structure
DC 301 Advanced Screenwriting I
DC 302 Advanced Screenwriting II
DC 303 Advanced Screenwriting III
DC 304 Topics in Screenwriting

Security Minor

CSC 211 Programming in Java I
and CSC 212 Programming in Java II
or
CSC 261 Programming Language I: C/C++
and CSC 262 Programming Language II: C/C++
CSC 233 Codes and Cyphers
or CSC 333 Cryptology
CNS 378 Host and Information Security
CNS 320 Computer Forensic and Incident Response
CNS 228 Legal, Ethical and Social Issues in Information Security
CNS 340 Fundamentals of Information Assurance

Security in the Electronic World Minor

IT 130 The Internet and the Web
and IT 231  Web Development I
and IT 232  Web Development II

or
CSC 261  Programming Language I: C/C++
and CSC 262  Programming Language II: C/C++

or
CSC 241  Introduction to Computer Science I
and CSC 242  Introduction to Computer Science II

or
CSC 211  Programming in Java I
and CSC 212  Programming in Java II

CNS 228  Legal, Ethical and Society Issues in Information Security
CSC 233  Codes and Ciphers
CNS 320  Computer Forensic and Incident Response
CNS 340  Fundamentals of Information Assurance

Software Engineering Minor

CSC 261  Programming Languages I: C/C++
and CSC 262  Programming Languages II: C/C++
and CSC 224  Java for Programmers

or
CSC 241  Introduction to Computer Science I
and CSC 242  Introduction to Computer Science II
and CSC 224  Java for Programmers

or
CSC 211  Programming in Java I
CSC 212  Programming in Java II
and then
CSC 383  Data Structures and Algorithms in Java
SE 325  Principles and Practices of Software Engineering
SE 330  Object-Oriented Modeling
SE 350  Object-Oriented Software Development

Sound Design Minor

DC 215  Digital Sound Design
DC 312  Music for Film and Video
DC 313  Production Sound
DC 315  Advanced Digital Sound Design

3 courses from the following list
GAM 250  Digital Sound for Computer Games
DC 317  Advanced Sound Mixing for Cinema
DC 318  Advanced Dialogue Recording and Editing
DC 319  Advanced Sound Effects Recording and Editing
DC 313  Sound for Multimedia
DC 203  History of Motion Picture Sound

Television Production Minor

DC 210  Digital Cinema Production I
DC 220  Editing I
DC 271  Introduction to Television Production
DC 272  Writing for Television
TV 289  The Business of Television  
TV 320  Editing for Television  
TV 301  Television Program Development  
DC 372  Topics in TV Production  

**Visual Computing Minor**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>MAT 140</td>
<td>Discrete Mathematics I</td>
</tr>
<tr>
<td>or MAT 220</td>
<td>Linear Algebra with Applications</td>
</tr>
<tr>
<td>or 1 quarter of Calculus (Prerequisite for CSC 381)</td>
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<tr>
<td>IT 223</td>
<td>Data Analysis (Prerequisite for CSC 367)</td>
</tr>
<tr>
<td>CSC 381</td>
<td>Introduction to Digital Image Processing</td>
</tr>
<tr>
<td>CSC 382</td>
<td>Applied Image Analysis</td>
</tr>
<tr>
<td>IT 300</td>
<td>Research Experience</td>
</tr>
<tr>
<td>CSC 367</td>
<td>Introduction to Data Mining (IT 223 requirement)</td>
</tr>
</tbody>
</table>

**Visual Effects Minor**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANI 230</td>
<td>3D Design &amp; Modeling</td>
</tr>
<tr>
<td>ANI 379</td>
<td>Advanced 3D Compositing</td>
</tr>
<tr>
<td>DC 220</td>
<td>Editing I</td>
</tr>
<tr>
<td>DC 325</td>
<td>Color Correction</td>
</tr>
<tr>
<td>VFX 200</td>
<td>Introduction to Visual Effects</td>
</tr>
<tr>
<td>VFX 278</td>
<td>Digital Compositing I</td>
</tr>
<tr>
<td>VFX 378</td>
<td>Digital Compositing II</td>
</tr>
</tbody>
</table>
Programs in CDM

Current Degree Descriptions

Bachelor of Science Degree Programs

**School of Computing**
- Computer Game Development (joint with CIM)
- Computer Graphics and Motion Technology (joint with CIM)
- Computer Science
- Information Assurance and Security Engineering
- Information Systems
- Information Technology
- Interactive Media (joint with CIM)
- Math and Computer Science (joint with LA & S)
- Network Technologies

**School of Cinema and Interactive Media**
- Animation
- Computer Game Development (joint with SoC)
- Computer Graphics and Motion Technology (joint with SoC)
- Digital Cinema
- Interactive Media (joint with SoC)

Bachelor of Arts Degree Programs

**School of Cinema and Interactive Media**
- Animation
- Digital Cinema

**School of Computing**
- Computing (joint with SNL)
- Information Technology

Bachelor of Fine Arts Degree Programs

**School of Cinema and Interactive Media**
- Graphic Design

Special Programs
- Combined Bachelor/Master Degree Programs
- Professional Development Programs
- Minors
School of Computing (SoC)

About the School of Computing

The School of Computing (SoC) houses CDM's technical degrees. With an emphasis on the theoretical as well as practical, students can earn degrees that prepare them for work in computing, programming, data storage, information processing, network security, software development, and computer graphics and motion technology.

Faculty

DAVID MILLER, Ph.D.
Dean
University of Chicago

OLAYELE ADELAKUN, Ph.D.
Associate Professor
Turku School of Economics & Business Adm.

ANDRE BERTHIAUME, Ph.D.
Associate Professor
University of Montreal

GIAN MARIO BESANA, Ph.D.
Associate Professor
University of Notre Dame

GREGORY BREWSTER, Ph.D.
Associate Professor
University of Wisconsin, Madison

ROBIN BURKE, Ph.D.
Associate Professor
Northwestern University

SUSY CHAN, Ph.D.
Professor
Syracuse University

I-PING CHU, Ph.D.
Associate Professor
State University of New York at Stony Brook

ANTHONY CHUNG, Ph.D.
Associate Professor
University of Maryland Baltimore County

LUCIA DETTORI, Ph.D.
Associate Professor and Associate Dean
University of Paris XI

MASSIMO DIPIERRO, Ph.D.
Assistant Professor
University of Southampton, UK

CLARK ELLIOTT, Ph.D.
Associate Professor
Northwestern University

HELMUT EPP, Ph.D.
Professor
Northwestern University

XIAOWEN FANG, Ph.D.
Associate Professor
Purdue University

ROBERT FISHER, Ph.D.
Associate Professor
Harvard University

JACOB FURST, Ph.D.
Associate Professor
University of North Carolina at Chapel Hill

GERALD GORDON, Ph.D.
Associate Professor
University of California, Berkeley

PETER HASTINGS, Ph.D.
Associate Professor
University of Michigan, Ann Arbor

HENRY HARR, Ph.D.
Professor Emeritus
Illinois Institute of Technology

JANE HUANG, Ph.D.
Associate Professor
University of Illinois at Chicago

RADHA JAGADEESAN, Ph.D.
Professor
Cornell University

XIAOPING JIA, Ph.D.
Professor
Northwestern University

STEVE JOST, Ph.D.
Associate Professor
Northwestern University

MARTIN KALIN, Ph.D.
Professor and Associate Dean
Northwestern University

IYAD KANJ, Ph.D.
Associate Professor
Texas A & M University

EDWARD KEENAN, M.S.
Instructor
University of Illinois, Urbana-Champaign

LINDA KNIGHT, Ph.D.
Associate Professor
DePaul University

JEAN-PHILIPPE LABRUYÈRE, M.S.
Instructor
Illinois Institute of Technology

GLENN LANCASTER, Ph.D.
Associate Professor
University of California, Irvine

STEPHEN LUECKING, M.F.A.
Professor
Miami University

EVELYN LULIS, Ph.D.
Associate Professor
Illinois Institute of Technology

STEVEN LYTINEN, Ph.D.
Professor
Yale University

WILFREDO MARRERO, Ph.D.
Associate Professor
Carnegie Mellon University

JOHN MCDONALD, Ph.D.
Associate Professor
Northwestern University

CRAIG MILLER, Ph.D.
Associate Professor
University of Michigan

DANIEL MITTLEMAN, Ph.D.
Associate Professor
The University of Arizona

BAMSHAD MOBASHER, Ph.D.
Professor
Iowa State University

THOMAS MUSCARELLO, Ph.D.
Associate Professor
University of Illinois at Chicago

MAKOTO NAKAYAMA, Ph.D.
Associate Professor
University of California, Los Angeles

LIJUBOMIR PERKOVIC, Ph.D.
Associate Professor
Carnegie Mellon University

CORIN PITCHER, Ph.D.
Associate Professor
University of Oxford

CYNTHIA PUTNAM, Ph.D.
Assistant Professor
University of Washington

DANIELA RAICU, Ph.D.
Associate Professor
Oakland University
Liberal Studies Program and Modern Language Option

The Liberal Studies Program is the common curriculum taken by all students in the seven undergraduate colleges of DePaul University. Overall, the Program is designed to develop students writing abilities, computational and technological proficiencies, and critical and creative thinking skills.

Each major in the University has unique Liberal Studies requirements.

Please consult the Liberal Studies catalog for your relevant requirements as a CDM student as well as for information about the Modern Language Option.

CDM Liberal Studies Courses

CDM offers dozens of courses in many domains of the Liberal Studies Program. You can experiment with Screenwriting, Digital Photography, Game Design, Computer Graphics and Programming and fulfill a requirement at the same time. Many of these courses also serve as gateway courses into more advanced CDM courses. Courses can be grouped in two lists:

- Liberal Studies Course Offered by CDM
- CDM Liberal Studies Courses Offer by CDM - Grouped by Topic

Click to view Restrictions for CDM Students

Liberal Studies Courses Offered by CDM

This list represents Liberal Studies Program (LSP) courses taught by CDM only. For a complete list of LSP courses, visit the Liberal Studies homepage.

- Arts and Literature
  - ANI 101 Animation for Non-Majors
    Course introduces a variety of basic animation techniques for cinema and gaming, such as hand-drawn, cutout, stop-motion and (very basic) 3D, with an emphasis on the use of computer technology.
  - ANI 206 History of Animation
    History of Animation: This course is an introduction to the history and development of the field of animation.
  - DC 113 Audio for Podcasts and Other Media
    This course is an introduction to the uses and practical applications of sound for multimedia. Students will study various uses of sound and music on the Internet from creative to professional websites. Using free or inexpensive hardware and software, students will learn to create and edit podcasts and attach audio files to programs and web pages such as Facebook, Itunes, Keynote,
PowerPoint and other sites. The course will cover both Mac and PC applications so all students will be able to work on projects from their home computers. The course will also cover current legalities of digital media.

- **DC 202 History of Motion Picture Editing**
  This course studies the origins and rise of film editing as an art form, an industry, a set of technological practices ranging from analog film to digital video. The course examines critical historical events that impacted film editing: the emergence of the studio system, the coming of sound, narrative, experimental and documentary film, MTV, and audience shifts. For many, editing is the unique source of the art of filmmaking. This course addresses this question.

- **DC 125 Digital Still Photography for Non-Majors**
  This course is an introduction to the history and aesthetics of still photography and to the concept of photography as a descriptive and interpretive artistic medium. Students studying photographs in this context will discover relationships between individual photographers choices and their own understanding of meaning. Students will learn the fundamental concepts necessary to shoot, edit, manipulate, and print digital still photographs.

- **DC 120 Video Editing**
  Students analyze and assemble dramatic scenes under a variety of conditions and narrative strategies. Editing theories, techniques, and procedures, issues of continuity, effects, movement and sound are examined as they relate to the fundamentals of cinematic montage and visual storytelling. This class present a variety of topics and experiences that are designed to broaden the student’s understanding of the art of cinematic storytelling and montage. Work on more advanced projects is integrated into the class as a means to an understanding of advanced editing tools and techniques.

- **DC 201 Introduction to Screenwriting**
  This course focuses on narrative storytelling and encourages students to find their unique voices, while emphasizing the critical importance of working as part of a creative team.

- **DC 205 Foundations of Cinema**

- **DC 207 History of Cinema I, 1890-1945**
  This course examines the history of cinema as one of the most influential cultural forms of the 20th Century. We will study the aesthetic and technological developments of cinema during its first 50 years, as well as examine the social and economic factors shaping its history. Initially influenced by the other art forms (theater, literature, painting, filmmaking quickly acquired its own formal system, language, and traditions. We will trace the changing styles, techniques, content, and methods of filmmaking as an art form as popular culture, and an industry. We will consider how cinema is bound to its social context via audience relations, economics, technology, and ideology. The limited scope of this course will cover primarily feature-length, narrative films as the dominant mode of filmmaking, although we will also look at the development of documentary and experimental filmmaking. The class will consist of lectures, screenings, and discussions.

- **DC 208 History of American Cinema, 1946-1975**
  From Film Noir to Hitchcock, an examination of post war Hollywood, film noir, wide screen and epic films, the development of the star system, the director as autuer, and the influence of international film movements and directors. Screenings, lecture, and discussion.

- **DC 209 History of Cinema, 1975-Present**
  This final course in the film history sequence is designed to introduce students to a sense of modern film history and the multiple permutations of cinema around the modern film history and the multiple permutations of cinema around the globe. It presents film history from a global perspective, concentrating primarily on the development of new national and transnational cinemas. The course continues to chart the development of the American studios since the mid-1970s while examining the effects of media consolidation and convergence. Moreover, the course seeks to examine how global cinemas have reacted to and dealt with the formal influence and economic domination of Hollywood filmmaking on international audiences. Class lectures, screenings, and discussions will consider how cinema has changed from a primarily national phenomenon to a transnational form of communication in the 21st century.

- **DC 222 Story Structure in Cinema**
  This course focuses on the critical analysis of narrative structure in Cinema. Students will learn how to identify key story concepts and break down three act structure in finished films and scripts.

- **DC 233 Cinema & Art**
  This course will provide an overview of avant-garde film, video, animation and installation, and
the relationship of these cinematic forms to Modern and Contemporary art.

- **DC 250 Working with Actors I**
  This course is an introduction and examination of the collaborative process between the actor and director. Methods of study include lecture, discussion, assignments, and in-class acting exercises.

- **GAM 224 Introduction to Game Design**
  Students will learn about a game's "hook", its "high concept" and the crucial needs of marketing for a successful game design. Students will also learn to design a game's component pieces.

- **GD 200 Graphic Design I**
  This course introduces the world of graphic design in a social and historical context. The goals are to explore formal structures and research methods with emphasis on the role of analysis and conceptual thinking as the first tasks of the print and multi-media designer. The course includes basic instruction in typography, color, problem-solving in print and on screen.

- **GD 210 Digital Illustration I**
  Introduction to illustration development in image, line and photography, combining computer applications and hand-rendered approaches.

- **GD 220 History of Design I**
  The history of graphic design is an evolution in aesthetics, technology, style and visual communication. The class will encompass a survey of the major movements in the field of print design, notable designers and design materials. The nature of changing methods, materials, technologies and values are examined in the context of the social and political realities that shape communication. The course will include the historical shift from print to multimedia design methodologies.

- **GPH 211 Perceptual Principles for Digital Environments I**
  An introduction to the visual, non-verbal principles incorporated in the effective presentation of on-screen environments. This course emphasizes the use of two-dimensional elements and their organization.

- **GPH 212 Perceptual Principles for Digital Environments II**
  Further experience with the visual, non-verbal principles incorporated in effective presentation of on-screen environments. This course emphasizes the use of three dimensional elements, spaces and their organization.

- **GPH 213 Perceptual Principles for Digital Environments III**
  These three foundational courses in computer animation take you through the process of creating 2-D and 3-D representations on the computer. The last course teaches you how to animate them!

- **Junior Experiential Learning Credit**

  - **CSC 298 Internship**
    Computer Science Internship in cooperation with local employers this course offers students the opportunity to integrate their academic experience with on-the-job training in computer related work areas.

  - **CSC 378 Software Projects for Community Clients**

  - **CSC 379 Technology Partnerships in Urban Schools**
    Students in this course will have the opportunity to assess urban community needs in the technology arena and develop skills in assisting and developing methods for bridging the digital divide that exists.

  - **DC 298 Internship in Media Production/Post-Production**
    This course offers students an excellent opportunity to gain professional experience, industry contacts, and referrals while still in school. Opportunities in post-production, motion picture production, advertising, television, animation, motion graphics and interactive media. Admission to the program requires consent of internship course instructor. Current work experience plus classroom time is required. Supervisor evaluation will contribute to the final grade.

  - **DC 380 Project BlueLight**
    Production of a feature-length digital motion picture written by students or faculty within the Digital Cinema program.

  - **GD 380 Design for Client and Community**
    This course enables students to work from start to finish on client-based graphic design and projects. Students establish working relationships as individuals and in teams that utilize their skills to effectively evaluate the communication needs of an organization or business, develop design solutions that fulfill those needs, and negotiate the process between designers and clients.

  - **GPH 360 Modeling Spaces**
    The digital design and modeling of environmental spaces with attention to human use parameters.
• **IT 300 Research Experience**  
  This course involves the exploration of a research topic under the supervision of a research advisor.

• **IT 398 Topics in Global Information Technology**  
  This course focuses on current topics in the information and communications technologies that together support the “networked world.” Sample topics are global software development and deployment, global data and information management, and cross-cultural project management for information systems. The course may be offered for variable credit hours (2, 4, 8, 16, and 32).

• **Scientific Inquiry**

  • **CSC 200 Survey of Computing**  
    Learn about careers using computers and pick up some skills to help you manage your own PC or network!

  • **CSC 211 Programming in Java I**  
    **CSC 212 Programming in Java II**  
    Two courses in programming JAVA, a cross-platform, web-enabled language.

  • **CSC 233 Codes and Ciphers**  
    A history of code making and breaking and the math and (computer) science behind it

  • **CSC 235 Problem Solving**  
    How do you solve a problem? In this course we discuss different problem solving techniques and strategies such as modeling, establishing subgoals, and searching and pruning.

  • **CSC 239 Personal Computing**  
    You will learn how to use Excel to analyze data and how to publish data and retrieve it from the World Wide Web.

  • **CSC 250 Computers and Human Intelligence**  
    Students taking this course will study human problem-solving and its simulation by computers. Artificial intelligence, pattern recognition and learning programs will be discussed.

  • **CSC 255 Information Structures and Representations**  
    Students learn about data representation, machine architecture concepts, algorithms, data structures including arrays, stacks, linked lists, trees.

  • **CSC 261 Programming in C++ I**  
  • **CSC 262 Programming in C++ II**  
    Two courses in programming C++

  • **ECT 250 Internet, Commerce, and Society**  
    Ever shop online? Learn the basics behind how these kinds of web sites function

  • **HCI 201 Multimedia and the World Wide Web**  
    Overview of the Web, its origins and capabilities. Create your own sample web page.

  • **IM 222 Information Visualization**  
    This course discusses the basic problems and techniques of visualizing quantitative and qualitative data.

  • **IT 130 The Internet and the Web**  
    Learn to design your own web site!

  • **IT 223 The Internet and the Web**  
    Application of statistical concepts and techniques to a variety of problems in IT areas and other disciplines, using a statistical package for simple data analysis.

  • **IT 236 User Interface Development**  
    The focus of the course is to build interfaces to simple programs. The course will cover interface controls, event handling, and the use of built in and/or pre-written controls. The course will cover simple database access through a Database control and possibly access to WebServices such as Google. Good visual design principles will be emphasized throughout the course.

  • **IT 240 Introduction to Desktop Databases**  
    Learn introductory concepts in constructing databases and networking files.

  • **IT 263 Applied Networks and Security**

  • **TDC 261 Basic Communication Systems**  
    Learn about how networks work and how they impact your daily life.

• **Scientific Inquiry: Lab**

  • **DC 274 Image, Optics and Cinematic Motion**  
    Cinematography is the scientifically-grounded discipline of making lighting and camera choices in order to record moving images. This course deals with the basic mathematics, physics, and
photochemistry that underlie cinematography and that motivate camera design and construction. A student who masters the foundations of cinematography through a mixture of lectures, readings, exercises, and labs will be able to evaluate and understand how motion-based recording choices affect perception of moving images they see every day.

- **GPH 259 Design Geometry (cross-listed as ART 295)**
  Learn the basics of Computer Aided Design.

- **Self, Society, and the Modern World**
  - CSC 223 The Impact of Computing Technology On Our Lives
    This course will introduce students to an overview of social analysis techniques and the theories of social change.
  - DC 105 Digital Media Literacies
    This course is designed to help students develop an informed, critical and practical understanding of new communication media, including ways to read, write and produce in a digital environment.
  - DC 235 Adaptation: The Cinematic Recrafting of Meaning
    This course explores contemporary cinematic adaptations of literature and how recent reworkings in film open viewers up to critical analysis of the cultural practices surrounding the promotion and reception of these narratives.
  - GAM 208 or IM 208 Virtual Worlds and Online Communities
    Environments such as social networking sites, multiplayer online games and other online communities are becoming an increasingly large part of how we work, plan, and learn. This course introduces the fundamentals for the interdisciplinary study of cyberculture and online social behavior. By examining core scholarship in this area, together with analyzing an existing virtual world, game, or online community, students will learn to research and understand new technologically-enabled social forms as they are emerging.
  - IS 208 IT, Economy and Society
    This course broadly surveys the history of IT applications and information systems from the historical perspective, and critically assesses the digital impact on industry, the economy, workers, citizens, social class and the future.
  - IT 201 Introduction to Information Systems
    This course examines how various types of computer-based information systems form a critical part of modern organizations, how they work, and how they impact workers, organizations and the economy.

- **Understanding the Past**
  - GAM 206 History of Games
    This class will examine particular games and game genres in their historical context using a case study format.
  - GPH 205 Historical Foundations of Visual Technology
    This course is a survey of the development, application and meaning of visual technologies in a wide range of world cultures from pre-history to the present.

- **Philosophical Inquiry**
  - CSC 208 The Computer and Social Responsibility
    This course will research the impact technology has had in various areas of our lives, the new responsibilities technology presents, and our ability to deal with these changes in an ethical manner.
  - DC 227 Film Philosophy
    This course is a seminar on the philosophical analysis of film art, with an emphasis on the ways in which it creates meaning through techniques that define a formal structure. There is a particular focus on aesthetic problems about appearance and reality, literacy and visual effects, communication and alienation through film technology.
  - DC 228 or GAM 228 or IT 228 Ethics in Computer Games and Cinema
    Societies function based on normative ethics utilizing common sense to distinguish between ethical and unethical behavior. Most of us are not aware of the underlying theories when arriving at ethical judgments about right and wrong. However, the fast pace of progress in information technologies and digital entertainment creates an environment, in which ethical challenges are particularly complex. In the eyes of many, games and movies are violent, offensive and immoral. This course will concentrate on analyzing the impact of digital entertainment on an individual and society. Implications of certain values embedded in games and movies will be discussed.
Elements of the ethical code of conduct for a game or movie creator will be formulated. The issue of balancing individual creativity vs. cultural impact, particularly on children, will be discussed.

**CDM Liberal Studies Courses Offered by CDM - Grouped by Topic**

- **The Internet and How It Works**
  - **CSC 200** Survey of Computing: Scientific Inquiry: Elective
    Learn about Careers using computers and pick up some skills to help you manage your own PC or network!
  - **CSC 211** Programming in Java I: Scientific Inquiry: Elective
  - **CSC 212** Programming in Java II: Scientific Inquiry: Elective
    Two courses in programming JAVA, a cross-platform, web-enabled language.
  - **CSC 255** Information Structures and Representations
    Students learn about data representation, machine architecture concepts, algorithms, data structures including arrays, stacks, linked lists, trees.
  - **CSC 261** Programming in C++ I
  - **CSC 262** Programming in C++ II
    Two courses in programming C++.
  - **ECT 250** Internet, Commerce, and Society: Scientific Inquiry: Elective
    Ever shop at Gap.com? Learn the basic behind how these kinds of web sites function.
  - **HCI 201** Multimedia and the World Wide Web: Scientific Inquiry: Quantitative
    Overview of the Web, its origins and capabilities. Create your own sample web page.
  - **IT 130** The Internet and the Web
    Learn to Design Your Own Website
  - **IT 263** Applied Networks and Security
    The focus of the course is to build interfaces to simple programs. The course will cover interface controls, event handling, and the use of built in and/or pre-written controls. The course will cover simple database access through a Database control and possibly access to WebServices such as Google. Good visual design principles will be emphasized throughout the course.
  - **TDC 261** Basic Communication Systems
    Introduction to voice, data, and multi-media network communications fundamentals. Wired, Wireless, and Optical applications in Local, Metropolitan, Wide Area Networks are explored. The overview explains how technical, regulatory, competitive, standardization and cultural factors impact modern network applications.

- **The Computer and Society**
  - **CSC 208** The Computer and Social Responsibility
    This course will research the impact technology has had in various areas of our lives, the new responsibilities technology presents, and our ability to deal with these changes in an ethical manner
    This course will introduce students to an overview of social analysis techniques and the theories of social change.
  - **CSC 250** Computers and Human Intelligence
    Students taking this course will study human problem-solving and its simulation by computers. Artificial intelligence, pattern recognition and learning programs will be discussed.
  - **GAM 208** or **IM 208** Virtual Worlds and Online Communities
    Environments such as social networking sites, multiplayer online games and other online communities are becoming an increasingly large part of how we work, plan, and learn. This course introduces the fundamentals for the interdisciplinary study of cybertulture and online social behavior. By examining core scholarship in this area, together with analyzing an existing virtual world, game, or online community, students will learn to research and understand new technologically-enabled social forms as they are emerging.
  - **IS 208** IT Economy and Society
    This course broadly surveys the history of IT applications and information systems from the historical perspective, and critically assesses the digital impact on industry, the economy, workers, citizens, social class and the future.
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    This course examines how various types of computer-based information systems form a critical
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- **Computer Graphics and Motion Technology**

  - **ANI 101 Animation for Non-Majors**
    Course introduces a variety of basic animation techniques for cinema and gaming, such as hand-drawn, cutout, stop-motion and (very basic) 3D, with an emphasis on the use of computer technology.

  - **ANI 206 History of Animation**
    History of Animation: This course is an introduction to the history and development of the field of animation.

  - **GPH 205 Historical Foundations of Visual Technology**
    This course is a survey of the development, application and meaning of visual technologies in a wide range of world cultures from pre-history to the present.

  - **GPH 211 Perceptual Principles for Digital Environments I: Arts and Literature**
    An introduction to the visual, non-verbal principles incorporated in the effective presentation of on-screen environments. This course emphasizes the use of two-dimensional elements and their organization.

  - **GPH 212 Perceptual Principles for Digital Environments II: Arts and Literature**
    Further experience with the visual, non-verbal principles incorporated in effective presentation of on-screen environments. This course emphasizes the use of three dimensional elements, spaces and their organization.

  - **GPH 213 Perceptual Principles for Digital Environments III: Arts and Literature**
    These three foundational courses in computer animation take you through the process of creating 2-D and 3-D representations on the computer. The last course teaches you how to animate them.

  - **GPH 259 Design Geometry (cross-listed as ART 295)**
    Learn the basics of Computer Aided Design.

  - **GPH 360 Modeling Spaces**
    The digital design and modeling of environmental spaces with attention to human use parameters.

- **Data Analysis and Retrieval**

  - **CSC 235 Problem Solving**
    How do you solve a problem? In this course we discuss different problem solving techniques and strategies such as modeling, establishing subgoals, and searching and pruning.

  - **CSC 239 Personal Computing: Scientific Inquiry: Quantitative**
    You will learn how to use Excel to analyze data and how to publish data and retrieve it from the World Wide Web.

  - **IT 223 Data Analysis**
    Application of statistical concepts and techniques to a variety of problems in IT areas and other disciplines, using a statistical package for simple data analysis.

  - **IT 240 Introduction to Desktop Databases: Personal Computing for Programmers: Scientific Inquiry: Elective**
    Learn introductory concepts in constructing databases and networking files.

  - **HCI 201 Multimedia and the World Wide Web: Scientific Inquiry: Quantitative**
    Overview of the Web, its origins and capabilities. Create your own sample web page.

  - **ECT 250 Internet, Commerce, and Society: Scientific Inquiry: Elective**
    Ever shop at Gap.com? Learn the basic behind how these kinds of web sites function.

  - **IT 130 The Internet and the Web (formerly ECT 270): Scientific Inquiry: Elective**
    Learn to design your own complex web site!

- **Codes, Ciphers and Computer Intelligence**
- **CSC 233 Codes and Ciphers : Scientific Inquiry: Elective**
  A history of code making and breaking and the math and (computer) science behind it
- **CSC 250 Computers and Human Intelligence : Scientific Inquiry: Quantitative**
  Study how computers are designed to think like people

**Digital Cinema and Game Development**

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  This course is an introduction to the uses and practical applications of sound for multimedia. Students will study various uses of sound and music on the Internet from creative to professional websites. Using free or inexpensive hardware and software, students will learn to create and edit podcasts and attach audio files to programs and web pages such as Facebook, Itunes, Keynote, PowerPoint and other sites. The course will cover both Mac and PC applications so all students will be able to work on projects from their home computers. The course will also cover current legalities of digital media.
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- **DC 207 History of Cinema I, 1890-1945**
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narrative films as the dominant mode of filmmaking, although we will also look at the development of documentary and experimental filmmaking. The class will consist of lectures, screenings, and discussions.

- **DC 208 History of American Cinema, 1946-1975**
  From Film Noir to Hitchcock, an examination of post war Hollywood, film noir, wide screen and epic films, the development of the star system, the director as autuer, and the influence of international film movements and directors. Screenings, lecture, and discussion.

- **DC 209 History of Cinema, 1975-Present**
  This final course in the film history sequence is designed to introduce students to a sense of modern film history and the multiple permutations of cinema around the modern film history and the multiple permutations of cinema around the globe. It presents film history from a global perspective, concentrating primarily on the development of new national and transnational cinemas. The course continues to chart the development of the American studios since the mid-1970s while examining the effects of media consolidation and convergence. Moreover, the course seeks to examine how global cinemas have reacted to and dealt with the formal influence and economic domination of Hollywood filmmaking on international audiences. Class lectures, screenings, and discussions will consider how cinema has changed from a primarily national phenomenon to a transnational form of communication in the 21st century.

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- **DC 233 Cinema & Art**
  This course will provide an overview of avant-garde film, video, animation and installation, and the relationship of these cinematic forms to Modern and Contemporary art.

- **DC 235 Adaptation: The Cinematic Recrafting of Meaning**
  This course explores contemporary cinematic adaptations of literature and how recent re-workings in film open viewers up to critical analysis of the cultural practices surrounding the promotion and reception of these narratives.

- **DC 250 Working with Actors 1**
  This course is an introduction and examination of the collaborative process between the actor and director. Methods of study include lecture, discussion, assignments, and in-class acting exercises.

- **DC 274 Image, Optics and Cinematic Motion**
  Cinematography is the scientifically-grounded discipline of making lighting and camera choices in order to record moving images. This course deals with the basic mathematics, physics, and photochemistry that underlie cinematography and that motivate camera design and construction. A student who masters the foundations of cinematography through a mixture of lectures, readings, exercises, and labs will be able to evaluate and understand how motion-based recording choices affect perception of moving images they see every day.

- **GAM 206 History of Games**
  This class will examine particular games and game genres in their historical context using a case study format

- **GAM 224 Introduction to Game Design**
  Students will learn about a game's "hook", its "high concept" and the crucial needs of marketing for a successful game design. Students will also learn to design a game's component pieces.

- **Graphic Design**
  - **GD 200 Graphic Design I**
    This course introduces the world of graphic design in a social and historical context. The goals are to explore formal structures and research methods with emphasis on the role of analysis and conceptual thinking as the first tasks of the print and multi-media designer. The course includes basic instruction in typography, color, problem-solving in print and on screen.
  - **GD 210 Digital Illustration I**
    Introduction to illustration development in image, line and photography, combining computer applications and hand-rendered approaches.
  - **GD 220 History of Design I**
    The history of graphic design is an evolution in aesthetics, technology, style and visual
communication. The class will encompass a survey of the major movements in the field of print design, notable designers and design materials. The nature of changing methods, materials, technologies and values are examined in the context of the social and political realities that shape communication. The course will include the historical shift from print to multimedia design methodologies.

- **GD 380 Design for Client and Community**
  This course enables students to work from start to finish on client-based graphic design and projects. Students establish working relationships as individuals and in teams that utilize their skills to effectively evaluate the communication needs of an organization or business, develop design solutions that fulfill those needs, and negotiate the process between designers and clients.

- **Visualization**
  - **IM 222 Information Visualization**
    This course discusses the basic problems and techniques of visualizing quantitative and qualitative data.

### Restrictions for CDM Students

A CDM student can take any CDM course approved for liberal studies credit and use it to satisfy a domain of the liberal studies program (LSP) provided the course is NOT required as part of the student's major.

A CDM student cannot count a course as a liberal studies requirement and a major requirement. No double counting is allowed for CDM classes by CDM students.

#### Example 1

- A CGMT student cannot use GPH 211 to satisfy the arts and literature requirement of LSP, as GPH 211 is required by all CGMT tracks.
- An ECT major CAN take GPH 211 to satisfy the arts and literature requirement of the LSP. The course qualifies for a liberal studies program domain that is required by the student's major.

#### Example 2

- A CS student CAN take GPH 259 to satisfy the Scientific Inquiry (SI)-Quantitative-Lab requirement of LSP because the course is not required by the CS major AND it counts for SI-Lab which is a required domain for CS students.
- A CS student CANNOT take CSC 250 to satisfy SI because, although the course is not required by any or our programs, it qualifies for SI-quantitative (not Lab) which is NOT a required domain for CDM students.

#### Example 3

- A CS student takes GPH 211 for arts and literature LSP. Although GPH 211 is allowed as an elective even if it is not a 300 level course, the student CANNOT count the course both as satisfying an LSP domain AND as an elective for the CS program.
Program Structure

Students in the combined degree program take a maximum of three graduate level courses that count toward both their bachelor's and master's degree requirements. Students may enroll in graduate level coursework in the junior and senior year only. Students in the combined degree program will receive the bachelor's degree after meeting all graduation requirements including the standard 192 undergraduate credit hours. The master's degree is awarded after the student completes 10 additional graduate courses (40 credit hours), instead of the standard 13 courses (52 credit hours).

Admission Criteria

- Minimum of 6 courses (24 credit hours) completed at DePaul
- GPA of 3.3 or higher in courses taken at DePaul
- Endorsement of faculty advisor

In order to apply for the BS/MS combined degree program, your faculty advisor must send an e-mail recommendation to Becky Krochmal. The recommendation should include your full name, student ID number, and the BS and MS degrees you wish to apply for.

Bachelor of Arts in Computing students who are enrolled via the School for New Learning are eligible for this program. Interested students who meet the admission criteria for a combined degree should contact Kenn Skorupa at SNL or Becky Krochmal at CDM for more information.

Maintaining Good Standing

- Each student's cumulative GPA and course grades will be reviewed after each Autumn, Winter, and Spring Quarter
- The student and Faculty Advisor will be notified when the student's cumulative GPA falls below 3.3 or when the student receives less than a C- in graduate level course.
- If a student's cumulative GPA falls below 3.3, the student must earn a term GPA of 3.3 or above in the following quarter to stay active. If the student does not achieve a 3.3 term GPA, then the student will be dismissed from the combined program and resume the traditional BA/BS. As long as the student's cumulative GPA is below 3.3, the student must continue to achieve at least a 3.3 term GPA in all following quarters or face dismissal. If, at any point, the student's cumulative GPA is once again 3.3 or higher, term requirements no longer apply.
- If a student does not maintain good standing, they will be dismissed from the Combined Degree and returned to normal undergraduate degree seeking status. Any graduate courses passed before dismissal will not be counted toward graduate credit and may not be retaken (if the student does pursue graduate study, other graduate courses must be substituted). If dismissed, students wish to apply to a CDM graduate degree program, they may do so following normal CDM Admission procedures, but will still be required to take 13 graduate courses for a MS degree.

Bachelor's Degree to Master's Degree Transition

After completing the undergraduate degree, when the student is ready to begin the graduate degree, the student should email Becky Krochmal who will process the change of status.

If, upon completion of the bachelor's degree, the student did not meet all prerequisites for the master's degree, then the student will need to complete (course, test or waiver) the missing prerequisites for the chosen master's Degree. If, while still in the undergraduate degree phase, the student receives less than a C- in graduate level course, the course cannot count towards the MS/MA Degree.

Designing a Course of Study

It is extremely important that the student and faculty advisor work together on a course of study immediately upon admission to the Combined Degree Program.

This course of study may include which undergraduate classes to avoid taking in order to take the graduate version. Failure to put together a solid plan can lead to extra coursework and a lengthening of the Combined Degree program.

It is advisable for the student and advisor to enter the proposed plan of study in the student communication record on the CDM intranet so it is available to the student and CDM faculty and staff.

Registering for Master's Degree Courses
Starting in Fall 2010, students will be enrolled in the graduate class instead of the special "Combined Degree Course". The student's advisor must email Associate Dean Lucia Dettori requesting the enrollment. The following information should be included in the email: student's full name, DePaul ID, graduate course and section, and the undergraduate course to be substituted for. Student services will process the enrollment.

College of Computing and Digital Media - Undergraduate Studies ◄ School of Computing (SoC) ◄ Minors

Minors

A minor is a combination of courses that provides a cohesive introduction to an area of study. Typically, courses taken to satisfy minor field requirements are credited as open electives; however, there are some instances where minor field courses may be used for credit in other areas of the student's curriculum. Grades for all courses, taken to fulfill a minor field requirement must be 'C' or above. Grades of 'C-' may be accepted for credit in the minor provided the minor GPA is 2.0 or above. A minimum of one-half of the courses required for a minor must be completed at DePaul University.

MINORS IN THE COLLEGE OF COMMERCE

Students enrolled in the College of Computing and Digital Media (CDM) may obtain a minor in Accounting, Business Administration, E-Business, Economics, Management, MIS, Marketing, and Pre-MBA. Please see the College of Commerce Section for Minor Requirements.

MINORS IN THE COLLEGE OF LIBERAL ARTS AND SCIENCES

Students enrolled in the College of Computing and Digital Media (CDM) may obtain a minor through the College of Liberal Arts and Sciences. Most Liberal Arts and Science departments offer minor concentrations of study. In general, a minor in a Liberal Arts and Sciences discipline consists of a set of introductory courses plus another set of more specialized courses. Most minors require six courses, some of which may also be used for credit in the Liberal Studies Program. For a complete list of minors offered through the College of Liberal Arts and Sciences, please consult that section of this online Bulletin.

MINORS IN THE COLLEGE OF COMPUTING AND DIGITAL MEDIA

Computer technology is an omnipresent part of our world, used in academic disciplines from physics to history to geography. CDM offers several minors that will appeal to all DePaul University students.

Political science and geography majors can pursue a minor in Data Analysis, Databases, or Data Visualization, which is important to understanding how to analyze census or GPS data.

Communications majors may be interested in Digital Cinema which will give you skills in creating videos for advertising.

Art majors interested in a career in graphics programming, animation or design may be interested in CDM's tech-focused minors in Animation or Computer Graphics Software Development.

An academic foundation in E-Commerce Technology, Networks or Information Systems can give Commerce students an edge in a tough job market.

There are other examples too numerous to mention. So if you have questions or want advice on what minor is best for you, can email our CDM Undergraduate Services team: gocdm@cdm.depaul.edu or call them at: 312-362-8714.

Policies for Academic Minors

Students must:

1. earn at least a grade of C- in each minor course and a GPA of no less than 2.0 for all courses in the minor;
2. earn at least a cumulative GPA of 2.0 for all courses applied to the minor;
3. not select the pass/fail option for courses in the minor
4. meet the following residency requirement: no more than 50% of the requirements of a minor may be fulfilled by transfer credits, AP credit, IB credit of CLEP credit.

Finally, students cannot earn a minor in their major program. Courses required to fulfill a minor are determined by the unit in which the minor resides.

**CDM Minors for CDM Students**

To obtain a minor in CDM when the major is also in CDM:

1. Satisfy all requirements for the major
2. Satisfy all requirements for the minor
3. Students must take at least 6 courses in the minor area that do not count towards their CDM major

**Note:** If you have already taken some of the courses listed under your minor on this page, work with your advisor to choose other courses within the same program area, i.e. NT minor would look under NT major courses and Computer Graphics Software Development would look under Computer Graphics Courses, in order to have 6 distinct courses.

- Animation Minor
- Computer Graphics Software Development
- Computer Science
- Data Analysis and Data Mining
- Database
- Data Visualization Development
- Digital Cinema
- E-Commerce Technology
- Game Design
- Game Programming
- Graphic Design
- Information and Computing in the Modern World
- Interactive Media
- Information Systems
- Information Technology
- Network Technologies
- Screenwriting
- Security
- Security in the Electronic World
- Software Engineering
- Sound Design
- Television Production Minor
- Visual Computing
- Visual Effects

**CDM Minor Requirements**

**Animation Minor**

**ANI 101** Animation for Non-Majors
or **ANI 201** Animation I

**ANI 230** 3D Design & Modeling
**ANI 231** 3D Animation
**ANI 206** History of Animation

3 courses from the following list: (at least 1 must be ANI)

**DC 201** Introduction to Screenwriting
**DC 210** Digital Cinema Production I
**DC 220** Editing I

Any ANI course

**Computer Graphics Software Development Minor**
Liberal Studies

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>GPH 211</td>
<td>Perceptual Principles for Digital Environments I</td>
</tr>
<tr>
<td>or GD 105</td>
<td>Intro to Visual Design</td>
</tr>
<tr>
<td>GPH 212</td>
<td>Perceptual Principles for Digital Environments II</td>
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</tbody>
</table>

Course Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>CSC 261</td>
<td>Programming Languages I: C/C++</td>
</tr>
<tr>
<td>CSC 262</td>
<td>Programming Languages II: C/C++</td>
</tr>
<tr>
<td>CSC 393</td>
<td>Data Structures in C++</td>
</tr>
<tr>
<td>GPH 329</td>
<td>Computer Graphics Development II</td>
</tr>
<tr>
<td>GPH 339</td>
<td>Advanced Rendering Techniques</td>
</tr>
<tr>
<td>GPH 372</td>
<td>Principles of Computer Animation</td>
</tr>
</tbody>
</table>

Computer Science Minor

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>CSC 241</td>
<td>Introduction to Computer Science I</td>
</tr>
<tr>
<td>and CSC 242</td>
<td>Introduction to Computer Science II</td>
</tr>
<tr>
<td>and CSC 224</td>
<td>Java for Programmers</td>
</tr>
<tr>
<td>or CSC 211</td>
<td>Programming in Java I</td>
</tr>
<tr>
<td>and CSC 212</td>
<td>Programming in Java II</td>
</tr>
<tr>
<td>and CSC 309</td>
<td>Object-Oriented Programming in C++</td>
</tr>
<tr>
<td>or CSC 261</td>
<td>Programming Languages I: C/C++</td>
</tr>
<tr>
<td>and CSC 262</td>
<td>Programming Languages II: C/C++</td>
</tr>
<tr>
<td>and CSC 224</td>
<td>Java for Programmers</td>
</tr>
<tr>
<td>CSC 393</td>
<td>Data Structures in C++</td>
</tr>
<tr>
<td>or CSC 383</td>
<td>Data Structures and Algorithms in Java</td>
</tr>
<tr>
<td>MAT 140</td>
<td>Discrete Mathematics I</td>
</tr>
<tr>
<td>CSC 373</td>
<td>Computer Systems I</td>
</tr>
<tr>
<td>CSC 374</td>
<td>Computer Systems II</td>
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Data Analysis and Data Mining Minor

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>IT 240</td>
<td>Introduction to Desktop Databases</td>
</tr>
<tr>
<td>IT 223</td>
<td>Data Analysis</td>
</tr>
<tr>
<td>CSC 324</td>
<td>Data Analysis and Statistical Software II</td>
</tr>
<tr>
<td>CSC 367</td>
<td>Introduction to Data Mining</td>
</tr>
<tr>
<td>CSC 334</td>
<td>Advanced Data Analysis</td>
</tr>
<tr>
<td>2 CDM Electives</td>
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</table>

Database Minor

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>CSC 211</td>
<td>Programming in Java I</td>
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<tr>
<td>and CSC 212</td>
<td>Programming in Java II</td>
</tr>
<tr>
<td>IT 223</td>
<td>Data Analysis</td>
</tr>
<tr>
<td>IT 240</td>
<td>Introduction to Desktop Databases</td>
</tr>
<tr>
<td>CSC 352</td>
<td>Database Programming</td>
</tr>
<tr>
<td>CSC 367</td>
<td>Introduction to Data Mining</td>
</tr>
<tr>
<td>1 CDM Elective</td>
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</tbody>
</table>

Data Visualization Development Minor
Course Requirements

CSC 261    Programming Languages I: C/C++
CSC 262    Programming Languages II: C/C++
CSC 323    Data Analysis
CSC 393    Data Structures in C++
GPH 329    Computer Graphics Development II
GPH 372    Principles of Computer Animation
GPH 380    Visualization

Digital Cinema Minor

DC 205    Foundations of Cinema
DC 225    Digital Still Photography
DC 201    Introduction to Screenwriting
DC 220    Editing I
3 courses from the following list:
ANI 101    Animation for Non-Majors
DC 210    Digital Cinema Production I
DC 270    Topics in Digital Cinema
DC 215    Digital Sound Design
DC 275    Cinematography
DC 310    Digital Cinema Production II
DC 320    Editing II
DC 389    The Big Picture: The Entertainment Industry

E-Commerce Technology Minor

IT 130    The Internet and the Web
CSC 211    Programming in Java I
CSC 212    Programming in Java II
IT 230    Building Internet Applications
ECT 330    Advanced Internet Application Development
IM 210    Introduction to Human-Computer Interaction
1 course from the following list:
ECT 355    Internet Systems: Collaboration, Commerce, and Media
ECT 360    Introduction to XML
ECT 365    Web Server Operations

Game Design Minor

DC 201    Introduction to Screenwriting
ANI 105    Intro to Visual Design
ANI 101    Animation for Non-Majors
or ANI 201    Animation I
ANI 230    3D Design & Modeling
GAM 224    Introduction to Game Design
or GAM 226    Game Design for Majors
GAM 244    Game Development I
GAM 245    Game Development II

Game Programming Minor
GAM 224  Introduction to Game Design 
or GAM 226  Game Design for Majors 
GAM 244  Game Development I 
GAM 245  Game Development II 
GAM 374  Action Games Programming 

2 courses from the following list: 
ANI 230  3D Design & Modeling 
GPH 321  Computer Graphics Development I 
GPH 329  Computer Graphics Development II 
GPH 350  Digital Modeling II 
Any other 300-Level GAM or GPH course 

Graphic Design Minor 

GD 105  Intro to Visual Design 
GD 200  Graphic Design I 
GD 300  Graphic Design II 
GD 230  Typography 

3 courses from the following list and/or any GD course (at least 1 must be GD): 
ANI 101  Animation for Non-Majors 
ANI 201  Animation I 
ANI 230  3d Design and Modeling 
ANI 260  Motion Graphics 
ANI 360  Advanced Motion Graphics 
DC 125  Digital Still Photography for Non-Majors 
DC 220  Editing I 
DC 225  Digital Still Photography 
DC 321  Production Design 
DC 376  Visual Design 
IM 220  Interactive Media I 
IM 222  Information Visualization 
IM 320  Interactive Media II 
IM 270  User-Centered Web Design 
IT 130  The Internet and the Web 

2 of the following courses may substitute for 1 course: 
GD 350  Portfolio Workshop 
GD 150  Illustrator Workshop 
GD 151  Photoshop Workshop 
GD 152  Digital Typography Workshop 

Information and Computing in the Modern World Minor 

ECT 350  Internet, Commerce and Society 
HCl 201  Multimedia and the World Wide Web 
IT 201  Introduction to Information Systems 
IT 215  Analysis and Design Techniques 
CSC 223  The Impact of Computing Technology on Our Lives 
or IT 228  Ethics in Computer Games and Cinema 
or CSC 208  The Computer and Social Responsibility 
or IS 208  Information Technology, Economy and Society 
IS 356  Knowledge Management Systems 
or IS 374  Management Support Systems
Interactive Media Minor

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>HCI 201</td>
<td>Multimedia and the World Wide Web</td>
</tr>
<tr>
<td>or IT 130</td>
<td>The Internet and the Web</td>
</tr>
<tr>
<td>IM 210</td>
<td>Introduction to Human-Computer Interaction</td>
</tr>
<tr>
<td>GD 105</td>
<td>Intro to Visual Design</td>
</tr>
<tr>
<td>or GPH 211</td>
<td>Perceptual Principles for Digital Environments</td>
</tr>
<tr>
<td>IM 220</td>
<td>Interactive Media I</td>
</tr>
<tr>
<td>IM 270</td>
<td>User-centered Web Design</td>
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2 courses from the following list:

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>IM 222</td>
<td>Information Visualization</td>
</tr>
<tr>
<td>IM 208</td>
<td>Virtual Worlds and Online Communities</td>
</tr>
<tr>
<td>IM 230</td>
<td>Scripting for Interactive Media</td>
</tr>
<tr>
<td>IM 320</td>
<td>Interactive Media II</td>
</tr>
<tr>
<td>IM 330</td>
<td>Advanced Scripting for Interactive Media</td>
</tr>
<tr>
<td>IT 231</td>
<td>Web Development I</td>
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<tr>
<td>IM 320</td>
<td>Interactive Media II</td>
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Information Systems Minor

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>IT 240</td>
<td>Introduction to Desktop Databases</td>
</tr>
<tr>
<td>IT 201</td>
<td>Introduction to Information Systems</td>
</tr>
<tr>
<td>IT 215</td>
<td>Analysis and Design Techniques</td>
</tr>
<tr>
<td>IS 372</td>
<td>Fundamentals of Software Project Management</td>
</tr>
<tr>
<td>IS 373</td>
<td>Introduction to Large Systems Implementation</td>
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Information Technology Minor

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>IT 130</td>
<td>The Internet and the Web</td>
</tr>
<tr>
<td>IT 231</td>
<td>Web Development I</td>
</tr>
<tr>
<td>IT 240</td>
<td>Introduction to Desktop Databases</td>
</tr>
<tr>
<td>IT 263</td>
<td>Applied Networks and Security</td>
</tr>
<tr>
<td>or TDC 261</td>
<td>Basic Communication Systems</td>
</tr>
<tr>
<td>IT 215</td>
<td>Analysis and Design Techniques</td>
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1 CDM Elective

Network Technology Minor

<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>CSC 211</td>
<td>Programming in Java I</td>
</tr>
<tr>
<td>or CSC 261</td>
<td>Programming Languages I:C/C++</td>
</tr>
<tr>
<td>CSC 212</td>
<td>Programming in Java II</td>
</tr>
<tr>
<td>or CSC 262</td>
<td>Programming Language II:C/C++</td>
</tr>
<tr>
<td>IT 201</td>
<td>Introduction to Information Systems</td>
</tr>
<tr>
<td>IT 263</td>
<td>Applied Networks and Security</td>
</tr>
<tr>
<td>TDC 362</td>
<td>Principles of Data Communication</td>
</tr>
<tr>
<td>TDC 363</td>
<td>Introduction to Local Area Networks</td>
</tr>
<tr>
<td>TDC 365</td>
<td>Network Interconnection Technologies</td>
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Screenwriting Minor

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>DC 201</td>
<td>Introduction to Screenwriting</td>
</tr>
<tr>
<td>DC 222</td>
<td>Classic Hollywood Film Structure</td>
</tr>
</tbody>
</table>
DC 301  Advanced Screenwriting I
DC 302  Advanced Screenwriting II
DC 303  Advanced Screenwriting III
DC 304  Topics in Screenwriting

Security Minor

CSC 211  Programming in Java I
and CSC 212  Programming in Java II

or

CSC 261  Programming Language I: C/C++
and CSC 262  Programming Language II: C/C++

CSC 233  Codes and Cyphers
or CSC 333  Cryptology

CNS 378  Host and Information Security
CNS 320  Computer Forensic and Incident Response
CNS 228  Legal, Ethical and Social Issues in Information Security
CNS 340  Fundamentals of Information Assurance

Security in the Electronic World Minor

IT 130  The Internet and the Web
and IT 231  Web Development I
and IT 232  Web Development II

or

CSC 261  Programming Language I: C/C++
and CSC 262  Programming Language II: C/C++

or

CSC 241  Introduction to Computer Science I
and CSC 242  Introduction to Computer Science II

or

CSC 211  Programming in Java I
and CSC 212  Programming in Java II

CNS 228  Legal, Ethical and Society Issues in Information Security
CSC 233  Codes and Cyphers
CNS 320  Computer Forensic and Incident Response
CNS 340  Fundamentals of Information Assurance

Software Engineering Minor

CSC 261  Programming Languages I: C/C++
and CSC 262  Programming Languages II: C/C++
and CSC 224  Java for Programmers

or

CSC 241  Introduction to Computer Science I
and CSC 242  Introduction to Computer Science II
and CSC 224  Java for Programmers

or

CSC 211  Programming in Java I
CSC 212  Programming in Java II
and then
CSC 383  Data Structures and Algorithms in Java
SE 325  Principles and Practices of Software Engineering
Sound Design Minor

DC 215 Digital Sound Design
DC 312 Music for Film and Video
DC 313 Production Sound
DC 315 Advanced Digital Sound Design

3 courses from the following list

GAM 250 Digital Sound for Computer Games
DC 317 Advanced Sound Mixing for Cinema
DC 318 Advanced Dialogue Recording and Editing
DC 319 Advanced Sound Effects Recording and Editing
DC 313 Sound for Multimedia
DC 203 History of Motion Picture Sound

Television Production Minor

DC 210 Digital Cinema Production I
DC 220 Editing I
DC 271 Introduction to Television Production
DC 272 Writing for Television
TV 289 The Business of Television
TV 320 Editing for Television
TV 301 Television Program Development
DC 372 Topics in TV Production

Visual Computing Minor

MAT 140 Discrete Mathematics I
or MAT 220 Linear Algebra with Applications
or 1 quarter of Calculus (Prerequisite for CSC 381)
IT 223 Data Analysis (Prerequisite for CSC 367)
CSC 381 Introduction to Digital Image Processing
CSC 382 Applied Image Analysis
IT 300 Research Experience
CSC 367 Introduction to Data Mining (IT 223 requirement)

Visual Effects Minor

ANI 230 3D Design & Modeling
ANI 379 Advanced 3D Compositing
DC 220 Editing I
DC 325 Color Correction
VFX 200 Introduction to Visual Effects
VFX 278 Digital Compositing I
VFX 378 Digital Compositing II

Bachelor of Arts Degree Programs
**Computing (Joint with SNL)**

The BA in Computing, offered jointly by CDM and DePaul's School for New Learning (SNL), prepares adult students for a computer-related career. The program is designed to be flexible for working adults, providing online and evening classes in DePaul's Loop, Naperville, Oak Forest, and O'Hare campuses. The personalized curriculum is competence-based, allowing students to earn credit from previous college courses, work, and life experience.

**Degree Requirements**

The Lifelong Learning Area consists of 12 competences satisfied by 9 required SNL courses, approved transfer courses or proficiency exams.

The Liberal Learning Area consists of 26 competences in 4 categories. Competences can be satisfied by SNL and CDM courses, relevant transfer courses of C- or better, and documented college-level learning from experience.

Focus Area consists of 12 competences satisfied through CDM courses, approved transfer courses and Advanced Project from SNL.

**Course Requirements**

For more information about the BA in Computing degree, please visit the School for New Learning website at http://snl.depaul.edu/Programs/UgradDegree/BAComputing.asp or contact SNL advising.

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**Information Technology**

The **B.A. in Information Technology** program will give students a broad education in current areas of information technology, with a focus on producing educated and sophisticated consumers of information technology. Students in this program will gain:

- An understanding of the impact of information and communication technologies on social, cultural, and ethical dimensions.
- Strong quantitative and reasoning skills with the ability to present technical data in verbal, written, and graphical forms.
- Verbal and written communication literacy.
- Students will also have an opportunity to specialize in a domain of interest or to acquire a generalized education in information technology.

**Online Learning Options**

Many courses are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.A. degree in Information Technology.

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<tr>
<th>First Year Program</th>
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<tr>
<td>Course</td>
<td>Requirement</td>
</tr>
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<td>---------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
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</tr>
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<td></td>
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<td>Senior Year</td>
<td></td>
</tr>
<tr>
<td>Capstone</td>
<td>Required*</td>
</tr>
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</table>

**Learning Domains**

<table>
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<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts and Literature (AL)</td>
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**Notes:**

1. of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD)
2. * Students must earn a C- or better in this course.

**Note:** Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of these course requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

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<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>IT 130</td>
<td>The Internet and the Web</td>
</tr>
<tr>
<td>IT 201</td>
<td>Introduction to Information Systems</td>
</tr>
<tr>
<td>IT 240</td>
<td>Introduction to Desktop Databases</td>
</tr>
<tr>
<td>ICS 200</td>
<td>Introduction to Business</td>
</tr>
<tr>
<td>7 Liberal Studies</td>
<td></td>
</tr>
<tr>
<td>1 Open Elective</td>
<td></td>
</tr>
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**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 231</td>
<td>Web Development I</td>
</tr>
<tr>
<td>IT 223</td>
<td>Data Analysis</td>
</tr>
<tr>
<td>or CSC 239</td>
<td>Personal Computing</td>
</tr>
<tr>
<td>IM 210</td>
<td>Introduction to Human-Computer Interaction</td>
</tr>
<tr>
<td>IT 263</td>
<td>Applied Networks and Security</td>
</tr>
<tr>
<td>or TDC 261</td>
<td>Basic Communication Systems</td>
</tr>
<tr>
<td>CSC 223</td>
<td>The Impact of Computing Technology On Our Lives</td>
</tr>
<tr>
<td>CMNS 212</td>
<td>Small Group Communication</td>
</tr>
<tr>
<td>or CMNS 220</td>
<td>Public Speaking</td>
</tr>
<tr>
<td>5 Liberal Studies</td>
<td></td>
</tr>
<tr>
<td>1 Open Elective</td>
<td></td>
</tr>
</tbody>
</table>

**Third Year**
WRD 204 Technical Writing
or WRD 301 Writing in Workplace Contexts
4 Technical grounding courses from the following list
IT 215 Analysis and Design Techniques
IT 232 Web Development II
IT 330 User Interface Development for Interactive Systems
IT 320 Content Management Systems
CSC 211 Programming in Java I
CSC 212 Programming in Java II
CSC 261 Programming in C++ I
CSC 262 Programming in C++ II
ECT 330 Advanced Internet Application Development
IM 230 Scripting for Interactive Media
IM 270 User-Centered Web Design
IM 330 Advanced Scripting for Interactive Media
GPH 211 Perceptual Principles for Digital Environments I
GPH 212 Perceptual Principles for Digital Environments II
GAM 244 Game Development I
GAM 245 Game Development II
SE 325 Introduction to Software Engineering
TDC 363 Introduction to Local Area Networks

5 Liberal Studies
1 Major Elective
1 Open Elective

Fourth Year
CSC 378 Software Projects for Community Clients (Capstone)*
CSC 399 Independent Study*

1 Liberal Studies
4 Major Electives
5 Open Electives

*CSC 378 is the first of a two course sequence (8 credit hours). It counts for both the capstone and the Junior Year Experiential Learning. The second course is the sequence is a special section of CSC 399. Both quarters must be completed to receive any credit.

Major Electives
A minimum of 2 major electives must be chosen from any 300 level CDM courses. A maximum of 3 major electives may be chosen from any 200-level (or higher) DePaul Course.
Students must earn a grade of C- or higher in all major elective courses.

Open Electives
Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements
Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.
Bachelor of Science Degree Programs

Computer Games Development (Joint with CIM)

The **B.S. in Computer Game Development** prepares students to work in the multi-disciplinary field of computer gaming and interactive media. This program also requires strong mathematical and programming skills. CDM's Computer Game Development program combines coursework in game programming, game design, 3D Modeling, animation, physics, and artificial intelligence. Students work in cross-disciplinary teams to design and develop games. This program was created in consultation with our Game Dev Industry Advisory Board, and is the result of input from many of the top game programmers, producers and designers in the Chicago area.

**Concentrations**

Production and Design Concentration
Students in this concentration receive an education in all areas of game development, including game design, programming and animation, but also the basic business skills of project management, budgeting, contract negotiation, marketing and quality assurance.

Game Programming Concentration
Students in this concentration engage in the rigorous study of computer science basics, and then apply this knowledge to the demanding specialization of game programming. Areas of study include computer graphics development, computer science, linear algebra, game physics, and artificial intelligence programming.

**Online Learning Options**

Many courses are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

Production & Design Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Computer Games Development (Production and Design Concentration).

| First Year Program                  |  |
|-------------------------------------|  |
| **Chicago Quarter**                 | LSP 110 or LSP 111 |
| **Focal Point**                     | LSP 112 |
| **Writing**                         | WRD 103* and WRD 104* |
| **Quantitative Reasoning & Technological Literacy** | Not Required |

| Sophomore Year                      |  |
|-------------------------------------|  |
| **Multiculturalism in the US**      | LSP 200 |

| Junior Year                         |  |
|-------------------------------------|  |
| **Experiential Learning**           | Required |

| Senior Year                         |  |
|-------------------------------------|  |
| **Capstone**                        | GAM 395* |

| Learning Domains                    |  |
|-------------------------------------|  |
| **Arts and Literature (AL)**        | 3 courses required: |
Philosophical Inquiry (PI)  | 2 Courses Required:  
| - DC 201  
| - 2 Additional Courses

Religious Dimensions (RD)  | 2 Courses Required

Scientific Inquiry (SI)  | 1 SI Lab Course Required

Self, Society and the Modern World (SSMW)  | 3 Courses Required

Understanding the Past (UP)  | 2 Courses Required

Notes:  
* Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following Course Requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

**First Year**
- GAM 226 Game Design for Majors
- GD 105 Intro to Visual Design
- GAM 244 Game Development I
- GAM 245 Game Development II
- ANI 101 Animation for Non-Majors
  or ANI 201 Animation I
- 7 Liberal Studies

**Second Year**
- GAM 230 Intro to Game Production
- MAT 150 Calculus I
- CSC 261 Programming in C++ I
- CSC 262 Programming in C++ II
- GAM 341 Introduction to Level Design
- ANI 230 3D Design & Modeling
- 5 Liberal Studies
- 1 Major Elective

**Third Year**
- ANI 231 3D Animation
- GAM 250 Digital Sound for Computer Games
- GAM 374 Fundamentals of Game Programming I
- IM 220 Interactive Media I
- WRD 204 Technical Writing
- 4 Liberal Studies
- 3 Major Electives

**Fourth Year**
- GAM 333 The Business of Games
- GAM 392 Game Modification Workshop
- GAM 394 Game Development Project I
- GAM 395 Game Development Project II (Capstone)
- 3 Liberal Studies
1 Major Elective
4 Open Electives

Major Electives

Major electives can be chosen from the following list

200 level ANI, DC, GAM, GD, GPH, or IM courses
300 level CDM courses

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. Click here for details. Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

Game Programming Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Computer Games Development (Game Programming Concentration).

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<tr>
<th>Senior Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Capstone</td>
<td>GAM 395*</td>
</tr>
</tbody>
</table>

<table>
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<tr>
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<th></th>
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</tr>
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<td>- 1 Additional Course</td>
<td></td>
</tr>
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Notes: * Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

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The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

**First Year**
- GAM 226 Game Design For Majors
- GD 105 Intro to Visual Design
- GAM 244 Game Development I
- CSC 261 Programming in C++ I
- CSC 262 Programming in C++ II
- MAT 150 Calculus I
- MAT 151 Calculus II
- 5 Liberal Studies

**Second Year**
- GAM 245 Game Development II
- CSC 393 Data Structures in C++
- ANI 230 3D Design & Modeling
- 7 Liberal Studies
- 2 Major Electives

**Third Year**
- CSC 373 Computer Systems I
- CSC 374 Computer Systems II
- GAM 350 Physics for Game Developers
- GAM 374 Fundamentals of Game Programming I
- GAM 377 Fundamentals of Game Programming II
- GPH 321 Computer Graphics Development I
- GPH 329 Computer Graphics Development II
- 4 Liberal Studies
- 1 Major Elective

**Fourth Year**
- GAM 376 Artificial Intelligence for Computer Games
- GPH 389 Real-Time Graphics Techniques
- GAM 392 Game Modification Workshop
- GAM 394 Game Development Project I
- GAM 395 Game Development Project II (Capstone)
- 3 Liberal Studies
- 1 Major Elective
- 3 Open Electives

**Major Electives**
Major electives can be chosen from the following list

- 200 level ANI, DC, GAM, GPH, or IM courses
- 300 level CDM courses

Students must earn a grade of C- or higher in all major elective courses.

**Open Electives**

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

**Degree Requirements**

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
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For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook**

The **B.S. in Computer Graphics and Motion Technology** prepares students who have a passion for art, math or technology for a multitude of career paths in computer graphics animation. Graduates from this major create visuals for video games, scientific and aerospace visualization, movies, television, and advertising. Students in this program will learn

- Design and analysis of mathematics/computer science programming principles for computer graphic design.
- History and theory of graphic design (color theory, perception).
- Usability and human-computer interaction.
- Hands-on, practical knowledge of digital photography, 3D animation, 3D modeling, texturing and rendering.
- Visual communication techniques.
- Real world experience working in a group as a contributing team member.
- Creating animation in a production pipeline environment.

**Concentrations**

**Developer Concentration**

This concentration prepares students for careers in graphics software development, with courses in programming lanaguages (C/C++) and mathematics (calculus and algebra), in addition to animation and computer graphics.

**Technical Designer Concentration**

This concentration prepares students interested in visual aspects, including lighting setup, shader development, scripting and character rigging.

**Online Learning Options**
Some courses are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

Developer Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. degree in Computer Graphics and Motion Technology (Developer Concentration).

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<tr>
<th>First Year Program</th>
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<tbody>
<tr>
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**Notes:**
1. One of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD)
2. * Students must earn a C- or better in this course.

**Note:** Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

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The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

**First Year**
- CSC 261 Programming in C++ I
- CSC 262 Programming in C++ II
CSC 393  Data Structures in C++
GPH 211  Perceptual Principles for Digital Environments I
or GD 105  Intro to Visual Design
GPH 212  Perceptual Principles for Digital Environments II
ANI 201  Animation I
MAT 140  Discrete Mathematics I

One of the following two-course sequences

**Calculus Sequence (option 1)**
MAT 150  Calculus I
MAT 151  Calculus II

**Calculus for Mathematics and Science Majors Sequence (option 2)**
MAT 160  Calculus for Mathematics and Science Majors I
MAT 161  Calculus for Mathematics and Science Majors II

**Calculus with Scientific Applications Sequence (option 3) Recommended**
MAT 170  Calculus I with Scientific Applications
MAT 171  Calculus II with Scientific Applications

3 Liberal Studies

**Second Year**
GPH 325  Survey of Computer Graphics
GPH 329  Computer Graphics Development II
GPH 339  Advanced Rendering Techniques
GPH 321  Computer Graphics Development I
or MAT 220  Linear Algebra with Applications
CMNS 220  Public Speaking
7 Liberal Studies

**Third Year**
GPH 372  Principles of Computer Animation
CSC 321  Design and Analysis of Algorithms
IM 315  Theory and Perception of Color
WRD 204  Technical Writing
5 Liberal Studies
3 Major Electives

**Fourth Year**
GPH 375  Advanced Graphics Development
GPH 388  Production Pipeline Techniques
GPH 389  Real-Time Graphics Techniques
GPH 395  Computer Graphics Senior Project (Capstone)
4 Liberal Studies
1 Major Elective
3 Open Electives

**Major Electives**

Students must earn a grade of C- or higher in all major elective courses.

Students can take any of the following courses, as long as it was not previously used to satisfy a major requirement.

ANI 300  3D Character Animation
ANI 310  Motion Capture Workshop
ART 225  Beginning Photography
ART 329  Advanced Digital Photography
ART 360  Illustration
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 373</td>
<td>History of Design</td>
</tr>
<tr>
<td>GPH 336</td>
<td>Smooth Surface Modeling for Graphics and Animation</td>
</tr>
<tr>
<td>GPH 340</td>
<td>Procedural Shading</td>
</tr>
<tr>
<td>GPH 341</td>
<td>Advanced Lighting Techniques</td>
</tr>
<tr>
<td>GPH 348</td>
<td>Rigging for Animation</td>
</tr>
<tr>
<td>GPH 376</td>
<td>Artificial Intelligence in Computer Games</td>
</tr>
<tr>
<td>GPH 380</td>
<td>Visualization</td>
</tr>
<tr>
<td>GPH 389</td>
<td>Real-Time Graphics Techniques</td>
</tr>
<tr>
<td>GPH 345</td>
<td>Digital Surface Modeling</td>
</tr>
<tr>
<td>GPH 259</td>
<td>Design Geometry</td>
</tr>
<tr>
<td>GPH 329</td>
<td>Computer Graphics Development II</td>
</tr>
<tr>
<td>GPH 350</td>
<td>Digital Modeling II</td>
</tr>
<tr>
<td>GPH 358</td>
<td>Computer Graphics Automation</td>
</tr>
<tr>
<td>GPH 360</td>
<td>Modeling Spaces</td>
</tr>
<tr>
<td>GPH 374</td>
<td>Computer Games</td>
</tr>
<tr>
<td>GPH 375</td>
<td>Advanced Graphics Development</td>
</tr>
<tr>
<td>IM 210</td>
<td>Introduction to Human-Computer Interaction</td>
</tr>
<tr>
<td>IM 270</td>
<td>User-Centered Web Design</td>
</tr>
<tr>
<td>IM 322</td>
<td>Multimedia</td>
</tr>
<tr>
<td>IM 330</td>
<td>Advanced Scripting for Interactive Media</td>
</tr>
<tr>
<td>or IM 336</td>
<td>Interactive Media Scripting for Programmers *</td>
</tr>
<tr>
<td>IT 223</td>
<td>Data Analysis Self Placement Test</td>
</tr>
<tr>
<td>MAT 150</td>
<td>Calculus I</td>
</tr>
<tr>
<td>MAT 151</td>
<td>Calculus II</td>
</tr>
<tr>
<td>MAT 152</td>
<td>Calculus III</td>
</tr>
</tbody>
</table>

* Students who take CSC 261 and CSC 262 may take IM 330 or IM 336 as an elective. Only one of the two would count as an elective.

**Open Electives**

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

**Degree Requirements**

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

**Technical Designer Concentration:**

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. degree in Computer Graphics and Motion Technology (Technical Designer Concentration).
<table>
<thead>
<tr>
<th>First Year Program</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chicago Quarter</strong></td>
</tr>
<tr>
<td><strong>Focal Point</strong></td>
</tr>
<tr>
<td><strong>Writing</strong></td>
</tr>
<tr>
<td><strong>Quantitative Reasoning &amp; Technological Literacy</strong></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Sophomore Year</th>
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</thead>
<tbody>
<tr>
<td><strong>Multiculturalism in the US</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Junior Year</th>
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</thead>
<tbody>
<tr>
<td><strong>Experiential Learning</strong></td>
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<table>
<thead>
<tr>
<th>Senior Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capstone</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Learning Domains</th>
</tr>
</thead>
</table>
| **Arts and Literature (AL)** | 3 Courses Required  
- HAA 130  
- ART 106  
- 1 Additional Course |

| **Philosophical Inquiry (PI)** | 2 Courses Required  
(See note below) |

| **Religious Dimensions (RD)** | 2 Courses Required  
(See note below) |

| **Scientific Inquiry (SI)** | 1 SI Lab Course Required |

| **Self, Society and the Modern World (SSMW)** | 3 Courses Required |

| **Understanding the Past (UP)** | 2 Courses Required |

| **Notes:** | 1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD)  
* Students must earn a C- or better in this course. |

**Note:** Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

**First Year**

IM 230  
and IM 330  
or CSC 261  
or CSC 262  
and GD 105  
GPH 211  
or GPH 212  
ANI 201  
MAT 140  
5 Liberal Studies
Second Year
GPH 345  Digital Surface Modeling
GPH 255  Hand Prototyping for Graphic Visualization
GPH 325  Survey of Computer Graphics
GPH 358  Computer Graphics Automation
IM 210  Introduction to Human-Computer Interaction
HAA 115  Principles of Asian Art
CMNS 220  Public Speaking
5 Liberal Studies

Third Year
IM 315  Theory and Perception of Color
or ART 205  Color Theory and Application
GPH 259  Design Geometry
GPH 338  Survey of 3-D Animation
GPH 339  Advanced Rendering Techniques
HAA 242  Art From 1945 - 1975
WRD 204  Technical Writing
6 Liberal Studies
1 Major Elective

Fourth Year
GPH 388  Production Pipeline Techniques
GPH 395  Computer Graphics Senior Project (Capstone)
3 Liberal Studies
4 Major Electives
3 Open Electives

Major Electives

Students must earn a grade of C- or higher in all major elective courses.

Students can take any of the following courses, as long as it was not previously used to satisfy a major requirement.

ANI 300  3D Character Animation
ANI 310  Motion Capture Workshop
ART 225  Beginning Photography
ART 329  Advanced Digital Photography
ART 360  Illustration
GPH 259  Design Geometry
GPH 336  Smooth Surface Modeling for Graphics and Animation
GPH 340  Procedural Shading
GPH 341  Advanced Lighting Techniques
GPH 348  Rigging for Animation
GPH 376  Artificial Intelligence in Computer Games
GPH 380  Visualization
GPH 389  Real-Time Graphics Techniques
GPH 345  Digital Surface Modeling
GPH 329  Computer Graphics Development II
GPH 350  Digital Modeling II
GPH 358  Computer Graphics Automation
GPH 360  Modeling Spaces
GPH 374  Computer Games
GPH 375  Advanced Graphics Development
HAA 263  History of Design
IM 210 Introduction to Human-Computer Interaction
IM 270 User-Centered Web Design
IM 322 Multimedia
IM 330 Advanced Scripting for Interactive Media
or IM 336 Interactive Media Scripting for Programmers *
IT 223 Data Analysis Self Placement Test
MAT 150 Calculus I
MAT 151 Calculus II
MAT 152 Calculus III

* Students who take CSC 261 and CSC 262 may take IM 330 or IM 336 as an elective. Only one of the two would count as an elective.

Open Electives
Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements
Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

Computer Science
The B.S. in Computer Science at DePaul CDM provides training in the foundations of computing, data storage and information processing. With this foundation, graduates of the program can easily adapt to and create new information technologies, new computing paradigms, and new ideas for applying computer systems. Students in the program will develop a broad set of skills and expertise:

- Programming and software development skills, the technical tools of the IT trade
- An understanding of modern computer systems, and how to use them 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.

BS in Computer Science Degree Requirements

Concentration
The Software Engineering concentration provides students with skills, knowledge, and experiences in state-of-the-art software engineering methodologies, techniques, and applications.

Online Learning Options
Some courses are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

Course Requirements

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the Bachelor of Science degree in Computer Science.

First Year Program

<table>
<thead>
<tr>
<th>Chicago Quarter</th>
<th>LSP 110 or LSP 111</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focal Point</td>
<td>LSP 112</td>
</tr>
<tr>
<td>Writing</td>
<td>WRD 103* and WRD 104*</td>
</tr>
<tr>
<td>Quantitative Reasoning &amp; Technological Literacy</td>
<td>Not Required</td>
</tr>
</tbody>
</table>

Sophomore Year

<table>
<thead>
<tr>
<th>Multiculturalism in the US</th>
<th>LSP 200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior Year</td>
<td></td>
</tr>
<tr>
<td>Experiential Learning</td>
<td>Required</td>
</tr>
<tr>
<td>Senior Year</td>
<td></td>
</tr>
<tr>
<td>Capstone</td>
<td>CSC 394*</td>
</tr>
</tbody>
</table>

Learning Domains

<table>
<thead>
<tr>
<th>Arts and Literature (AL)</th>
<th>3 Courses Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philosophical Inquiry (PI)</td>
<td>2 Courses Required:</td>
</tr>
<tr>
<td>- CSC 208</td>
<td>1 Additional Course</td>
</tr>
<tr>
<td>Religious Dimensions (RD)</td>
<td>2 Courses Required</td>
</tr>
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<td>Scientific Inquiry (SI)</td>
<td>1 SI Lab Course Required</td>
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<td>Self, Society and the Modern World (SSMW)</td>
<td>3 Courses Required</td>
</tr>
<tr>
<td>Understanding the Past (UP)</td>
<td>2 Courses Required</td>
</tr>
<tr>
<td>Note:</td>
<td>* Students must earn a C- or better in this course.</td>
</tr>
</tbody>
</table>

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following Course Requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

<table>
<thead>
<tr>
<th>CSC 241</th>
<th>Introduction to Computer Science I</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC 242</td>
<td>Introduction to Computer Science II</td>
</tr>
<tr>
<td>MAT 140</td>
<td>Discrete Mathematics I</td>
</tr>
<tr>
<td>MAT 141</td>
<td>Discrete Mathematics II</td>
</tr>
<tr>
<td>CSC 224</td>
<td>Java for Programmers</td>
</tr>
<tr>
<td>IT 223</td>
<td>Data Analysis</td>
</tr>
<tr>
<td>6 Liberal Studies</td>
<td></td>
</tr>
</tbody>
</table>
Second Year
CSC 383 Data Structures and Algorithms in Java
or CSC 393 Data Structures in C++
CSC 321 Design and Analysis of Algorithms
CSC 309 Object-Oriented Programming in C++
CSC 373 Computer Systems I
CSC 374 Computer Systems II
WRD 204 Technical Writing
5 Liberal Studies
1 Open Elective

Third Year
CSC 355 Database Systems
SE 350 Object-Oriented Software Development
CMNS 220 Public Speaking
4 Liberal Studies
3 Major Electives
2 Open Electives

Fourth Year
CSC 376 Distributed Systems
CSC 348 Introduction to Compiler Design
CSC 394 Software Projects (Capstone)
4 Liberal Studies
3 Major Electives
2 Open Electives

Major Electives
Students must earn a grade of C- or higher in all major elective courses.
Major electives can be chosen from the list below. At least 4 of the 6 Major Field elective courses must be taken from the list of Advanced Major Field courses.

Introductory Major Field Courses

CSC 233 Codes and Ciphers
CSC 235 Problem Solving
GAM 244 Game Development I
GAM 245 Game Development II
IM 210 Introduction to Human-Computer Interaction
IM 336 Interactive Media Scripting for Programmers
IT 130 The Internet and the Web
IT 231 Web Development I
IT 232 Web Development II
IT 263 Applied Networks and Security
MAT 150 Calculus I
MAT 151 Calculus II

Advanced Major Field Courses

Artificial Intelligence

CSC 357 Expert Systems
CSC 358 Symbolic Programming
CSC 380  Foundations of Artificial Intelligence
CSC 395  Introduction to Social Computing

Computational Sciences

CSC 331 Scientific Computing

Computer Game Development

GAM 350  Physics for Game Developers
GAM 353  Tool Programming for Game Development
GAM 374  Fundamentals of Game Programming I
GAM 376  Artificial Intelligence for Computer Games
GAM 378  Strategy Games Programming
GAM 380  Console Game Development Environments
GAM 382  Serious Games
GAM 386  Game Development for Mobile Devices
GAM 390  Multiplayer Game Development
GAM 391  Game Performance Optimization
GAM 394  Game Development Project I
GAM 395  Game Development Project II

Computer Graphics

GPH 325  Survey of Computer Graphics
GPH 329  Computer Graphics Development II
GPH 339  Advanced Rendering Techniques
GPH 372  Principles of Computer Animation
GPH 375  Advanced Graphics Development
GPH 389  Real-Time Graphics Techniques
GPH 395  Computer Graphics Senior Project

Computer Networks

TDC 362  Principles of Data Communications
TDC 363  Introduction to Local Area Networks
TDC 365  Network Interconnection Technologies
TDC 371  Wireless Communications Networks
TDC 372  Digital Access Services
TDC 375  Network Protocols
TDC 377  Fundamentals of Network Security
TDC 379  Telecommunication and Network Security Practicum

Computer Systems

CSC 343  Introduction to Operating Systems
CSC 347  Concepts of Programming Languages
CSC 375  Introduction to Robotics
TDC 368  Network Programming

Computer Vision
CSC 381  Introduction to Digital Image Processing
CSC 382  Applied Image Analysis

**Data Analysis and Data Mining**

CSC 324  Data Analysis and Statistical Software II
CSC 334  Advanced Data Analysis
CSC 367  Introduction to Data Mining

**Database Storage**

CSC 352  Database Programming
CSC 353  Advanced Database Concepts

**Human-Computer Interaction**

CSC 360  User Interface Architecture and Development
IM 360  User-Centered Evaluation
IT 330  User Interface Development for Interactive Systems

**Security**

CNS 320  Computer Forensic and Incident Response
CNS 340  Fundamentals of Information Assurance
CSC 333  Cryptology

**Software Engineering**

SE 325  Introduction to Software Engineering
SE 330  Object Oriented Modeling
SE 333  Software Testing
SE 352  Object-Oriented Enterprise Application Development
SE 368  Software Measurement and Project Estimation

**Theory of Computation**

CSC 327  Problem Solving for Contests
CSC 344  Automata Theory and Formal Grammars
CSC 389  Theory of Computation

**Web Development**

CSC 308  Frameworks for Web Application Development
ECT 330  Advanced Internet Application Development
ECT 360  Introduction to XML
ECT 365  Web Server Operations
IT 320  Content Management Systems
Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

B.S. in Computer Science: Software Engineering Concentration Program

This concentration provides students with skills, knowledge, and experiences in state-of-the-art software engineering methodologies, techniques, and applications.

Course Requirements

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Above are the specific requirements for the Bachelor of Science degree in Computer Science.

The representation of the following Course Requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

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Second Year

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</tr>
<tr>
<td>SE 325</td>
<td>Introduction to Software Engineering</td>
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<tr>
<td>SE 350</td>
<td>Object-Oriented Software Development</td>
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<tr>
<td>CSC 309</td>
<td>Object-Oriented Programming in C++</td>
</tr>
<tr>
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</tr>
<tr>
<td>4 Liberal Studies</td>
<td></td>
</tr>
<tr>
<td>1 CS Major Elective</td>
<td></td>
</tr>
<tr>
<td>1 Open Elective</td>
<td></td>
</tr>
</tbody>
</table>
Third Year

IT 223    Data Analysis
CSC 373    Computer Systems I
CSC 374    Computer Systems II
CSC 355    Database Systems
CSC 360    User Interface Architecture and Development
CMNS 220   Public Speaking
4 Liberal Studies
2 Open Electives

Fourth Year

CSC 376    Distributed Systems
CSC 348    Introduction to Compiler Design
CSC 394    Software Projects (Capstone)
5 Liberal Studies
1 CS Major Elective
2 Major Electives
1 Open Elective

Major Electives

Students in the SE concentration can choose major electives from the following list:

SE 330    Object Oriented Modeling
SE 333    Software Testing
SE 352    Object Oriented Enterprise Application Development
CSC 308    Frameworks for Web Application Development
IM 360    User-Centered Evaluation

Students must earn a grade of C- or higher in all major elective courses.

CS Major Electives

CS major electives can be chosen from the list of Introductory Major Field courses and Advanced Major Field courses.

Introductory Major Field Courses

CSC 233    Codes and Ciphers
CSC 235    Problem Solving
GAM 244    Game Development I
GAM 245    Game Development II
IM 210    Introduction to Human-Computer Interaction
IM 336    Interactive Media Scripting for Programmers
IT 130    The Internet and the Web
IT 231    Web Development I
IT 232    Web Development II
IT 263    Applied Networks and Security
MAT 150    Calculus I
MAT 151    Calculus II

Advanced Major Field Courses

Artificial Intelligence
CSC 357  Expert Systems  
CSC 358  Symbolic Programming  
CSC 380  Foundations of Artificial Intelligence  
CSC 395  Introduction to Social Computing  

Computational Sciences  
CSC 331  Scientific Computing  

Computer Game Development  
GAM 350  Physics for Game Developers  
GAM 353  Tool Programming for Game Development  
GAM 374  Fundamentals of Game Programming I  
GAM 376  Artificial Intelligence for Computer Games  
GAM 378  Strategy Games Programming  
GAM 380  Console Game Development Environments  
GAM 382  Serious Games  
GAM 386  Game Development for Mobile Devices  
GAM 390  Multiplayer Game Development  
GAM 391  Game Performance Optimization  
GAM 394  Game Development Project I  
GAM 395  Game Development Project II  

Computer Graphics  
GPH 325  Survey of Computer Graphics  
GPH 329  Computer Graphics Development II  
GPH 339  Advanced Rendering Techniques  
GPH 372  Principles of Computer Animation  
GPH 375  Advanced Graphics Development  
GPH 389  Real-Time Graphics Techniques  
GPH 395  Computer Graphics Senior Project  

Computer Networks  
TDC 362  Principles of Data Communications  
TDC 363  Introduction to Local Area Networks  
TDC 365  Network Interconnection Technologies  
TDC 371  Wireless Communications Networks  
TDC 372  Digital Access Services  
TDC 375  Network Protocols  
TDC 377  Fundamentals of Network Security  
TDC 379  Telecommunication and Network Security Practicum  

Computer Systems  
CSC 343  Introduction to Operating Systems  
CSC 347  Concepts of Programming Languages  
CSC 375  Introduction to Robotics  
TDC 368  Network Programming
Computer Vision
CSC 381 Introduction to Digital Image Processing
CSC 382 Applied Image Analysis

Data Analysis and Data Mining
CSC 324 Data Analysis and Statistical Software II
CSC 334 Advanced Data Analysis
CSC 367 Introduction to Data Mining

Database Storage
CSC 352 Database Programming
CSC 353 Advanced Database Concepts

Human-Computer Interaction
CSC 360 User Interface Architecture and Development
IM 360 User-Centered Evaluation
IT 330 User Interface Development for Interactive Systems

Security
CNS 320 Computer Forensic and Incident Response
CNS 340 Fundamentals of Information Assurance
CSC 333 Cryptology

Software Engineering
SE 325 Introduction to Software Engineering
SE 330 Object Oriented Modeling
SE 333 Software Testing
SE 352 Object-Oriented Enterprise Application Development
SE 368 Software Measurement and Project Estimation

Theory of Computation
CSC 327 Problem Solving for Contests
CSC 344 Automata Theory and Formal Grammars
CSC 389 Theory of Computation

Web Development
CSC 308 Frameworks for Web Application Development
ECT 330 Advanced Internet Application Development
ECT 360 Introduction to XML
ECT 365 Web Server Operations
Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

Information Assurance and Security Engineering

In the B.S. in Information Assurance and Security Engineering students will learn the fundamentals of information security, security infrastructure design and implementation, computer forensics, risk assessment as well as the impact of security requirements on a business operation. Students learn to design, implement and manage various security infrastructure components through hands-on activities in our state-of-the-art information Assurance and Security Laboratory. The lab environment includes multi-vendor firewalls, Virtual Private Networks, intrusion detection and prevention systems, routers, switches, and event correlation systems.

Online Learning Options

Many courses are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the BS degree in Information Assurance and Security Engineering:

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<tr>
<th>First Year Program</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago Quarter</td>
<td>LSP 110 or LSP 111</td>
</tr>
<tr>
<td>Focal Point</td>
<td>LSP 112</td>
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<tr>
<td>Writing</td>
<td>WRD 103* and WRD 104*</td>
</tr>
<tr>
<td>Quantitative Reasoning &amp; Technological Literacy</td>
<td>Not Required</td>
</tr>
<tr>
<td>Sophomore Year</td>
<td></td>
</tr>
</tbody>
</table>
### Multiculturalism in the US

| LSP 200 |

### Junior Year

| Experiential Learning | Required |

### Senior Year

| Capstone | CNS 395* |

### Learning Domains

<table>
<thead>
<tr>
<th>Arts and Literature (AL)</th>
<th>3 Courses Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philosophical Inquiry (PI)</td>
<td>2 Courses Required</td>
</tr>
<tr>
<td>Religious Dimensions (RD)</td>
<td>2 Courses Required</td>
</tr>
<tr>
<td>Scientific Inquiry (SI)</td>
<td>1 SI Lab Course Required</td>
</tr>
<tr>
<td>Self, Society and the Modern World (SSMW)</td>
<td>3 Courses Required</td>
</tr>
<tr>
<td>Understanding the Past (UP)</td>
<td>2 Courses Required</td>
</tr>
</tbody>
</table>

### Notes:

1. of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD)
2. * Students must earn a C- or better in this course.

**Note:** Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees. The representation of the following Course Requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC 233</td>
<td>Codes and Ciphers</td>
</tr>
<tr>
<td>IT 130</td>
<td>The Internet and the Web</td>
</tr>
<tr>
<td>IT 240</td>
<td>Introduction to Desktop Databases</td>
</tr>
<tr>
<td>IT 263</td>
<td>Applied Networks and Security</td>
</tr>
<tr>
<td>IT 231</td>
<td>Web Development I</td>
</tr>
<tr>
<td>MAT 140</td>
<td>Discrete Mathematics I</td>
</tr>
<tr>
<td>6 Liberal Studies</td>
<td></td>
</tr>
</tbody>
</table>

### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC 211</td>
<td>Programming in Java I</td>
</tr>
<tr>
<td>and CSC 212</td>
<td>Programming in Java II</td>
</tr>
<tr>
<td>or CSC 261</td>
<td>Programming in C++ I</td>
</tr>
<tr>
<td>and CSC 262</td>
<td>Programming in C++ II</td>
</tr>
<tr>
<td>CSC 373</td>
<td>Computer Systems I</td>
</tr>
<tr>
<td>CNS 340</td>
<td>Fundamentals of Information Assurance</td>
</tr>
<tr>
<td>TDC 365</td>
<td>Network Interconnection Technologies</td>
</tr>
<tr>
<td>TDC 375</td>
<td>Network Protocols</td>
</tr>
<tr>
<td>WRD 204</td>
<td>Technical Writing</td>
</tr>
<tr>
<td>5 Liberal Studies</td>
<td></td>
</tr>
</tbody>
</table>

### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDC 377</td>
<td>Fundamentals of Network Security</td>
</tr>
</tbody>
</table>
Fourth Year
ACC 101 Introduction to Accounting I
or FIN 290 Finance for Non-Commerce Majors
CSC 374 Computer Systems II
TDC 379 Telecommunication and Network Security Practicum
CNS 228 Legal, Ethical and Social Issues in Information Security
CNS 394 Information Systems Security Engineering I
CNS 395 Information Systems Security Engineering II (Capstone)
1 Liberal Studies
1 Major Elective
4 Open Electives

Major Electives
Major electives can be chosen from any 300 level CDM courses.

Students must earn a grade of C- or higher in all major elective courses.

Open Electives
Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

Information Systems

Students majoring in Information Systems develop the ability to use technology to address the operational, tactical, and strategic challenges facing business, nonprofit, and government organizations. Students in both concentrations develop background in usability and information assurance. Regardless of concentration, common long-term career positions for IS majors include Systems Analyst, Business Analyst, Information Technology Manager / Director, IT Project Manager, and IT Consultant. Job prospects for these positions are
excellent, as many IS experts are due to retire over the next five years and the ability to outsource these positions is low.

Concentrations

Analyst
Students following the Analyst Concentration seldom program, and often find entry level positions as user department analysts, acting as the liaison between the Information Technology department and other business units.

Developer
Students following the Developer Concentration do typically program, and are well prepared to begin careers as Web Developers.

Online Learning Options
Many courses in this degree are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

Analyst Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the BS degree in Information Systems (Analyst Concentration):

<table>
<thead>
<tr>
<th>First Year Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago Quarter</td>
</tr>
<tr>
<td>Focal Point</td>
</tr>
<tr>
<td>Writing</td>
</tr>
<tr>
<td>Quantitative Reasoning &amp; Technological Literacy</td>
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</table>

<table>
<thead>
<tr>
<th>Sophomore Year</th>
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</thead>
<tbody>
<tr>
<td>Multiculturalism in the US</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Junior Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiential Learning</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Senior Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capstone</td>
</tr>
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</table>

<table>
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<tr>
<th>Learning Domains</th>
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<tr>
<td>Religious Dimensions (RD)</td>
</tr>
<tr>
<td>Scientific Inquiry (SI)</td>
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<tr>
<td>Self, Society and the Modern World (SSMW)</td>
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<tr>
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</table>

<table>
<thead>
<tr>
<th>Notes:</th>
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</thead>
<tbody>
<tr>
<td>1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD)</td>
</tr>
<tr>
<td>* Students must earn a C- or better in this course.</td>
</tr>
</tbody>
</table>

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If
students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees. The representation of these course requirements for the Analyst Concentration on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

**First Year**
- IT 201 Introduction to Information Systems
- IT 130 The Internet and the Web
- IT 240 Introduction to Desktop Databases
- IT 263 Applied Networks and Security
- IM 210 Introduction to Human-Computer Interaction
- 7 Liberal Studies

**Second Year**
- IT 215 Analysis and Design Techniques
- IT 223 Data Analysis
- IT 320 Content Management Systems
- IS 371 Introduction to IT System Management
- CMNS 212 Small Group Communications
- or CMNS 220 Public Speaking
- WRD 204 Technical Writing
- or WRD 301 Writing in Workplace Contexts
- ACC 101 Introduction to Accounting I
- or MKT 301 Principles of Marketing
- or 1 Psychology course
- or 1 Management course
- 5 Liberal Studies

**Third Year**
- IT 231 Web Development I
- or CSC 211 Programming in Java I
- IS 372 Fundamentals of Software Project Management
- IS 373 Introduction to Large Systems Implementation
- IM 360 User-Centered Evaluation
- 4 Liberal Studies
- 4 Open Electives

**Fourth Year**
- ECT 310 Internet Application Development
- or IT 232 Web Development II
- or CSC 212 Programming in Java II
- IS 375 Object-Oriented Analysis and Design
- CNS 340 Fundamentals of Information Assurance
- IS 376 Information Systems project (Capstone)
- 3 Liberal Studies
- 2 Major Elective
- 3 Open Electives

**Major Electives**
Major electives can be chosen from any 300-level CDM courses.

Students must earn a grade of C- or higher in all major elective courses.

**Open Electives**

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

**Degree Requirements**

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the [DePaul Undergraduate Handbook](#).

**Developer Concentration**

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the BS degree in Information Systems (Developer Concentration):

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<th>First Year Program</th>
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</thead>
<tbody>
<tr>
<td>Chicago Quarter</td>
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<td>Focal Point</td>
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<td>Multiculturalism in the US</td>
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<tbody>
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<table>
<thead>
<tr>
<th>Senior Year</th>
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</thead>
<tbody>
<tr>
<td>Capstone</td>
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<tr>
<td>Self, Society and the Modern World (SSMW)</td>
</tr>
<tr>
<td>Understanding the Past (UP)</td>
</tr>
</tbody>
</table>

**Notes:** 1 of the PI or RD courses must be an ethics course; Recommended choices are CSC
Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of these course requirements for the Developer Concentration on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year
IT 201 Introduction to Information Systems
IT 130 The Internet and the Web
IT 240 Introduction to Desktop Databases
IT 263 Applied Networks and Security
IT 231 Web Development I
7 Liberal Studies

Second Year
IT 215 Analysis and Design Techniques
IT 223 Data Analysis
CSC 211 Programming in Java I
and CSC 212 Programming in Java II
or CSC 261 Programming in C++ I
and CSC 262 Programming in C++ II
CSC 383 Data Structures and Algorithms in Java
IM 210 Introduction to Human-Computer Interaction
WRD 204 Technical Writing
or WRD 301 Writing in Workplace Contexts
5 Liberal Studies

Third Year
ECT 330 Advanced Internet Application Development
IS 372 Fundamentals of Software Project Management
ECT 355 Internet Systems: Collaboration, Commerce, and Media
ECT 360 Introduction to XML
CMNS 212 Small Group Communications
or CMNS 220 Public Speaking
4 Liberal Studies
3 Open Electives

Fourth Year
IS 375 Object-Oriented Analysis and Design
CNS 340 Fundamentals of Information Assurance
SE 352 Object-Oriented Enterprise Application Development
IS 376 Information Systems project (Capstone)
3 Liberal Studies
2 Major Elective
3 Open Electives
**Major Electives**

Major electives can be chosen from any 300-level CDM courses.

Students must earn a grade of C- or higher in all major elective courses.

**Open Electives**

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

**Degree Requirements**

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

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**Information Technology**

The **B.S. in Information Technology** is a technical degree that instructs students in core competencies in the areas of problem solving and programming, networks and communications systems, databases, internet and web technologies, security, and project management. Students also receive a solid academic foundation in business concepts and technical communication.

**Online Learning Options**

Many courses in this degree are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

**Liberal Studies**

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. degree in Information Technology:

<table>
<thead>
<tr>
<th>First Year Program</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chicago Quarter</strong></td>
<td>LSP 110 or LSP 111</td>
</tr>
<tr>
<td><strong>Focal Point</strong></td>
<td>LSP 112</td>
</tr>
<tr>
<td><strong>Writing</strong></td>
<td>WRD 103* and WRD 104*</td>
</tr>
<tr>
<td><strong>Quantitative Reasoning &amp;</strong></td>
<td>Not Required</td>
</tr>
<tr>
<td>Technological Literacy</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>---</td>
</tr>
<tr>
<td><strong>Sophomore Year</strong></td>
<td></td>
</tr>
<tr>
<td>Multiculturalism in the US</td>
<td>LSP 200</td>
</tr>
<tr>
<td><strong>Junior Year</strong></td>
<td></td>
</tr>
<tr>
<td>Experiential Learning</td>
<td>Required</td>
</tr>
<tr>
<td><strong>Senior Year</strong></td>
<td></td>
</tr>
<tr>
<td>Capstone</td>
<td>Required*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Learning Domains</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arts and Literature (AL)</strong></td>
<td>3 Courses Required</td>
</tr>
<tr>
<td><strong>Philosophical Inquiry (PI)</strong></td>
<td>2 Courses Required (See note below)</td>
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<td><strong>Religious Dimensions (RD)</strong></td>
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<tr>
<td><strong>Scientific Inquiry (SI)</strong></td>
<td>1 SI Lab Course Required</td>
</tr>
</tbody>
</table>
| **Self, Society and the Modern World (SSMW)** | 3 Courses Required:  
- ECO 105  
- 2 Additional Courses |
| **Understanding the Past (UP)** | 2 Courses Required |

**Notes:** 1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD)

* Students must earn a C- or better in this course.

**Note:** Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees. The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

**First Year**

| IT 130 | The Internet and the Web |
| IT 231 | Web Development I |
| IT 232 | Web Development II |
| IT 240 | Introduction to Desktop Databases |
| IT 263 | Applied Networks and Security |
| IT 330 | User Interface Development for Interactive Systems |

6 Liberal Studies

**Second Year**

| CSC 211 | Programming in Java I |
| CSC 212 | Programming in Java II |
| CSC 383 | Data Structures and Algorithms in Java |
| CSC 352 | Database Programming |
| IT 215 | Analysis and Design Techniques |
| IT 223 | Data Analysis |
| WRD 204 | Technical Writing |
| or WRD 301 | Writing in Workplace Contexts |

5 Liberal Studies
Third Year
CNS 340 Fundamentals of Information Assurance
IS 372 Fundamentals of Software Project Management
MKT 301 Principles of Marketing
CSC 373 Computer Systems I
or ECT 365 Web Server Operations
or TDC 311 Computers in Telecommunications Systems
CMNS 212 Small Group Communication
or CMNS 220 Public Speaking
5 Liberal Studies
1 Major Elective

Fourth Year
ACC 101 Introduction to Accounting I
or FIN 290 Finance for Non-Commerce Majors
CSC 394 Software Projects (Capstone)
or any other CDM capstone course
3 Liberal Studies
3 Major Electives
5 Open Electives

Major Electives
Students must earn a grade of C- or higher in all major elective courses.

Major Electives can be chosen from any 300 level CDM courses. At most one of the electives can be chosen from the list below:

ANI 201 Animation I
ANI 230 3D Design & Modeling
ANI 231 3D Animation
ANI 240 Animation Production I
GAM 244 Game Development I
GAM 245 Game Development II
GPH 211 Perceptual Principles for Digital Environments I
GPH 212 Perceptual Principles for Digital Environments II
GPH 213 Perceptual Principles for Digital Environments III
GPH 250 Digital Modeling I
GPH 259 Design Geometry
IM 210 Introduction to Human-Computer Interaction
IM 270 User-Centered Web Design
IT 320 Content Management Systems

Open Electives
Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements
Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:
• between 3.500 and 3.699 will be graduated cum laude
• between 3.700 and 3.849 will be graduated magna cum laude
• of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

Interactive Media (Joint with CIM)

The B.S. in Interactive Media degree prepares students for the expanding field of interaction design and its application to multimedia and web development. The base program integrates technical and artistic disciplines. Technical concepts and skills involve web markup languages, interactive scripting and human-centered design. The student also explores artistic areas of study such as communication design, animation, game design and cinema. A major in interactive media provides students with broad skills and expertise including:

• Develop well-designed web pages, sites, and interactive applications
• Design, code and create content for casual games
• Conduct usability tests for interactive web sites
• Employ visual design principles to express ideas and concepts
• Create prototypes for interactive displays

Online Learning Options

Many courses are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the BS degree in Interactive Media:

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<thead>
<tr>
<th>First Year Program</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Chicago Quarter</td>
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<td>LSP 112</td>
</tr>
<tr>
<td>Writing</td>
<td>WRD 103* and WRD 104*</td>
</tr>
<tr>
<td>Quantitative Reasoning &amp; Technological Literacy</td>
<td>Not Required</td>
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</tbody>
</table>

<table>
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<td>Experiential Learning</td>
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<table>
<thead>
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<th>Senior Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Capstone</td>
<td>Required*</td>
</tr>
</tbody>
</table>

Learning Domains
| Arts and Literature (AL) | 3 Courses Required:  
- DC 205  
- 2 Additional Courses |
|-------------------------|--------------------------------------------------|
| Philosophical Inquiry (PI) | 2 Courses Required:  
- CSC 208 or IT 228  
- 1 Additional Course |
| Religious Dimensions (RD) | 2 Courses Required |
| Scientific Inquiry (SI) | 1 SI Lab Course Required |
| Self, Society and the Modern World (SSMW) | 3 Courses Required:  
- PSY 105  
- 2 Additional Courses |
| Understanding the Past (UP) | 2 Courses Required |

**Note:** Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of these course requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

**First Year**
 ANI 101 Animation for Non-Majors  
or ANI 201 Animation I  
GD 105 Intro to Visual Design  
IT 130 The Internet and the Web  
IT 240 Introduction to Desktop Databases  
IM 270 User-Centered Web Design  
ART 260 Art and Design I: History,Concept,Structure  
6 Liberal Studies

**Second Year**
 IT 231 Web Development I  
IM 210 Introduction to Human-Computer Interaction  
IM 220 Interactive Media I  
IM 230 Scripting for Interactive Media  
IT 223 Data Analysis  
ANI 230 3D Design & Modeling  
ART 264 Typography I  
5 Liberal Studies

**Third Year**
 IM 320 Interactive Media II  
IM 330 Advanced Scripting for Interactive Media  
IM 360 User-Centered Evaluation
GAM 244  Game Development I  
WRD 204  Technical Writing  
4 Liberal Studies  
3 Major Electives

**Fourth Year**

IM 394  Human-Computer Interaction Capstone  
or CSC 394  Software Projects (Capstone)  
4 Liberal Studies  
2 Major Elective  
5 Open Electives

**Major Electives**

Major electives can be chosen from the following list  
Any 200- or 300-level CDM, ART or CMN course.

Any of the following:  
PSY 241  Research Methods I  
PSY 242  Research Methods II  
PSY 360  Theories of Learning and Cognition  
PSY 375  Sensation and Perception  
PSY 380  Industrial and Organizational Psychology  
PSY 383  Psychology of Design

Students must earn a grade of C- or higher in all major elective courses.

**Open Electives**

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

**Degree Requirements**

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

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College of Computing and Digital Media - Undergraduate Studies  
School of Computing (SoC)  
Bachelor of Science Degree Programs  
Mathematics / Computer Science (Joint with LA&S)

**Mathematics / Computer Science (Joint with LA&S)**

The **B.S. in Math and Computer Science** is a joint degree between the College of Computing and Digital Media and the Department of Mathematics. It provides challenging opportunities to exceptional students with an interest in the highly theoretical nexus of math and computer science. Mathematics is a key element to the
theory and practice of computer science and technology:

- Number theory forms the basis for encryption algorithms for messages sent over the Internet.
- Facts from projective geometry and multivariable calculus underlie the computer algorithms that control computer animation.
- Properties of abstract groups are instrumental in correcting transmission errors that occur when information is sent from one computer to another.
- Graph theory and combinatorics are used to create algorithms for Internet search engines and analyze Internet routing protocols.

This program is intended to appeal to academically talented students. It is designed to prepare them for graduate study in various areas of computer science such as theoretical computer science, graphics, data analysis, artificial intelligence, and computational methods and in areas in applied mathematics such as numerical analysis or discrete mathematics. The program is also designed to prepare students to compete for the more theoretical complex jobs found in computer software development.

Students in the program will explore a broad range of fields including:

- Theory of computation
- Computational mathematics
- Artificial intelligence
- Data analysis
- Graphics
- Computer vision

It is highly recommended that students concentrate on one or two areas for their advanced classes to achieve depth, but they are not required to do so. Faculty advisors are available to assist students in their selection.

Online Learning Options

Some courses in this degree are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

Liberal Studies

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the BS degree in Math and Computer Science.

<table>
<thead>
<tr>
<th>First Year Program</th>
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<tbody>
<tr>
<td>Chicago Quarter</td>
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<tr>
<td>Focal Point</td>
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<tr>
<td>Writing</td>
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<td>Experiential Learning</td>
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<td>Senior Year</td>
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<tr>
<td>Capstone</td>
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<tr>
<th>Learning Domains</th>
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<td>Arts and Literature (AL)</td>
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<tr>
<td>Philosophical Inquiry (PI)</td>
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<td></td>
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</tbody>
</table>
| Religious Dimensions (RD) | 2 Courses Required  
(See note below) |
<table>
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<tbody>
<tr>
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<td>Self, Society and the Modern World (SSMW)</td>
<td>3 Courses Required</td>
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</tr>
<tr>
<td><strong>Notes:</strong></td>
<td>1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD)</td>
</tr>
<tr>
<td></td>
<td>* Students must earn a C- or better in this course.</td>
</tr>
</tbody>
</table>

**Note:** Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

**First Year**

CSC 241  
Introduction to Computer Science I
CSC 242  
Introduction to Computer Science II
CSC 224  
Java for Programmers
or CSC 309  
Object-Oriented Programming in C++
6 Liberal Studies

In addition, students must complete one of the following three-course sequences:

**Calculus Sequence (option 1)**

MAT 150  
Calculus I
MAT 151  
Calculus II
MAT 152  
Calculus III

**Calculus for Mathematics and Science Majors Sequence (option 2)**

MAT 160  
Calculus for Mathematics and Science Majors I
MAT 161  
Calculus for Mathematics and Science Majors II
MAT 162  
Calculus for Mathematics and Science Majors III

**Calculus with Scientific Applications Sequence (option 3)**

MAT 170  
Calculus I with Scientific Applications
MAT 171  
Calculus II with Scientific Applications
MAT 172  
Calculus III with Differential Equations

**Second Year**

CSC 383  
Data Structures and Algorithms in Java
or CSC 393  
Data Structures in C++
CSC 373  
Computer Systems I
CSC 374  
Computer Systems II
MAT 140  
Discrete Mathematics I
MAT 141  
Discrete Mathematics II
MAT 260  
Multivariable Calculus I
6 Liberal Studies

**Third Year**
MAT 262  Linear Algebra
4 Liberal Studies
2 CDM Major Electives
2 MAT Major Electives
3 Open Electives

Fourth Year
CSC 321  Design and Analysis of Algorithms
CSC 394  Software Projects (Capstone)
or GPH 395  Computer Graphics Senior Project (Capstone)
or MAT 398  Senior Capstone Seminar (Capstone)
3 Liberal Studies
1 CDM Major Elective
1 MAT Major Elective
1 CDM or MAT Major Elective
4 Open Electives

Major Electives

Students must earn a grade of C- or higher in all major elective courses.

Of the 7 Major Field electives courses, 3 must be taken from the CDM Major Electives List, 3 must be taken from the MAT Major Electives List, and 1 could be taken from either lists.

Major Electives can be chosen from the grouped list below. It is recommended that students concentrate on one or two areas for their advanced classes to achieve depth, but they are not required to do so. Students are strongly encouraged to discuss course selection with an advisor. Students may wish to arrange with a professor to take an independent study or a research experience (MAT 399 or CSC 399 or IT 300) in order to explore a subject more deeply than is possible in a scheduled course.

Theory of Computation

The courses in the theory area explore the mathematical and logical foundations of computer science.

MAT 302  Combinatorics
MAT 303  Theory of Numbers
MAT 351  Probability and Statistics I
MAT 310  Abstract Algebra I
MAT 311  Abstract Algebra II
MAT 312  Abstract Algebra III
MAT 335  Real Analysis I
MAT 372  Logic and Set Theory
CSC 235  Problem Solving
CSC 327  Problem Solving for Contests
CSC 333  Cryptology
CSC 344  Automata Theory and Formal Grammars
CSC 347  Concepts of Programming Languages
CSC 348  Introduction to Compiler Design
CSC 387  Operations Research I: Linear Programming
or MAT 387  Operations Research I: Linear Programming
CSC 369  Introduction to Computer Graphics
CSC 389  Theory of Computation

Computational Methods Area

The computational methods area investigates quantitative and computational methods in computer science.

CSC 331  Scientific Computing
CSC 385  Numerical Analysis
or MAT 385  Numerical Analysis I
CSC 386 Advanced Numerical Analysis
or MAT 386 Numerical Analysis II
MAT 330 Methods of Computation and Theoretical Physics I
MAT 331 Methods of Computation and Theoretical Physics II
MAT 384 Mathematical Modeling

**Artificial Intelligence**
For students with an interest in the computational relations between syntax and semantics.
CSC 380 Foundations of Artificial Intelligence
CSC 357 Expert Systems
CSC 358 Symbolic Programming

**Data Analysis Area**
For students who are interested in statistical and computational analysis of data. Many of the courses in this area require the student to take MAT 351-353.
CSC 328 Data Analysis for Experimenters
CSC 334 Advanced Data Analysis
or MAT 354 Multivariate Statistics
CSC 332 Simulation and Modeling
or MAT 359 Simulation and Models and the Monte Carlo Method
CSC 367 Introduction to Data Mining
MAT 261 Multivariate Calculus II
MAT 351 Probability and Statistics I
MAT 352 Probability and Statistics II
MAT 353 Probability and Statistics III
MAT 355 Stochastic Processes
MAT 357 Nonparametric Statistics
MAT 370 Advanced Linear Algebra
MAT 356 Applied Regression Analysis
MAT 358 Applied Time Series and Forecasting

**Graphics Area**
The graphics courses are intended for students who want to study the technical and mathematical foundations of computer graphics and animation.
MAT 337 Complex Analysis
MAT 261 Multivariable Calculus II
CSC 385 Numerical Analysis
or MAT 385 Numerical Analysis I
GPH 211 Perceptual Principles for Digital Environments I
GPH 212 Perceptual Principles for Digital Environments II
GPH 325 Survey of Computer Graphics
GPH 329 Computer Graphics Development II
GPH 336 Smooth Surface Modeling for Graphics and Animation
GPH 372 Principles of Computer Animation

**Computer Vision Area**
Computer vision studies the mathematical and algorithmic underpinnings of image analysis and image processing.
MAT 261 Multivariable Calculus II
MAT 335 Real Analysis I
MAT 381 Fourier Analysis and Special Functions
MAT 370 Advanced Linear Algebra
MAT 384 Mathematical Modeling
CSC 381  Introduction to Digital Image Processing
CSC 382  Applied Image Analysis
CSC 384  Introduction to Computer Vision

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul’s policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

College of Computing and Digital Media - Undergraduate Studies » School of Computing (SoC) » Bachelor of Science Degree Programs » Network Technologies

Network Technologies

In the B.S. in Network Technology students will learn the theory and practice of designing, deploying and managing both wired and wireless networks technologies, including broadband Internet access technologies, interconnection technologies, network convergence, and network security. The program provides a combined emphasis on both foundational theory and hands-on experience that allow students to design, configure, and manage equipment and services in a variety of network environments. Students gain experience with network devices and servers in lab facilities focused on enterprise network, security, and multimedia network services. The Network Technology program provides students with expertise in:

- The protocols and services that enable Internet and LAN services
- The design and management of local and wide area network
- Voice and data network convergence through VoIP technologies
- Wireless networks (WiFi, WiMAX, Cellular, and 3G)
- Network security

Online Learning Options

Many courses are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

Concentrations

Standard
This concentration is geared toward students who are considering careers in network design, system management, service deployment, and product/vendor evaluation. The course work focuses on network technologies, protocol studies, device configuration, and network design.
Network Security
This concentration is geared toward students who are considering careers in network security, security administration, and security infrastructure design. The coursework focuses on network security technologies, best practices in security design, and security management.

Application Development
This concentration is geared toward students who are considering careers in application development for network services with coursework focused on software development and network programming, in addition to network technologies and protocols.

Standard Concentration
The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Network Technology (Standard Concentration):

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<tr>
<th>First Year Program</th>
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<tbody>
<tr>
<td>Chicago Quarter</td>
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</tr>
<tr>
<td>Focal Point</td>
<td>LSP 112</td>
</tr>
<tr>
<td>Writing</td>
<td>WRD 103* and WRD 104*</td>
</tr>
<tr>
<td>Quantitative Reasoning &amp;</td>
<td>Not Required</td>
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<td>Technological Literacy</td>
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<td>Multiculturalism in the US</td>
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<td>Experiential Learning</td>
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<tr>
<th>Senior Year</th>
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</thead>
<tbody>
<tr>
<td>Capstone</td>
<td>TDC 376*</td>
</tr>
</tbody>
</table>

Learning Domains

| Arts and Literature (AL)    | 3 Courses Required |
| Philosphical Inquiry (PI)   | 2 Courses Required |
| (See note below)            |                    |
| Religious Dimensions (RD)   | 2 Courses Required |
| (See note below)            |                    |
| Scientific Inquiry (SI)     | 1 SI Lab Course Required |
| Self, Society and the       | 3 Courses Required |
| Modern World (SSMW)         |                    |
| Understanding the Past (UP) | 2 Courses Required |
| Notes:                      |                    |

| Notes:                       | 1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) |

* Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of these course requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.
First Year
IT 201  Introduction to Information Systems
IT 130  The Internet and the Web
IT 240  Introduction to Desktop Databases
IT 263  Applied Networks and Security
IT 231  Web Development I
MAT 140  Discrete Mathematics I
6 Liberal Studies

Second Year
IT 223  Data Analysis
TDC 311  Computers in Telecommunications Systems
TDC 362  Principles of Data Communications
WRD 204  Technical Writing
or WRD 301  Writing in Workplace Contexts
CSC 211  Programming in Java I
and CSC 212  Programming in Java II
or CSC 261  Programming in C++ I
and CSC 262  Programming in C++ II
6 Liberal Studies

Third Year
TDC 363  Introduction to Local Area Networks
TDC 364  Voice Communications Technologies
TDC 365  Network Interconnection Technologies
CMNS 212  Small Group Communication
or CMNS 220  Public Speaking
4 Liberal Studies
1 Major Elective
3 Open Electives

Fourth Year
TDC 376  Network Project (Capstone)
3 Liberal Studies
2 Major Electives
6 Open Electives

Major Electives
Major electives can be chosen from any 300 level TDC courses.

Students must earn a grade of C- or higher in all major elective courses.

Open Electives
Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements
Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:
between 3.500 and 3.699 will be graduated cum laude
between 3.700 and 3.849 will be graduated magna cum laude
of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

Network Security Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Network Technology (Network Security Concentration):

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| Notes: | 1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD) |
|        | * Students must earn a C- or better in this course. |

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

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First Year

IT 201 Introduction to Information Systems
IT 130           The Internet and the Web
IT 240           Introduction to Desktop Databases
IT 263           Applied Networks and Security
IT 231           Web Development I
MAT 140           Discrete Mathematics I
6 Liberal Studies

**Second Year**

CSC 261           Programming in C++ I
CSC 262           Programming in C++ II
TDC 311           Computers in Telecommunications Systems
TDC 362           Principles of Data Communications
CNS 340           Fundamentals of Information Assurance
WRD 204           Technical Writing
or WRD 301        Writing in Workplace Contexts
6 Liberal Studies

**Third Year**

TDC 363           Introduction to Local Area Networks
TDC 365           Network Interconnection Technologies
TDC 377           Fundamentals of Network Security
CMNS 212          Small Group Communication
or CMNS 220       Public Speaking
7 Liberal Studies
1 Major Elective

**Fourth Year**

CNS 378           Host and Information Security
TDC 379           Telecommunication and Network Security Practicum
TDC 375           Network Protocols
TDC 368           Network Programming
TDC 376           Network Project (Capstone)
1 Major Elective
6 Open Electives

**Major Electives**

Major electives can be chosen from any **300 level TDC courses**.

Students must earn a grade of C- or higher in all major elective courses.

**Open Electives**

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a **CDM minor or other minors** are normally credited as open electives.

**Degree Requirements**

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude
Application Development Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Network Technology (Application Development Concentration):

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<td><strong>Writing</strong></td>
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**Learning Domains**

<table>
<thead>
<tr>
<th>Arts and Literature (AL)</th>
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<tbody>
<tr>
<td>3 Courses Required</td>
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<tr>
<th>Philosophical Inquiry (PI)</th>
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<tr>
<td>2 Courses Required</td>
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<tr>
<th>Religious Dimensions (RD)</th>
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<td>2 Courses Required</td>
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<tr>
<th>Scientific Inquiry (SI)</th>
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<tr>
<td>1 SI Lab Course Required</td>
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<tr>
<th>Self, Society and the Modern World (SSMW)</th>
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<td>3 Courses Required</td>
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<tr>
<th>Understanding the Past (UP)</th>
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<tr>
<td>2 Courses Required</td>
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</table>

**Notes:**

1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD)

* Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the student's major and is cross-listed with a course within the student's major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees. The representation of these course requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

**First Year**

<table>
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<tr>
<th>Course</th>
<th>Title</th>
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<tr>
<td>IT 201</td>
<td>Introduction to Information Systems</td>
</tr>
<tr>
<td>IT 130</td>
<td>The Internet and the Web</td>
</tr>
<tr>
<td>IT 240</td>
<td>Introduction to Desktop Databases</td>
</tr>
<tr>
<td>IT 263</td>
<td>Applied Networks and Security</td>
</tr>
</tbody>
</table>
IT 231  Web Development I
MAT 140  Discrete Mathematics I
6 Liberal Studies

**Second Year**
CSC 211  Programming in Java I
and CSC 212  Programming in Java II
or CSC 261  Programming in C++ I
and CSC 262  Programming in C++ II
TDC 311  Computers in Telecommunications Systems
TDC 362  Principles of Data Communications
IT 223  Data Analysis
WRD 204  Technical Writing
or WRD 301  Writing in Workplace Contexts
6 Liberal Studies

**Third Year**
TDC 363  Introduction to Local Area Networks
TDC 365  Network Interconnection Technologies
CSC 309  Object-Oriented Programming in C++
or CSC 224  Java for Programmers
CSC 383  Data Structures and Algorithms in Java
or CSC 393  Data Structures in C++
TDC 368  Network Programming
CMNS 212  Small Group Communication
or CMNS 220  Public Speaking
4 Liberal Studies
1 Major Elective
1 Open Elective

**Fourth Year**
TDC 375  Network Protocols
TDC 376  Network Project (Capstone)
3 Liberal Studies
1 Major Elective
6 Open Electives

**Major Electives**
Major electives can be chosen from any **300 level TDC courses**.

Students must earn a grade of C- or higher in all major elective courses.

**Open Electives**
Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

**Degree Requirements**
Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:
- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook
About the School of Cinema and Interactive Media

The School of Cinema and Interactive Media (CIM) houses CDM's creative degrees. With an emphasis on all aspects of production, students can earn degrees that prepare them for work in digital cinema, animation, computer game development, and interactive media.

Faculty

SHIRO AKIYOSHI
Associate Professor

MEGHANN ARTIES, M.F.A.
Assistant Professor
University of California Los Angeles

LISA BARCY, M.A.
Instructor
Columbia College

DEVIN BELL, M.F.A.
Assistant Professor
California Institute of the Arts

KRISTYN BENEDYK, M.F.A.
Assistant Professor
University of Southern California

ROBIN BURKE, Ph.D.
Associate Professor
Northwestern University

SHAYNA CONNELLY, M.F.A
Instructor
Columbia College

JOHANNA DERY, M.F.A
Assistant Professor
Goddard College

RONALD ELTANAL, M.F.A.
Associate Professor
University of Southern California

SCOTT ERLINDER, M.F.A.
Assistant Professor
Columbia College

RONALD FERNANDEZ, M.F.A.
Assistant Professor
University of Southern California
DANA HODGDON, M.A.
Associate Professor
Northwestern University

MATT IRVINE, M.F.A.
Associate Professor
Columbia College

JOSHUA JONES, M.F.A.
Assistant Professor
University of Southern California

STEVEN JONES, B.S.
Producer in Residence
Illinois Institute of Technology

DANIEL KLEIN, B.F.A.
Instructor
New York University

JOSEPH LINHOFF, J.D.
Assistant Professor
University of Colorado at Boulder School of Law

THOMAS MUSCARELLO, Ph.D.
Associate Professor
University of Illinois at Chicago

GARY NOVAK, M.F.A.
Assistant Professor
American Film Institute

THOMAS O’HAVER
Director in Residence

SAVVAS PARITIS
Assistant Professor

ERNESTO PEREZ, B.F.A.
Instructor
University of Illinois Urbana-Champaign

NICOLE PINKARD, Ph.D.
Associate Professor
Northwestern University

MATT QUINN, M.F.A.
Instructor
Loyola Marymount University in Los Angeles

SCOTT ROBERTS, M.F.A.
Associate Professor
University of Wisconsin - Madison

KATIE SALEN, M.F.A.
Professor
Rhode Island School of Design

ROBERT STEEL, M.A.
Instructor
Northwestern University

ALEXANDER STEWART, M.F.A.
Assistant Professor
Liberal Studies Program and Modern Language Option

The Liberal Studies Program is the common curriculum taken by all students in the seven undergraduate colleges of DePaul University. Overall, the Program is designed to develop students writing abilities, computational and technological proficiencies, and critical and creative thinking skills.

Each major in the University has unique Liberal Studies requirements.

Please consult the Liberal Studies catalog for your relevant requirements as a CDM student as well as for information about the Modern Language Option.

CDM Liberal Studies Courses

CDM offers dozens of courses in many domains of the Liberal Studies Program. You can experiment with Screenwriting, Digital Photography, Game Design, Computer Graphics and Programming and fulfill a requirement at the same time. Many of these courses also serve as gateway courses into more advanced CDM courses. Courses can be grouped in two lists:

- Liberal Studies Course Offered by CDM
- CDM Liberal Studies Courses Offer by CDM - Grouped by Topic

Click to view Restrictions for CDM Students

Liberal Studies Courses Offered by CDM

This list represents Liberal Studies Program (LSP) courses taught by CDM only. For a complete list of LSP courses, visit the Liberal Studies homepage.

- Arts and Literature
  - ANI 101 Animation for Non-Majors
    Course introduces a variety of basic animation techniques for cinema and gaming, such as hand-drawn, cutout, stop-motion and (very basic) 3D, with an emphasis on the use of computer
technology.

- **ANI 206 History of Animation**
  History of Animation: This course is an introduction to the history and development of the field of animation.

- **DC 113 Audio for Podcasts and Other Media**
  This course is an introduction to the uses and practical applications of sound for multimedia. Students will study various uses of sound and music on the Internet from creative to professional websites. Using free or inexpensive hardware and software, students will learn to create and edit podcasts and attach audio files to programs and web pages such as Facebook, iTunes, Keynote, PowerPoint and other sites. The course will cover both Mac and PC applications so all students will be able to work on projects from their home computers. The course will also cover current legalities of digital media.

- **DC 202 History of Motion Picture Editing**
  This course studies the origins and rise of film editing as an art form, an industry, a set of technological practices ranging from analog film to digital video. The course examines critical historical events that impacted film editing: the emergence of the studio system, the coming of sound, narrative, experimental and documentary film, MTV, and audience shifts. For many, editing is the unique source of the art of filmmaking. This course addresses this question.

- **DC 125 Digital Still Photography for Non-Majors**
  This course is an introduction to the history and aesthetics of still photography and to the concept of photography as a descriptive and interpretive artistic medium. Students studying photographs in this context will discover relationships between individual photographers choices and their own understanding of meaning. Students will learn the fundamental concepts necessary to shoot, edit, manipulate, and print digital still photographs.

- **DC 120 Video Editing**
  Students analyze and assemble dramatic scenes under a variety of conditions and narrative strategies. Editing theories, techniques, and procedures, issues of continuity, effects, movement and sound are examined as they relate to the fundamentals of cinematic montage and visual storytelling. This class present a variety of topics and experiences that are designed to broaden the student's understanding of the art of cinematic storytelling and montage. Work on more advanced projects is integrated into the class as a means to an understanding of advanced editing tools and techniques.

- **DC 201 Introduction to Screenwriting**
  This course focuses on narrative storytelling and encourages students to find their unique voices, while emphasizing the critical importance of working as part of a creative team.

- **DC 205 Foundations of Cinema**

- **DC 207 History of Cinema I, 1890-1945**
  This course examines the history of cinema as one of the most influential cultural forms of the 20th Century. We will study the aesthetic and technological developments of cinema during its first 50 years, as well as examine the social and economic factors shaping its history. Initially influenced by the other art forms (theater, literature, painting) filmmaking quickly acquired its own formal system, language, and traditions. We will trace the changing styles, techniques, content, and methods of filmmaking as an art form as popular culture, and as an industry. We will consider how cinema is bound to its social context via audience relations, economics, technology, and ideology. The limited scope of this course will cover primarily feature-length, narrative films as the dominant mode of filmmaking, although we will also look at the development of documentary and experimental filmmaking. The class will consist of lectures, screenings, and discussions.

- **DC 208 History of American Cinema, 1946-1975**
  From Film Noir to Hitchcock, an examination of post war Hollywood, film noir, wide screen and epic films, the development of the star system, the director as auteur, and the influence of international film movements and directors. Screenings, lecture, and discussion.

- **DC 209 History of Cinema, 1975-Present**
  This final course in the film history sequence is designed to introduce students to a sense of modern film history and the multiple permutations of cinema around the modern film history and the multiple permutations of cinema around the globe. It presents film history from a global perspective, concentrating primarily on the development of new national and transnational cinemas. The course continues to chart the development of the American studios since the mid-1970s while examining the effects of media consolidation and convergence. Moreover, the course seeks to examine how global cinemas have reacted to and dealt with the formal
influence and economic domination of Hollywood filmmaking on international audiences. Class lectures, screenings, and discussions will consider how cinema has changed from a primarily national phenomenon to a transnational form of communication in the 21st century.

- **DC 222 Story Structure in Cinema**
  This course focuses on the critical analysis of narrative structure in Cinema. Students will learn how to identify key story concepts and break down three act structure in finished films and scripts.

- **DC 233 Cinema & Art**
  This course will provide an overview of avant-garde film, video, animation and installation, and the relationship of these cinematic forms to Modern and Contemporary art.

- **DC 250 Working with Actors I**
  This course is an introduction and examination of the collaborative process between the actor and director. Methods of study include lecture, discussion, assignments, and in-class acting exercises.

- **GAM 224 Introduction to Game Design**
  Students will learn about a game's "hook", its "high concept" and the crucial needs of marketing for a successful game design. Students will also learn to design a game's component pieces.

- **GD 200 Graphic Design I**
  This course introduces the world of graphic design in a social and historical context. The goals are to explore formal structures and research methods with emphasis on the role of analysis and conceptual thinking as the first tasks of the print and multi-media designer. The course includes basic instruction in typography, color, problem-solving in print and on screen.

- **GD 210 Digital Illustration I**
  Introduction to illustration development in image, line and photography, combining computer applications and hand-rendered approaches.

- **GD 220 History of Design I**
  The history of graphic design is an evolution in aesthetics, technology, style and visual communication. The class will encompass a survey of the major movements in the field of print design, notable designers and design materials. The nature of changing methods, materials, technologies and values are examined in the context of the social and political realities that shape communication. The course will include the historical shift from print to multimedia design methodologies.

- **GPH 211 Perceptual Principles for Digital Environments I**
  An introduction to the visual, non-verbal principles incorporated in the effective presentation of on-screen environments. This course emphasizes the use of two-dimensional elements and their organization.

- **GPH 212 Perceptual Principles for Digital Environments II**
  Further experience with the visual, non-verbal principles incorporated in effective presentation of on-screen environments. This course emphasizes the use of three dimensional elements, spaces and their organization.

- **GPH 213 Perceptual Principles for Digital Environments III**
  These three foundational courses in computer animation take you through the process of creating 2-D and 3-D representations on the computer. The last course teaches you how to animate them!

- **Junior Experiential Learning Credit**

  - **CSC 298 Internship**
    Computer Science Internship in cooperation with local employers this course offers students the opportunity to integrate their academic experience with on-the-job training in computer related work areas.

  - **CSC 378 Software Projects for Community Clients**

  - **CSC 379 Technology Partnerships in Urban Schools**
    Students in this course will have the opportunity to assess urban community needs in the technology arena and develop skills in assisting and developing methods for bridging the digital divide that exists.

  - **DC 298 Internship in Media Production/Post-Production**
    This course offers students an excellent opportunity to gain professional experience, industry contacts, and referrals while still in school. Opportunities in post-production, motion picture production, advertising, television, animation, motion graphics and interactive media. Admission to the program requires consent of internship course instructor. Current work experience plus classroom time is required. Supervisor evaluation will contribute to the final grade.

  - **DC 380 Project Bluelight**
    Production of a feature-length digital motion picture written by students or faculty within the
Digital Cinema program.

- **GD 380 Design for Client and Community**
  This course enables students to work from start to finish on client-based graphic design and projects. Students establish working relationships as individuals and in teams that utilize their skills to effectively evaluate the communication needs of an organization or business, develop design solutions that fulfill those needs, and negotiate the process between designers and clients.

- **GPH 360 Modeling Spaces**
  The digital design and modeling of environmental spaces with attention to human use parameters.

- **IT 300 Research Experience**
  This course involves the exploration of a research topic under the supervision of a research advisor.

- **IT 398 Topics in Global Information Technology**
  This course focuses on current topics in the information and communications technologies that together support the "networked world." Sample topics are global software development and deployment, global data and information management, and cross-cultural project management for information systems. The course may be offered for variable credit hours (2, 4, 8, 16, and 32).

- **Scientific Inquiry**

  - **CSC 200 Survey of Computing**
    Learn about careers using computers and pick up some skills to help you manage your own PC or network!

  - **CSC 211 Programming in Java I**
    **CSC 212 Programming in Java II**
    Two courses in programming JAVA, a cross-platform, web-enabled language.

  - **CSC 233 Codes and Ciphers**
    A history of code making and breaking and the math and (computer) science behind it

  - **CSC 235 Problem Solving**
    How do you solve a problem? In this course we discuss different problem solving techniques and strategies such as modeling, establishing subgoals, and searching and pruning.

  - **CSC 239 Personal Computing**
    You will learn how to use Excel to analyze data and how to publish data and retrieve it from the World Wide Web.

  - **CSC 250 Computers and Human Intelligence**
    Students taking this course will study human problem-solving and its simulation by computers. Artificial intelligence, pattern recognition and learning programs will be discussed.

  - **CSC 255 Information Structures and Representations**
    Students learn about data representation, machine architecture concepts, algorithms, data structures including arrays, stacks, linked lists, trees.

  - **CSC 261 Programming in C++ I**
    **CSC 262 Programming in C++ II**
    Two courses in programming C++

  - **ECT 250 Internet, Commerce, and Society**
    Ever shop online? Learn the basics behind how these kinds of web sites function

  - **HCI 201 Multimedia and the World Wide Web**
    Overview of the Web, its origins and capabilities. Create your own sample web page.

  - **IM 222 Information Visualization**
    This course discusses the basic problems and techniques of visualizing quantitative and qualitative data.

  - **IT 130 The Internet and the Web**
    Learn to design your own web site!

  - **IT 223 The Internet and the Web**
    Application of statistical concepts and techniques to a variety of problems in IT areas and other disciplines, using a statistical package for simple data analysis.

  - **IT 236 User Interface Development** The focus of the course is to build interfaces to simple programs. The course will cover interface controls, event handling, and the use of built in and/or pre-written controls. The course will cover simple database access through a Database control and possibly access to WebServices such as Google. Good visual design principles will be emphasized throughout the course.

  - **IT 240 Introduction to Desktop Databases**
    Learn introductory concepts in constructing databases and networking files.
- **IT 263 Applied Networks and Security**
  Learn about how networks work and how they impact your daily life.

- **Scientific Inquiry: Lab**
  
  - **DC 274 Image, Optics and Cinematic Motion**
    Cinematography is the scientifically-grounded discipline of making lighting and camera choices in order to record moving images. This course deals with the basic mathematics, physics, and photochemistry that underlie cinematography and that motivate camera design and construction. A student who masters the foundations of cinematography through a mixture of lectures, readings, exercises, and labs will be able to evaluate and understand how motion-based recording choices affect perception of moving images they see every day.

  - **GPH 259 Design Geometry (cross-listed as ART 295)**
    Learn the basics of Computer Aided Design.

- **Self, Society, and the Modern World**
  
  - **CSC 223 The Impact of Computing Technology On Our Lives**
    This course will introduce students to an overview of social analysis techniques and the theories of social change.

  - **DC 105 Digital Media Literacies**
    This course is designed to help students develop an informed, critical and practical understanding of new communication media, including ways to read, write and produce in a digital environment.

  - **DC 235 Adaptation: The Cinematic Recrafting of Meaning**
    This course explores contemporary cinematic adaptations of literature and how recent reworkings in film open viewers up to critical analysis of the cultural practices surrounding the promotion and reception of these narratives.

  - **GAM 208 or IM 208 Virtual Worlds and Online Communities**
    Environments such as social networking sites, multiplayer online games and other online communities are becoming an increasingly large part of how we work, plan, and learn. This course introduces the fundamentals for the interdisciplinary study of cyberculture and online social behavior. By examining core scholarship in this area, together with analyzing an existing virtual world, game, or online community, students will learn to research and understand new technologically-enabled social forms as they are emerging.

  - **IS 208 IT, Economy and Society**
    This course broadly surveys the history of IT applications and information systems from the historical perspective, and critically assesses the digital impact on industry, the economy, workers, citizens, social class and the future.

  - **IT 201 Introduction to Information Systems**
    This course examines how various types of computer-based information systems form a critical part of modern organizations, how they work, and how they impact workers, organizations and the economy.

- **Understanding the Past**
  
  - **GAM 206 History of Games**
    This class will examine particular games and game genres in their historical context using a case study format.

  - **GPH 205 Historical Foundations of Visual Technology**
    This course is a survey of the development, application and meaning of visual technologies in a wide range of world cultures from pre-history to the present.

- **Philosophical Inquiry**
  
  - **CSC 208 The Computer and Social Responsibility**
    This course will research the impact technology has had in various areas of our lives, the new responsibilities technology presents, and our ability to deal with these changes in an ethical manner.

  - **DC 227 Film Philosophy**
    This course is a seminar on the philosophical analysis of film art, with an emphasis on the ways in which it creates meaning through techniques that define a formal structure. There is a
particular focus on aesthetic problems about appearance and reality, literacy and visual effects, communication and alienation through film technology.

- **DC 228 or GAM 228 or IT 228 Ethics in Computer Games and Cinema**
  Societies function based on normative ethics utilizing common sense to distinguish between ethical and unethical behavior. Most of us are not aware of the underlying theories when arriving at ethical judgments about right and wrong. However, the fast pace of progress in information technologies and digital entertainment creates an environment, in which ethical challenges are particularly complex. In the eyes of many, games and movies are violent, offensive and immoral. This course will concentrate on analyzing the impact of digital entertainment on an individual and society. Implications of certain values embedded in games and movies will be discussed. Elements of the ethical code of conduct for a game or movie creator will be formulated. The issue of balancing individual creativity vs. cultural impact, particularly on children, will be discussed.

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**CDM Liberal Studies Courses Offered by CDM - Grouped by Topic**

- **The Internet and How It Works**
  - **CSC 200 Survey of Computing: Scientific Inquiry: Elective**
    Learn about Careers using computers and pick up some skills to help you manage your own PC or network!
  - **CSC 211 Programming in Java I: Scientific Inquiry: Elective**
  - **CSC 212 Programming in Java II: Scientific Inquiry: Elective**
    Two courses in programming JAVA, a cross-platform, web-enabled language.
  - **CSC 255 Information Structures and Representations**
    Students learn about data representation, machine architecture concepts, algorithms, data structures including arrays, stacks, linked lists, trees.
  - **CSC 261 Programming in C++ I**
  - **CSC 262 Programming in C++ II**
    Two courses in programming C++.
  - **ECT 250 Internet, Commerce, and Society: Scientific Inquiry: Elective**
    Ever shop at Gap.com? Learn the basic behind how these kinds of web sites function.
  - **HCI 201 Multimedia and the World Wide Web: Scientific Inquiry: Quantitative**
    Overview of the Web, its origins and capabilities. Create your own sample web page.
  - **IT 130 The Internet and the Web**
    Learn to Design Your Own Website
  - **IT 263 Applied Networks and Security**
    The focus of the course is to build interfaces to simple programs. The course will cover interface controls, event handling, and the use of built in and/or pre-written controls. The course will cover simple database access through a Database control and possibly access to WebServices such as Google. Good visual design principles will be emphasized throughout the course.
  - **TDC 261 Basic Communication Systems**
    Introduction to voice, data, and multi-media network communications fundamentals. Wired, Wireless, and Optical applications in Local, Metropolitan, Wide Area Networks are explored. The overview explains how technical, regulatory, competitive, standardization and cultural factors impact modern network applications.

- **The Computer and Society**
  - **CSC 208 The Computer and Social Responsibility**
    This course will research the impact technology has had in various areas of our lives, the new responsibilities technology presents, and our ability to deal with these changes in an ethical manner
    This course will introduce students to an overview of social analysis techniques and the theories of social change.
  - **CSC 250 Computers and Human Intelligence**
    Students taking this course will study human problem-solving and its simulation by computers. Artificial intelligence, pattern recognition and learning programs will be discussed.
  - **GAM 208 or IM 208 Virtual Worlds and Online Communities**
    Environments such as social networking sites, multiplayer online games and other online communities are becoming an increasingly large part of how we work, plan, and learn. This
course introduces the fundamentals for the interdisciplinary study of cyberculture and online social behavior. By examining core scholarship in this area, together with analyzing an existing virtual world, game, or online community, students will learn to research and understand new technologically-enabled social forms as they are emerging.

- **IS 208 IT Economy and Society**
  This course broadly surveys the history of IT applications and information systems from the historical perspective, and critically assesses the digital impact on industry, the economy, workers, citizens, social class and the future.

- **IT 201 Introduction to Information Systems**
  This course examines how various types of computer-based information systems form a critical part of modern organizations, how they work, and how they impact workers, organizations and the economy.

- **DC 228 or GAM 228 or IT 228 Ethics in Computer Games and Cinema**
  Societies function based on normative ethics utilizing common sense to distinguish between ethical and unethical behavior. Most of us are not aware of the underlying theories when arriving at ethical judgments about right and wrong. However, the fast pace of progress in information technologies and digital entertainment creates an environment, in which ethical challenges are particularly complex. In the eyes of many, games and movies are violent, offensive and immoral. This course will concentrate on analyzing the impact of digital entertainment on an individual and society. Implications of certain values embedded in games and movies will be discussed. Elements of the ethical code of conduct for a game or movie creator will be formulated. The issue of balancing individual creativity vs. cultural impact, particularly on children, will be discussed.

- **Computer Graphics and Motion Technology**
  - **ANI 101 Animation for Non-Majors**
    Course introduces a variety of basic animation techniques for cinema and gaming, such as hand-drawn, cutout, stop-motion and (very basic) 3D, with an emphasis on the use of computer technology
  - **ANI 206 History of Animation**
    History of Animation: This course is an introduction to the history and development of the field of animation
  - **GPH 205 Historical Foundations of Visual Technology**
    This course is a survey of the development, application and meaning of visual technologies in a wide range of world cultures from pre-history to the present.
  - **GPH 211 Perceptual Principles for Digital Environments I: Arts and Literature**
    An introduction to the visual, non-verbal principles incorporated in the effective presentation of on-screen environments. This course emphasizes the use of two-dimensional elements and their organization.
  - **GPH 212 Perceptual Principles for Digital Environments II: Arts and Literature**
    Further experience with the visual, non-verbal principles incorporated in effective presentation of on-screen environments. This course emphasizes the use of three dimensional elements, spaces and their organization
  - **GPH 213 Perceptual Principles for Digital Environments III: Arts and Literature**
    These three foundational courses in computer animation take you through the process of creating 2-D and 3-D representations on the computer. The last course teaches you how to animate them
  - **GPH 259 Design Geometry (cross-listed as ART 295)**
    Learn the basics of Computer Aided Design.
  - **GPH 360 Modeling Spaces**
    The digital design and modeling of environmental spaces with attention to human use parameters

- **Data Analysis and Retrieval**
  - **CSC 235 Problem Solving**
    How do you solve a problem? In this course we discuss different problem solving techniques and strategies such as modeling, establishing subgoals, and searching and pruning
  - **CSC 239 Personal Computing: Scientific Inquiry: Quantitative**
    You will learn how to use Excel to analyze data and how to publish data and retrieve it from the World Wide Web.
  - **IT 223 Data Analysis**
    Application of statistical concepts and techniques to a variety of problems in IT areas and other disciplines, using a statistical package for simple data analysis.
  - **IT 240 Introduction to Desktop Databases: Personal Computing for Programmers: Scientific Inquiry:
Elective
Learn introductory concepts in constructing databases and networking files.
- **HCI 201 Multimeda and the World Wide Web: Scientific Inquiry: Quantitative**
  Overview of the Web, its origins and capabilities. Create your own sample web page
- **ECT 250 Internet, Commerce, and Society: Scientific Inquiry: Elective**
  Ever shop at Gap.com? Learn the basic behind how these kinds of web sites function
- **IT 130 The Internet and the Web (formerly ECT 270): Scientific Inquiry: Elective**
  Learn to design your own complex web site!

**Codes, Ciphers and Computer Intelligence**
- **CSC 233 Codes and Ciphers : Scientific Inquiry: Elective**
  A history of code making and breaking and the math and (computer) science behind it
- **CSC 250 Computers and Human Intelligence : Scientific Inquiry: Quantitative**
  Study how computers are designed to think like people

**Digital Cinema and Game Development**
- **ANI 101 Animation for Non-Majors**
  Course introduces a variety of basic animation techniques for cinema and gaming, such as hand-drawn, cutout, stop-motion and (very basic) 3D, with an emphasis on the use of computer technology.
- **ANI 206 History of Animation**
  History of Animation: This course is an introduction to the history and development of the field of animation.
- **DC 105 Digital Media Literacies**
  This course is designed to help students develop an informed, critical and practical understanding of new communication media, including ways to read, write and produce in a digital environment
- **DC 113 Audio for Podcasts and Other Media**
  This course is an introduction to the uses and practical applications of sound for multimedia. Students will study various uses of sound and music on the Internet from creative to professional websites. Using free or inexpensive hardware and software, students will learn to create and edit podcasts and attach audio files to programs and web pages such as Facebook, Itunes, Keynote, PowerPoint and other sites. The course will cover both Mac and PC applications so all students will be able to work on projects from their home computers. The course will also cover current legalities of digital media.
- **DC 120 Video Editing**
  Students analyze and assemble dramatic scenes under a variety of conditions and narrative strategies. Editing theories, techniques, and procedures, issues of continuity, effects, movement and sound are examined as they relate to the fundamentals of cinematic montage and visual storytelling. This class present a variety of topics and experiences that are designed to broaden the student’s understanding of the art of cinematic storytelling and montage. Work on more advanced projects is integrated into the class as a means to an understanding of advanced editing tools and techniques.
- **DC 125 Digital Still Photography for Non-Majors**
  This course is an introduction to the history and aesthetics of still photography and to the concept of photography as a descriptive and interpretive artistic medium. Students studying photographs in this context will discover relationships between individual photographers choices and their own understanding of meaning. Students will learn the fundamental concepts necessary to shoot, edit, manipulate, and print digital still photographs.
- **DC 201 Introduction to Screenwriting**
  This course focuses on narrative storytelling and encourages students to find their unique voices, while emphasizing the critical importance of working as part of a creative team.
- **DC 202 History of Motion Picture Editing**
  This course studies the origins and rise of film editing as an art form, an industry, a set of technological practices ranging from analog film to digital video. The course examines critical historical events that impacted film editing: the emergence of the studio system, the coming of sound, narrative, experimental and documentary film, MTV, and audience shifts. For many, editing is the unique source of the art of filmmaking. This course addresses this question.
- **DC 205 Foundations of Cinema**
  Acquisition and computer representation of sound and image. Sound and video standards. Lossy and Lossless compression. Basic computer graphics and rendering. Distribution of digital
DC 207 History of Cinema I, 1890-1945
This course examines the history of cinema as one of the most influential cultural forms of the 20th Century. We will study the aesthetic and technological developments of cinema during its first 50 years, as well as examine the social and economic factors shaping its history. Initially influenced by the other art forms (theater, literature, painting), filmmaking quickly acquired its own formal system, language, and traditions. We will trace the changing styles, techniques, content, and methods of filmmaking as an art form as popular culture, and as an industry. We will consider how cinema is bound to its social context via audience relations, economics, technology, and ideology. The limited scope of this course will cover primarily feature-length, narrative films as the dominant mode of filmmaking, although we will also look at the development of documentary and experimental filmmaking. The class will consist of lectures, screenings, and discussions.

DC 208 History of American Cinema, 1946-1975
From Film Noir to Hitchcock, an examination of post war Hollywood, film noir, wide screen and epic films, the development of the star system, the director as autuer, and the influence of international film movements and directors. Screenings, lecture, and discussion.

DC 209 History of Cinema, 1975-Present
This final course in the film history sequence is designed to introduce students to a sense of modern film history and the multiple permutations of cinema around the modern film history and the multiple permutations of cinema around the globe. It presents film history from a global perspective, concentrating primarily on the development of new national and transnational cinemas. The course continues to chart the development of the American studios since the mid-1970s while examining the effects of media consolidation and convergence. Moreover, the course seeks to examine how global cinemas have reacted to and dealt with the formal influence and economic domination of Hollywood filmmaking on international audiences. Class lectures, screenings, and discussions will consider how cinema has changed from a primarily national phenomenon to a transnational form of communication in the 21st century.

DC 222 Story Structure in Cinema
This course focuses on the critical analysis of narrative structure in Cinema. Students will learn how to identify key story concepts and break down three act structure in finished films and scripts.

DC 227 Film Philosophy
This course is a seminar on the philosophical analysis of film art, with an emphasis on the ways in which it creates meaning through techniques that define a formal structure. There is a particular focus on aesthetic problems about appearance and reality, literacy and visual effects, communication and alienation through film technology.

DC 233 Cinema & Art
This course will provide an overview of avant-garde film, video, animation and installation, and the relationship of these cinematic forms to Modern and Contemporary art.

DC 235 Adaptation: The Cinematic Recrafting of Meaning
This courses explores contemporary cinematic adaptations of literature and how recent re-workings in film open viewers up to critical analysis of the cultural practices surrounding the promotion and reception of these narratives.

DC 250 Working with Actors 1
This course is an introduction and examination of the collaborative process between the actor and director. Methods of study include lecture, discussion, assignments, and in-class acting exercises.

DC 274 Image, Optics and Cinematic Motion
Cinematography is the scientifically-grounded discipline of making lighting and camera choices in order to record moving images. This course deals with the basic mathematics, physics, and photochemistry that underlie cinematography and that motivate camera design and construction. A student who masters the foundations of cinematography through a mixture of lectures, readings, exercises, and labs will be able to evaluate and understand how motion-based recording choices affect perception of moving images they see every day.

GAM 206 History of Games
This class will examine particular games and game genres in their historical context using a case study format

GAM 224 Introduction to Game Design
Students will learn about a game's "hook", its "high concept" and the crucial needs of marketing for a successful game design. Students will also learn to design a game's component pieces.

Graphic Design

GD 200 Graphic Design I
This course introduces the world of graphic design in a social and historical context. The goals are to explore formal structures and research methods with emphasis on the role of analysis and conceptual thinking as the first tasks of the print and multi-media designer. The course includes basic instruction in typography, color, problem-solving in print and on screen.

- **GD 210 Digital Illustration I**
  Introduction to illustration development in image, line and photography, combining computer applications and hand-rendered approaches.

- **GD 220 History of Design I**
  The history of graphic design is an evolution in aesthetics, technology, style and visual communication. The class will encompass a survey of the major movements in the field of print design, notable designers and design materials. The nature of changing methods, materials, technologies and values are examined in the context of the social and political realities that shape communication. The course will include the historical shift from print to multimedia design methodologies.

- **GD 380 Design for Client and Community**
  This course enables students to work from start to finish on client-based graphic design and projects. Students establish working relationships as individuals and in teams that utilize their skills to effectively evaluate the communication needs of an organization or business, develop design solutions that fulfill those needs, and negotiate the process between designers and clients.

  - **Visualization**
    - **IM 222 Information Visualization**
      This course discusses the basic problems and techniques of visualizing quantitative and qualitative data.

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**Restrictions for CDM Students**

A CDM student can take any CDM course approved for liberal studies credit and use it to satisfy a domain of the liberal studies program (LSP) provided the course is NOT required as part of the student's major.

A CDM student can not count a course as a liberal studies requirement and a major requirement. No double counting is allowed for CDM classes by CDM students.

**Example 1**

- A CGMT student cannot use GPH 211 to satisfy the arts and literature requirement of LSP, as GPH 211 is required by all CGMT tracks.
- An ECT major CAN take GPH 211 to satisfy the arts and literature requirement of the LSP. The course qualifies for a liberal studies program domain that is required by the student's major.

**Example 2**

- A CS student CAN take GPH 259 to satisfy the Scientific Inquiry (SI)-Quantitative-Lab requirement of LSP because the course is not required by the CS major AND it counts for SI-Lab which is a required domain for CS students.
- A CS student CANNOT take CSC 250 to satisfy SI because, although the course is not required by any or our programs, it qualifies for SI-quantitative (not Lab) which is NOT a required domain for CDM students.

**Example 3**

- A CS student takes GPH 211 for arts and literature LSP. Although GPH 211 is allowed as an elective even if it is not a 300 level course, the student CANNOT count the course both as satisfying an LSP domain AND as an elective for the CS program.
Academically gifted students may choose to enroll in the combined degree program. This dual degree program allows students to combine any CDM bachelor's degree with any CDM master's degree, except the joint MA/JD and joint MS/JD degree programs, following the structure outlined below.

**Program Structure**

Students in the combined degree program take a maximum of three graduate level courses that count toward both their bachelor's and master's degree requirements. Students may enroll in graduate level coursework in the junior and senior year only. Students in the combined degree program will receive the bachelor's degree after meeting all graduation requirements including the standard 192 undergraduate credit hours. The master's degree is awarded after the student completes 10 additional graduate courses (40 credit hours), instead of the standard 13 courses (52 credit hours).

**Admission Criteria**

- Minimum of 6 courses (24 credit hours) completed at DePaul
- GPA of 3.3 or higher in courses taken at DePaul
- Endorsement of faculty advisor

In order to apply for the BS/MS combined degree program, your faculty advisor must send an e-mail recommendation to Becky Krochmal. The recommendation should include your full name, student ID number, and the BS and MS degrees you wish to apply for.

Bachelor of Arts in Computing students who are enrolled via the School for New Learning are eligible for this program. Interested students who meet the admission criteria for a combined degree should contact Kenn Skorupaa at SNL or Becky Krochmal at CDM for more information.

**Maintaining Good Standing**

- Each student's cumulative GPA and course grades will be reviewed after each Autumn, Winter, and Spring Quarter
- The student and Faculty Advisor will be notified when the student's cumulative GPA falls below 3.3 or when the student receives less than a C- in graduate level course.
- If a student's cumulative GPA falls below 3.3, the student must earn a term GPA of 3.3 or above in the following quarter to stay active. If the student does not achieve a 3.3 term GPA, then the student will be dismissed from the combined program and resume the traditional BA/BS. As long as the student's cumulative GPA is below 3.3, the student must continue to achieve at least a 3.3 term GPA in all following quarters or face dismissal. If, at any point, the student's cumulative GPA is once again 3.3 or higher, term requirements no longer apply.
- If a student does not maintain good standing, they will be dismissed from the Combined Degree and returned to normal undergraduate degree seeking status. Any graduate courses passed before dismissal will not be counted toward graduate credit and may not be retaken (if the student does pursue graduate study, other graduate courses must be substituted). If dismissed students wish to apply to a CDM graduate degree program, they may do so following normal CDM Admission procedures, but will still be required to take 13 graduate courses for a MS degree.

**Bachelor's Degree to Master's Degree Transition**

After completing the undergraduate degree, when the student is ready to begin the graduate degree, the student should email Becky Krochmal who will process the change of status.

If, upon completion of the bachelor's degree, the student did not meet all prerequisites for the master's degree, then the student will need to complete (course, test or waiver) the missing prerequisites for the chosen master's Degree. If, while still in the undergraduate degree phase, the student receives less than a C- in graduate level course, the course cannot count towards the MS/MA Degree.

**Designing a Course of Study**

It is extremely important that the student and faculty advisor work together on a course of study immediately upon admission to the Combined Degree Program.

This course of study may include which undergraduate classes to avoid taking in order to take the graduate version. Failure to put together a solid plan can lead to extra coursework and a lengthening of the Combined Degree program.
It is advisable for the student and advisor to enter the proposed plan of study in the student communication record on the CDM intranet so it is available to the student and CDM faculty and staff.

**Registering for Master's Degree Courses**

Starting in Fall 2010, students will be enrolled in the graduate class instead of the special "Combined Degree Course". The student's advisor must email Associate Dean Lucia Dettori requesting the enrollment. The following information should be included in the email: student's full name, DePaul ID, graduate course and section, and the undergraduate course to be substituted for. Student services will process the enrollment.

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**Minors**

A minor is a combination of courses that provides a cohesive introduction to an area of study. Typically, courses taken to satisfy minor field requirements are credited as open electives; however, there are some instances where minor field courses may be used for credit in other areas of the student's curriculum. Grades for all courses, taken to fulfill a minor field requirement must be 'C' or above. Grades of 'C-' may be accepted for credit in the minor provided the minor GPA is 2.0 or above. A minimum of one-half of the courses required for a minor must be completed at DePaul University.

**MINORS IN THE COLLEGE OF COMMERCE**

Students enrolled in the College of Computing and Digital Media (CDM) may obtain a minor in Accounting, Business Administration, E-Business, Economics, Management, MIS, Marketing, and Pre-MBA. Please see the College of Commerce Section for Minor Requirements.

**MINORS IN THE COLLEGE OF LIBERAL ARTS AND SCIENCES**

Students enrolled in the College of Computing and Digital Media (CDM) may obtain a minor through the College of Liberal Arts and Sciences. Most Liberal Arts and Science departments offer minor concentrations of study. In general, a minor in a Liberal Arts and Sciences discipline consists of a set of introductory courses plus another set of more specialized courses. Most minors require six courses, some of which may also be used for credit in the Liberal Studies Program. For a complete list of minors offered through the College of Liberal Arts and Sciences, please consult that section of this online Bulletin.

**MINORS IN THE COLLEGE OF COMPUTING AND DIGITAL MEDIA**

Computer technology is an omnipresent part of our world, used in academic disciplines from physics to history to geography. **CDM offers several minors that will appeal to all DePaul University students.**

*Political science and geography* majors can pursue a minor in Data Analysis, Databases, or Data Visualization, which is important to understanding how to analyze census or GPS data.

*Communications* majors may be interested in Digital Cinema which will give you skills in creating videos for advertising.

Art majors interested in a career in graphics programming, animation or design may be interested in CDM's tech-focused minors in Animation or Computer Graphics Software Development.

An academic foundation in E-Commerce Technology, Networks or Information Systems can give *Commerce* students an edge in a tough job market.

There are other examples too numerous to mention. So if you have questions or want advice on what minor is best for you, can email our CDM Undergraduate Services team: gocdm@cdm.depaul.edu or call them at: 312-362-8714.

**Policies for Academic Minors**

Students must:
1. earn at least a grade of C- in each minor course and a GPA of no less than 2.0 for all courses in the minor;
2. earn at least a cumulative GPA of 2.0 for all courses applied to the minor;
3. not select the pass/fail option for courses in the minor;
4. meet the following residency requirement: no more than 50% of the requirements of a minor may be fulfilled by transfer credits, AP credit, IB credit of CLEP credit.

Finally, students cannot earn a minor in their major program. Courses required to fulfill a minor are determined by the unit in which the minor resides.

CDM Minors for CDM Students

To obtain a minor in CDM when the major is also in CDM:

1. Satisfy all requirements for the major
2. Satisfy all requirements for the minor
3. Students must take at least 6 courses in the minor area that do not count towards their CDM major

Note: If you have already taken some of the courses listed under your minor on this page, work with your advisor to choose other courses within the same program area, ie. NT minor would look under NT major courses and Computer Graphics Software Development would look under Computer Graphics Courses, in order to have 6 distinct courses.

- Animation Minor
- Computer Graphics Software Development
- Computer Science
- Data Analysis and Data Mining
- Database
- Data Visualization Development
- Digital Cinema
- E-Commerce Technology
- Game Design
- Game Programming
- Graphic Design
- Information and Computing in the Modern World
- Interactive Media
- Information Systems
- Information Technology
- Network Technologies
- Screenwriting
- Security
- Security in the Electronic World
- Software Engineering
- Sound Design
- Television Production Minor
- Visual Computing
- Visual Effects

CDM Minor Requirements

Animation Minor

ANI 101 Animation for Non-Majors
or ANI 201 Animation I
ANI 230 3D Design & Modeling
ANI 231 3D Animation
ANI 206 History of Animation
3 courses from the following list: (at least 1 must be ANI)
DC 201 Introduction to Screenwriting
DC 210 Digital Cinema Production I
DC 220 Editing I
Any ANI course

**Computer Graphics Software Development Minor**

**Liberal Studies**
- GPH 211  Perceptual Principles for Digital Environments I
- or GD 105  Intro to Visual Design
- GPH 212  Perceptual Principles for Digital Environments II

**Course Requirements**
- CSC 261  Programming Languages I: C/C++
- CSC 262  Programming Languages II: C/C++
- CSC 393  Data Structures in C++
- GPH 329  Computer Graphics Development II
- GPH 339  Advanced Rendering Techniques
- GPH 372  Principles of Computer Animation

**Computer Science Minor**
- CSC 241  Introduction to Computer Science I
- and CSC 242  Introduction to Computer Science II
- and CSC 224  Java for Programmers
- or
- CSC 211  Programming in Java I
- and CSC 212  Programming in Java II
- and CSC 309  Object-Oriented Programming in C++
- or
- CSC 261  Programming Languages I: C/C++
- and CSC 262  Programming Languages II: C/C++
- and CSC 224  Java for Programmers
- CSC 393  Data Structures in C++
- or CSC 383  Data Structures and Algorithms in Java
- MAT 140  Discrete Mathematics I
- CSC 373  Computer Systems I
- CSC 374  Computer Systems II

**Data Analysis and Data Mining Minor**
- IT 240  Introduction to Desktop Databases
- IT 223  Data Analysis
- CSC 324  Data Analysis and Statistical Software II
- CSC 367  Introduction to Data Mining
- CSC 334  Advanced Data Analysis
- 2 CDM Electives

**Database Minor**
- CSC 211  Programming in Java I
- and CSC 212  Programming in Java II
- IT 223  Data Analysis
- IT 240  Introduction to Desktop Databases
- CSC 352  Database Programming
- CSC 367  Introduction to Data Mining
- 1 CDM Elective
Data Visualization Development Minor

Liberal Studies

GPH 211 Perceptual Principles for Digital Environments I
GPH 212 Perceptual Principles for Digital Environments II

Course Requirements

CSC 261 Programming Languages I: C/C++
CSC 262 Programming Languages II: C/C++
CSC 323 Data Analysis
CSC 393 Data Structures in C++
GPH 329 Computer Graphics Development II
GPH 372 Principles of Computer Animation
GPH 380 Visualization

Digital Cinema Minor

DC 205 Foundations of Cinema
DC 225 Digital Still Photography
DC 201 Introduction to Screenwriting
DC 220 Editing I

3 courses from the following list:
ANI 101 Animation for Non-Majors
DC 210 Digital Cinema Production I
DC 270 Topics in Digital Cinema
DC 215 Digital Sound Design
DC 275 Cinematography
DC 310 Digital Cinema Production II
DC 320 Editing II
DC 389 The Big Picture: The Entertainment Industry

E-Commerce Technology Minor

IT 130 The Internet and the Web
CSC 211 Programming in Java I
CSC 212 Programming in Java II
IT 230 Building Internet Applications
ECT 330 Advanced Internet Application Development
IM 210 Introduction to Human-Computer Interaction

1 course from the following list:
ECT 355 Internet Systems: Collaboration, Commerce, and Media
ECT 360 Introduction to XML
ECT 365 Web Server Operations

Game Design Minor

DC 201 Introduction to Screenwriting
ANI 105 Intro to Visual Design
ANI 101 Animation for Non-Majors
or ANI 201 Animation I
ANI 230 3D Design & Modeling
GAM 224 Introduction to Game Design
or GAM 226 Game Design for Majors
GAM 244 Game Development I
### Game Programming Minor

- **GAM 224** Introduction to Game Design
- or **GAM 226** Game Design for Majors
- **GAM 244** Game Development I
- **GAM 245** Game Development II
- **GAM 247** Game Development III
- **GAM 248** Game Development IV
- **GAM 374** Action Games Programming

2 courses from the following list:
- **ANI 230** 3D Design & Modeling
- **GPH 321** Computer Graphics Development I
- **GPH 329** Computer Graphics Development II
- **GPH 350** Digital Modeling II
- Any other 300-Level **GAM** or **GPH** course

### Graphic Design Minor

- **GD 105** Intro to Visual Design
- **GD 200** Graphic Design I
- **GD 300** Graphic Design II
- **GD 230** Typography

3 courses from the following list and/or any GD course (at least 1 must be GD):
- **ANI 101** Animation for Non-Majors
- **ANI 201** Animation I
- **ANI 230** 3d Design and Modeling
- **ANI 260** Motion Graphics
- **ANI 360** Advanced Motion Graphics
- **DC 125** Digital Still Photography for Non-Majors
- **DC 220** Editing I
- **DC 225** Digital Still Photography
- **DC 321** Production Design
- **DC 376** Visual Design
- **IM 220** Interactive Media I
- **IM 222** Information Visualization
- **IM 320** Interactive Media II
- **IM 270** User-Centered Web Design
- **IT 130** The Internet and the Web

2 of the following courses may substitute for 1 course:
- **GD 350** Portfolio Workshop
- **GD 150** Illustrator Workshop
- **GD 151** Photoshop Workshop
- **GD 152** Digital Typography Workshop

### Information and Computing in the Modern World Minor

- **ECT 350** Internet, Commerce and Society
- **HCI 201** Multimedia and the World Wide Web
- **IT 201** Introduction to Information Systems
- **IT 215** Analysis and Design Techniques
- **CSC 223** The Impact of Computing Technology on Our Lives
- or **IT 228** Ethics in Computer Games and Cinema
- or **CSC 208** The Computer and Social Responsibility
- or **IS 208** Information Technology, Economy and Society
IS 356  Knowledge Management Systems
or IS 374  Management Support Systems
or IT 398  Topics in Global Information Technology

**Interactive Media Minor**

**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>HCI 201</td>
<td>Multimedia and the World Wide Web</td>
</tr>
<tr>
<td>or IT 130</td>
<td>The Internet and the Web</td>
</tr>
<tr>
<td>IM 210</td>
<td>Introduction to Human-Computer Interaction</td>
</tr>
<tr>
<td>GD 105</td>
<td>Intro to Visual Design</td>
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<tr>
<td>or GPH 211</td>
<td>Perceptual Principles for Digital Environments</td>
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<tr>
<td>IM 220</td>
<td>Interactive Media I</td>
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<tr>
<td>IM 270</td>
<td>User-centered Web Design</td>
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2 courses from the following list:

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>IM 222</td>
<td>Information Visualization</td>
</tr>
<tr>
<td>IM 208</td>
<td>Virtual Worlds and Online Communities</td>
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<tr>
<td>IM 230</td>
<td>Scripting for Interactive Media</td>
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<td>IM 320</td>
<td>Interactive Media II</td>
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<tr>
<td>IM 330</td>
<td>Advanced Scripting for Interactive Media</td>
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<td>IT 231</td>
<td>Web Development I</td>
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<tr>
<td>IM 320</td>
<td>Interactive Media II</td>
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**Information Systems Minor**

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<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>IT 240</td>
<td>Introduction to Desktop Databases</td>
</tr>
<tr>
<td>IT 201</td>
<td>Introduction to Information Systems</td>
</tr>
<tr>
<td>IT 215</td>
<td>Analysis and Design Techniques</td>
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<tr>
<td>IS 372</td>
<td>Fundamentals of Software Project Management</td>
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<tr>
<td>IS 373</td>
<td>Introduction to Large Systems Implementation</td>
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**Information Technology Minor**

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<th>Course</th>
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<tbody>
<tr>
<td>IT 130</td>
<td>The Internet and the Web</td>
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<tr>
<td>IT 231</td>
<td>Web Development I</td>
</tr>
<tr>
<td>IT 240</td>
<td>Introduction to Desktop Databases</td>
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<tr>
<td>IT 263</td>
<td>Applied Networks and Security</td>
</tr>
<tr>
<td>or TDC 261</td>
<td>Basic Communication Systems</td>
</tr>
<tr>
<td>IT 215</td>
<td>Analysis and Design Techniques</td>
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1 CDM Elective

**Network Technology Minor**

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>CSC 211</td>
<td>Programming in Java I</td>
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<tr>
<td>or CSC 261</td>
<td>Programming Languages I:C/C++</td>
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<tr>
<td>CSC 212</td>
<td>Programming in Java II</td>
</tr>
<tr>
<td>or CSC 262</td>
<td>Programming Language II:C/C++</td>
</tr>
<tr>
<td>IT 201</td>
<td>Introduction to Information Systems</td>
</tr>
<tr>
<td>IT 263</td>
<td>Applied Networks and Security</td>
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<tr>
<td>TDC 362</td>
<td>Principles of Data Communication</td>
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<tr>
<td>TDC 363</td>
<td>Introduction to Local Area Networks</td>
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<tr>
<td>TDC 365</td>
<td>Network Interconnection Technologies</td>
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**Screenwriting Minor**
DC 201 Introduction to Screenwriting
DC 222 Classic Hollywood Film Structure
DC 301 Advanced Screenwriting I
DC 302 Advanced Screenwriting II
DC 303 Advanced Screenwriting III
DC 304 Topics in Screenwriting

Security Minor

CSC 211 Programming in Java I
and CSC 212 Programming in Java II
or
CSC 261 Programming Language I: C/C++
and CSC 262 Programming Language II: C/C++
CSC 233 Codes and Cyphers
or CSC 333 Cryptology
CNS 378 Host and Information Security
CNS 320 Computer Forensic and Incident Response
CNS 228 Legal, Ethical and Social Issues in Information Security
CNS 340 Fundamentals of Information Assurance

Security in the Electronic World Minor

IT 130 The Internet and the Web
and IT 231 Web Development I
and IT 232 Web Development II
or
CSC 261 Programming Language I: C/C++
and CSC 262 Programming Language II: C/C++
or
CSC 241 Introduction to Computer Science I
and CSC 242 Introduction to Computer Science II
or
CSC 211 Programming in Java I
and CSC 212 Programming in Java II
CNS 228 Legal, Ethical and Society Issues in Information Security
CNS 233 Codes and Ciphers
CNS 320 Computer Forensic and Incident Response
CNS 340 Fundamentals of Information Assurance

Software Engineering Minor

CSC 261 Programming Languages I: C/C++
and CSC 262 Programming Languages II: C/C++
and CSC 224 Java for Programmers
or
CSC 241 Introduction to Computer Science I
and CSC 242 Introduction to Computer Science II
and CSC 224 Java for Programmers
or
CSC 211 Programming in Java I
CSC 212 Programming in Java II
and then
CSC 383  Data Structures and Algorithms in Java  
SE 325  Principles and Practices of Software Engineering  
SE 330  Object-Oriented Modeling  
SE 350  Object-Oriented Software Development  

Sound Design Minor  
DC 215  Digital Sound Design  
DC 312  Music for Film and Video  
DC 313  Production Sound  
DC 315  Advanced Digital Sound Design  
3 courses from the following list  
GAM 250  Digital Sound for Computer Games  
DC 317  Advanced Sound Mixing for Cinema  
DC 318  Advanced Dialogue Recording and Editing  
DC 319  Advanced Sound Effects Recording and Editing  
DC 313  Sound for Multimedia  
DC 203  History of Motion Picture Sound  

Television Production Minor  
DC 210  Digital Cinema Production I  
DC 220  Editing I  
DC 271  Introduction to Television Production  
DC 272  Writing for Television  
TV 289  The Business of Television  
TV 320  Editing for Television  
TV 301  Television Program Development  
DC 372  Topics in TV Production  

Visual Computing Minor  
MAT 140  Discrete Mathematics I  
or MAT 220  Linear Algebra with Applications  
or 1 quarter of Calculus (Prerequisite for CSC 381)  
IT 223  Data Analysis (Prerequisite for CSC 367)  
CSC 381  Introduction to Digital Image Processing  
CSC 382  Applied Image Analysis  
IT 300  Research Experience  
CSC 367  Introduction to Data Mining (IT 223 requirement)  

Visual Effects Minor  
ANI 230  3D Design & Modeling  
ANI 379  Advanced 3D Compositing  
DC 220  Editing I  
DC 325  Color Correction  
VFX 200  Introduction to Visual Effects  
VFX 278  Digital Compositing I  
VFX 378  Digital Compositing II
Animation

The **B.A. in Animation** emphasizes solid traditional animation and storytelling skills, while encouraging experimentation in form, content and medium. Students are free to work in hand-drawn, stop-motion, cut-out and 3D computer animation. They may produce hybrid forms fully integrated with live action video, draw web-based shorts inspired by Hollywood or anime, or design motion graphics for film titles and commercials.

Students will gain a broad foundation in the rich history of the art form, drawing and design skills, and prepare for the future under the guidance of faculty with professional experience in television, film, art and interactive media. Students will have access to the latest in animation technology, computing systems, and software. Students will gain valuable production experience both in class and through internships, and benefit from CDM's relationship with Chicago's many animation and production studios.

Online Learning Options

Some courses are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.A. degree in Animation:

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<thead>
<tr>
<th>First Year Program</th>
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<tbody>
<tr>
<td><strong>Chicago Quarter</strong></td>
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<td>LSP 112</td>
</tr>
<tr>
<td><strong>Writing</strong></td>
<td>WRD 103* and WRD 104*</td>
</tr>
<tr>
<td><strong>Quantitative Reasoning &amp; Technological Literacy</strong></td>
<td>LSP 120 &amp; LSP 121</td>
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<tr>
<th>Sophomore Year</th>
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<td><strong>Multiculturalism in the US</strong></td>
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<tr>
<td><strong>Capstone</strong></td>
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<td></td>
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<tr>
<td><strong>Philosophical Inquiry (PI)</strong></td>
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Notes: 1 of the PI or RD courses must be an ethics course: Recommended choices are DC/GAM/IT 228 (PI), PHL/MGT 248 (PI) or REL/MGT 228 (RD)
* Students must earn a C- or better in this course.

Quantitative Reasoning and Technological Literacy:
Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam. Students who complete both LSP 120 and LSP 121 take one less Learning Domain course. Students may not apply the course reduction to any Domain where only one course is required, and if taken within the SI Domain, the reduction cannot be applied to the SI Lab requirement.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of these course requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year
GD 105 Intro to Visual Design
ANI 201 * Animation I
ANI 206 History of Animation
DC 201 Introduction to Screenwriting
DC 220 Editing I
ART 218 Figure Drawing
* ANI 101 allowed for transfer students
6 Liberal Studies

Second Year
ANI 220 Storyboarding and Narrative Development
ANI 230 3D Design and Modeling
ANI 231 3D Animation
ANI 320 Hand-Drawn Animation
DC 210 Digital Cinema Production I
ANI 318 Advanced Figure Drawing
6 Liberal Studies

Third Year
ANI 240 Animation Production I
ANI 340 Animation Production II
ANI 222 Illustration Foundations
DC 215 Digital Sound Design
MCS 207 History of Cinema I, 1890-1945
or MCS 208 History of Cinema II, 1945-1975
or MCS 209 History of Cinema III, 1975-Present
3 Liberal Studies
2 Major Electives
2 Open Electives

Fourth Year
ANI 260  Motion Graphics
ANI 394  Animation Project I
ANI 395  Animation Project II Capstone

5 Liberal Studies
2 Major Electives
2 Open Electives

**Major Electives**
Major electives can be chosen from the following list

Any ANI, ART, DC, GAM, GD, GPH, IM, TV or VFX course **EXCEPT: ART 102, ART 104, ART 105, DC 120 or GPH 211.**

Students must earn a grade of C- or higher in all major elective courses.

**Open Electives**
Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details.) Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a **CDM minor or other minors** are normally credited as open electives.

**Degree Requirements**
Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook**.

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**Digital Cinema**

The **B.A. in Digital Cinema** is an innovative motion picture production program dedicated to utilizing the latest cutting-edge digital technology while incorporating classic cinema narrative theory and aesthetics. Students receive hands-on experience with the latest production equipment in the first year and get an insider's view of the industry from experienced faculty. Students in this program will gain practical production experience through classes, internships and the Project Blue Light program working under a group of professionals in a full-length feature film, or working in an all-student independent short productions.

The Bachelor of Arts Program offers three programs of undergraduate study for students:

- The **Cinema Production Concentration** features a hands-on program in live-action production. With its greater number of electives, students may also develop an interdisciplinary program of study in cinema history and theory.
- The **Screenwriting Concentration** features a program of study in advanced screenwriting in addition to core courses in cinema production, dramatic literature and cinema history/theory.
- The **Television Production Concentration** features a hands-on experience with cutting edge digital equipment in studio and field production for video and television. Students apply theoretical concepts while planning and designing programs, capturing, editing (linear and non-linear) and post-production.
The Sound Concentration features hands-on experience with cutting edge equipment and technologies in production and post-production sound for cinema in addition to other core courses in cinema production and post-production.

The curriculum consists of the DePaul University Liberal Studies Program and Major Field Courses.

Online Learning Options

Some courses are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

Cinema Production Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.A. degree in Digital Cinema (Cinema Production concentration):

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Notes:

1. of the PI or RD courses must be an ethics course: Recommended choices are DC/GAM/IT 228 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD)

* Students must earn a C- or better in this course.

Quantitative Reasoning and Technological Literacy:

Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam. Students who complete both LSP 120 and LSP 121 take one less Learning Domain course. Students may not apply the course reduction to any Domain where only one course is required, and if taken within the SI Domain, the reduction
cannot be applied to the SI Lab requirement.

**Note:** Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

### First Year
- DC 101 Screenwriting for Majors
- DC 110 Foundations of Cinema for Majors
- DC 220 Editing I
- DC 222 Classic Hollywood Film Structure
- DC 206 History of Cinema Production
- 5 Liberal Studies
- 1 Major Elective
- 1 Open Elective

### Second Year
- ANI 101 Animation for Non-Majors
  or ANI 201 Animation I
- DC 210 Digital Cinema Production I
- DC 270 Topics in Digital Cinema
  or DC 370 Advanced Topics in Cinema
- DC 215 Digital Sound Design
- DC 225 Digital Still Photography
- DC 275 Cinematography
- DC 376 Visual Design
- 6 Liberal Studies

### Third Year
- DC 323 Pre-production for Cinema
- VFX 200 Introduction to Visual Effects
- DC 315 Advanced Digital Sound Design
- DC 320 Editing II
- DC 371 Documentary Production
- 5 Liberal Studies
- 1 Major Elective
- 1 Open Elective

### Fourth Year
- DC 310 Digital Cinema Production II
- DC 389 The Big Picture: The Entertainment Industry
- DC 398 Digital Cinema Capstone
- 4 Liberal Studies
- 1 Major Elective
- 3 Open Electives

### Major Electives

Major Electives can be chosen for any **200 level DC, ANI, GD, VFX or TV courses**. Students must earn a grade of C- or higher in all major elective courses.
Open Electives
Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

Screenwriting Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.A. degree in Digital Cinema (Screenwriting concentration):

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<tbody>
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<td>Capstone</td>
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Notes: 1 of the PI or RD courses must be an ethics course: Recommended choices are DC/GAM/IT 228 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD)
Quantitative Reasoning and Technological Literacy:
Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam. Students who complete both LSP 120 and LSP 121 take one less Learning Domain course. Students may not apply the course reduction to any Domain where only one course is required, and if taken within the SI Domain, the reduction cannot be applied to the SI Lab requirement.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following Course Requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year
DC 101 Screenwriting for Majors
DC 110 Foundations of Cinema for Majors
DC 222 Classic Hollywood Film Structure
DC 206 History of Cinema Production
DC 227 Film Philosophy
DC 308 Writing On Assignment
5 Liberal Studies
1 Open Elective

Second Year
DC 210 Digital Cinema Production I
DC 220 Editing I
DC 349 Acting for Filmmakers
DC 270 Topics in Digital Cinema
6 Liberal Studies
2 Major Electives

Third Year
DC 301 Advanced Screenwriting I
DC 302 Advanced Screenwriting II
DC 303 Advanced Screenwriting III
DC 306 Writing the Sitcom
or DC 307 Writing the Episodic Drama
DC 235 Adaptation: The Cinematic Recrafting of Meaning
5 Liberal Studies
1 Major Elective
1 Open Elective

Fourth Year
DC 309 Feature Development
DC 304 Topics in Screenwriting
DC 370 Advanced Topics in Cinema
DC 389 The Big Picture: The Entertainment Industry
DC 398 Digital Cinema Capstone
4 Liberal Studies
1 Major Elective
2 Open Electives

**Major Electives**

Major Electives can be chosen for any 200 level DC, ANI, GD, VFX or TV courses.

Students must earn a grade of C- or higher in all major elective courses.

**Open Electives**

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

**Degree Requirements**

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
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For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

Television Production Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.A. degree in Digital Cinema (Television Production concentration):

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**Notes:**
1. of the PI or RD courses must be an ethics course: Recommended choices are DC/GAM/IT 228 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD)
2. *Students must earn a C- or better in this course.*

**Quantitative Reasoning and Technological Literacy:**
Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam. Students who complete both LSP 120 and LSP 121 take one less Learning Domain course. Students may not apply the course reduction to any Domain where only one course is required, and if taken within the SI Domain, the reduction cannot be applied to the SI Lab requirement.

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The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

**First Year**
- DC 110 Foundations of Cinema for Majors
- DC 101 Screenwriting for Majors
- DC 220 Editing I
- DC 215 Digital Sound Design
- DC 225 Digital Still Photography
- 6 Liberal Studies
- 1 Open Elective

**Second Year**
- ANI 260 Motion Graphics
- DC 275 Cinematography
- DC 271 Introduction to Television Production
- DC 272 Writing for Television
- DC 376 Visual Design
- VFX 200 Introduction to Visual Effects
- 5 Liberal Studies
- 1 Major Elective

**Third Year**
- TV 289 The Business of Television
- TV 320 Editing for Television
- TV 301 Television Program Development
- DC 323 Pre-production in Cinema
- DC 371 Documentary Production
- 4 Liberal Studies
- 3 Open Elective
Fourth Year
DC 372     Topics in TV Production
DC 373     Advanced Documentary Production
DC 378     Digital Compositing II
DC 398     Digital Cinema Capstone
5 Liberal Studies
3 Open Electives

Major Electives
Major Electives can be chosen for any 200 level DC, ANI, GD, VFX or TV courses

Students must earn a grade of C- or higher in all major elective courses.

Open Electives
Open Electives may be taken from any unit at DePaul. It is suggested that students include the following courses in their electives:

- JOUR 276 Photojournalism
- JOUR 365 Television News
- JOUR 385 Television News II

These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements
Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

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For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook

Sound Concentration
The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.A. degree in Digital Cinema (Sound concentration):

<table>
<thead>
<tr>
<th>First Year Program</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago Quarter</td>
<td>LSP 110 or LSP 111</td>
</tr>
<tr>
<td>Focal Point</td>
<td>LSP 112</td>
</tr>
<tr>
<td>Writing</td>
<td>WRD 103* and WRD 104*</td>
</tr>
<tr>
<td>Quantitative Reasoning &amp; Technological Literacy</td>
<td>LSP 120 &amp; LSP 121</td>
</tr>
<tr>
<td>( Note : See information below)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiculturalism in the US</td>
<td>LSP 200</td>
</tr>
</tbody>
</table>
Junior Year

Experiential Learning  Required

Senior Year

Capstone  DC 398*

Learning Domains

Arts and Literature (AL)  3 Courses Required

Philosophical Inquiry (PI)  2 Courses Required
(See note below)

Religious Dimensions (RD)  2 Courses Required
(See note below)

Scientific Inquiry (SI)  1 SI Lab Course Required

Self, Society and the Modern World (SSMW)  3 Courses Required

Understanding the Past (UP)  2 Courses Required

Notes:  1 of the PI or RD courses must be an ethics course: Recommended choices are DC/GAM/IT 228 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD)

* Students must earn a C- or better in this course.

Quantitative Reasoning and Technological Literacy:
Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam. Students who complete both LSP 120 and LSP 121 take one less Learning Domain course. Students may not apply the course reduction to any Domain where only one course is required, and if taken within the SI Domain, the reduction cannot be applied to the SI Lab requirement.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following Course Requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year

DC 101  Screenwriting for Majors
DC 110  Foundations of Cinema for Majors
DC 210  Digital Cinema Production I
DC 215  Digital Sound Design
DC 220  Editing I
6 Liberal Studies
1 Open Elective

Second Year

DC 222  Classic Hollywood Film Structure
DC 225  Digital Still Photography
ANI 101  Animation for Non-Majors
or ANI 201  Animation I
DC 310  Digital Cinema Production II
Third Year
DC 275 Cinematography
DC 315 Advanced Digital Sound Design
DC 317 Advanced Sound Mixing for Cinema
DC 318 Advanced Dialogue Recording and Editing
DC 320 Editing II
4 Liberal Studies
1 Major Elective
2 Open Electives

Fourth Year
DC 319 Advanced Sound Effects Recording and Editing
DC 371 Documentary Production
DC 389 The Big Picture: the Entertainment Industry
DC 398 Digital Cinema Capstone
DC 206 History of Cinema Production
5 Liberal Studies
2 Open Electives

Major Electives
Major Electives can be chosen for any 200 level DC, ANI, GD, VFX or TV courses. Students must earn a grade of C- or higher in all major elective courses.

Open Electives
Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details.) Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements
Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graded magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

Bachelor of Science Degree Programs
Animation

The **B.S. in Animation** provides students with a solid foundation in the art of animation and its history combined with insight into the latest techniques used in the rapidly-moving fields of high end 3D animation in the film, television, and game development industries. Students will learn a comprehensive set of skills in 3D including character animation, 3D design and modeling, texturing, lighting, and rigging. 3D courses are designed to provide students with necessary proficiencies while also encouraging creativity and experimentation. Students will have access to the latest in animation software, computing systems, and technologies including motion capture and green screen studios. Students will gain valuable production experience both in class and through internships, and benefit from CDM's relationship with Chicago's largest game development and animation studios.

Concentrations

Cinema Concentration
The technically demanding art of modern 3D character animation is grounded in the core fundamentals of animation mechanics, visual storytelling and acting. Right from the start, students in the Cinema concentration gain hands-on experience bringing digital characters to life. They are given in-depth instruction in the most up-to-date software and technology available, including motion capture and green screen, but the emphasis is always on creativity, experimentation and expression.

Game Art Concentration
Becoming a game development artist requires a solid foundation in animation, visual design principles, color theory, and drawing. Students in the Game Art concentration also receive in-depth instruction in the latest advanced game modeling and animation technology and practices, including motion capture, rigging and digital sculpting. They learn about real-world problem-solving, team dynamics, and pipeline requirements while working alongside programmers and game designers on cross-disciplinary game development projects.

Online Learning Options

Many courses are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

Cinema Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Animation (Cinema Concentration):

<table>
<thead>
<tr>
<th>First Year Program</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Chicago Quarter</td>
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<td>Writing</td>
<td>WRD 103* and WRD 104*</td>
</tr>
<tr>
<td>Quantitative Reasoning &amp; Technological Literacy</td>
<td>LSP 120 &amp; LSP 121</td>
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<tr>
<td>( Note: See information below )</td>
<td></td>
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</table>

<table>
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<tr>
<th>Sophomore Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiculturalism in the US</td>
<td>LSP 200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Junior Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiential Learning</td>
<td>Required</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Senior Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Capstone</td>
<td>ANI 395* or GAM 395*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Learning Domains</th>
<th></th>
</tr>
</thead>
</table>
### Arts and Literature (AL)

<table>
<thead>
<tr>
<th>Courses Required:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- ART 106</td>
</tr>
<tr>
<td>- DC 233 or ART 200</td>
</tr>
<tr>
<td>- 1 Additional Course</td>
</tr>
</tbody>
</table>

(Notes: GAM 224 recommended)

### Philosophical Inquiry (PI)

<table>
<thead>
<tr>
<th>Courses Required (See note below)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Courses Required</td>
</tr>
</tbody>
</table>

### Religious Dimensions (RD)

<table>
<thead>
<tr>
<th>Courses Required (See note below)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Courses Required</td>
</tr>
</tbody>
</table>

### Scientific Inquiry (SI)

1 SI Lab Course Required

### Self, Society and the Modern World (SSMW)

<table>
<thead>
<tr>
<th>Courses Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Courses Required</td>
</tr>
</tbody>
</table>

### Understanding the Past (UP)

<table>
<thead>
<tr>
<th>Courses Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Courses Required</td>
</tr>
</tbody>
</table>

**Notes:**

1 of the PI or RD courses must be an ethics course: Recommended choices are DC/GAM/IT 228 (PI), PHL/MGT 248 (PI) or REL/MGT 228 (RD)

* Students must earn a C- or better in this course.

---

**Quantitative Reasoning and Technological Literacy:**

Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam. Students who complete both LSP 120 and LSP 121 take one less Learning Domain course. Students may not apply the course reduction to any Domain where only one course is required, and if taken within the SI Domain, the reduction cannot be applied to the SI Lab requirement.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

#### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>GD 105</td>
<td>Intro to Visual Design</td>
</tr>
<tr>
<td>ANI 201</td>
<td>Animation I *</td>
</tr>
<tr>
<td>ANI 206</td>
<td>History of Animation</td>
</tr>
<tr>
<td>ANI 230</td>
<td>3D Design and Modeling</td>
</tr>
<tr>
<td>DC 101</td>
<td>Screenwriting for Majors</td>
</tr>
<tr>
<td>ART 218</td>
<td>Figure Drawing</td>
</tr>
</tbody>
</table>

* ANI 101 Animation for Non-Majors allowed for transfers

6 Liberal Studies

#### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANI 222</td>
<td>Illustration Foundations</td>
</tr>
<tr>
<td>ANI 220</td>
<td>Storyboarding and Narrative Development</td>
</tr>
<tr>
<td>ANI 231</td>
<td>3D Animation</td>
</tr>
<tr>
<td>ANI 300</td>
<td>3D Character Animation</td>
</tr>
<tr>
<td>ART 318</td>
<td>Advanced Figure Drawing</td>
</tr>
</tbody>
</table>

or ART 317 Advanced Figure Sculpture

6 Liberal Studies

1 Major Elective
**Third Year**

- DC 220  Editing I
- ANI 240  Animation Production I
- ANI 340  Animation Production II
- ANI 330  3D Character Modeling
- ANI 339  3D Texturing and Lighting
- DC 210  Digital Cinema Production I

3 Liberal Studies  
2 Major Electives  
1 Open Elective

**Fourth Year**

- MCS 207  History of Cinema I, 1890-1945  
or MCS 208  History of Cinema II, 1945-1975  
or MCS 209  History of Cinema III, 1975-Present  
- GPH 355  3D Scripting for Animators  
- DC 215  Digital Sound Design  
- ANI 332  3D Rigging for Animators  
- ANI 394  Animation Project I  
- ANI 395  Animation Project II (Capstone)

5 Liberal Studies  
1 Open Elective

**Major Electives**

Major electives can be chosen from any ANI, DC, GAM, GD, GPH, IM, TV, VFX, or ART courses except the following: ART 102, ART 104, ART 105, DC 120, or GPH 211.

Students must earn a grade of C- or higher in all major elective courses.

**Open Electives**

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

**Degree Requirements**

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

**Game Art Concentration**

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Animation (Game Art Concentration):

**First Year Program**
Chicago Quarter | LSP 110 or LSP 111
Focal Point | LSP 112
Writing | WRD 103* and WRD 104*
Quantitative Reasoning & Technological Literacy | LSP 120 & LSP 121
(Note: See information below)

Sophomore Year
Multiculturalism in the US | LSP 200

Junior Year
Experiential Learning | Required

Senior Year
Capstone | ANI 395* or GAM 395*

Learning Domains
Arts and Literature (AL) | 3 Courses Required:
- ART 106
- DC 233 or ART 200
- 1 Additional Course
(Note: GAM 224 recommended)

Philosophical Inquiry (PI) | 2 Courses Required
(See note below)

Religious Dimensions (RD) | 2 Courses Required
(See note below)

Scientific Inquiry (SI) | 1 SI Lab Course Required

Self, Society and the Modern World (SSMW) | 3 Courses Required

Understanding the Past (UP) | 2 Courses Required

Notes:
1 of the PI or RD courses must be an ethics course: Recommended choices are
DC/GAM/IT 228 (PI), PHL/MGT 248 (PI) or REL/MGT 228 (RD)
* Students must earn a C- or better in this course.

Quantitative Reasoning and Technological Literacy:
Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam. Students who complete both LSP 120 and LSP 121 take one less Learning Domain course. Students may not apply the course reduction to any Domain where only one course is required, and if taken within the SI Domain, the reduction cannot be applied to the SI Lab requirement.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following Course Requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

First Year
GD 105 Intro to Visual Design
ANI 201 Animation I *
ANI 206 History of Animation
ANI 220 Storyboarding and Narrative Development
ANI 230 3D Design and Modeling
ART 218 Figure Drawing
* ANI 101 Animation for Non-Majors allowed for transfers
6 Liberal Studies

**Second Year**
ANI 222 Illustration Foundations
ANI 231 3D Animation
ANI 300 3D Character Animation
ART 318 Advanced Figure Drawing
or ART 317 Advanced Figure Sculpture
GAM 244 Game Development I
ANI 339 3D Texturing and Lighting
6 Liberal Studies

**Third Year**
ANI 240 Animation Production I
ANI 340 Animation Production II
ANI 330 3D Character Modeling
GAM 341 Introduction to Level Design
ANI 344 Visual Design for Games
GAM 245 Game Development II
3 Liberal Studies
2 Major Electives
1 Open Elective

**Fourth Year**
GAM 392 Game Modification Workshop
ANI 332 3D Rigging for Animators
GPH 355 3D Scripting for Animators
GAM 394 Game Development Project I
and
GAM 395 Game Development Project II (Capstone)
or ANI 394 Animation Project I
and
ANI 395 Animation Project II (Capstone)
5 Liberal Studies
1 Major Elective
1 Open Elective

**Major Electives**

Major electives can be chosen from any **ANI, DC, GAM, GD, GPH, IM, TV, VFX, or ART** courses except the following: ART 102, ART 104, ART 105, DC 120, or GPH 211.

Students must earn a grade of C- or higher in all major elective courses.

**Open Electives**

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a **CDM minor or other minors** are normally credited as open electives.

**Degree Requirements**

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
• earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
• maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

• between 3.500 and 3.699 will be graduated cum laude
• between 3.700 and 3.849 will be graduated magna cum laude
• of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

College of Computing and Digital Media - Undergraduate Studies ▪ School of Cinema and Interactive Media (CIM) ▪ Bachelor of Science Degree Programs ▪ Computer Games Development (Joint with SoC)

Computer Games Development (Joint with SoC)

The B.S. in Computer Game Development prepares students to work in the multi-disciplinary field of computer gaming and interactive media. This program also requires strong mathematical and programming skills. CDM's Computer Game Development program combines coursework in game programming, game design, 3D Modeling, animation, physics, and artificial intelligence. Students work in cross-disciplinary teams to design and develop games. This program was created in consultation with our Game Dev Industry Advisory Board, and is the result of input from many of the top game programmers, producers and designers in the Chicago area.

Concentrations

Production and Design Concentration
Students in this concentration receive an education in all areas of game development, including game design, programming and animation, but also the basic business skills of project management, budgeting, contract negotiation, marketing and quality assurance.

Game Programming Concentration
Students in this concentration engage in the rigorous study of computer science basics, and then apply this knowledge to the demanding specialization of game programming. Areas of study include computer graphics development, computer science, linear algebra, game physics, and artificial intelligence programming.

Online Learning Options

Many courses are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

Production & Design Concentration

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Computer Games Development (Production and Design Concentration).

<table>
<thead>
<tr>
<th>First Year Program</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago Quarter</td>
<td>LSP 110 or LSP 111</td>
</tr>
<tr>
<td>Focal Point</td>
<td>LSP 112</td>
</tr>
<tr>
<td>Writing</td>
<td>WRD 103* and WRD 104*</td>
</tr>
<tr>
<td>Quantitative Reasoning &amp; Technological Literacy</td>
<td>Not Required</td>
</tr>
<tr>
<td>Sophomore Year</td>
<td>Multiculturalism in the US</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Junior Year</td>
<td></td>
</tr>
<tr>
<td>Experiential Learning</td>
<td>Required</td>
</tr>
<tr>
<td>Senior Year</td>
<td>Capstone</td>
</tr>
</tbody>
</table>

### Learning Domains

<table>
<thead>
<tr>
<th>Learning Domain</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arts and Literature (AL)</strong></td>
<td>3 courses required:</td>
</tr>
<tr>
<td></td>
<td>- DC 201</td>
</tr>
<tr>
<td></td>
<td>- 2 Additional Courses</td>
</tr>
<tr>
<td><strong>Philosophical Inquiry (PI)</strong></td>
<td>2 Courses Required:</td>
</tr>
<tr>
<td></td>
<td>- DC 228/IT 228</td>
</tr>
<tr>
<td></td>
<td>- 1 Additional Course</td>
</tr>
<tr>
<td><strong>Religious Dimensions (RD)</strong></td>
<td>2 Courses Required</td>
</tr>
<tr>
<td><strong>Scientific Inquiry (SI)</strong></td>
<td>1 SI Lab Course Required</td>
</tr>
<tr>
<td><strong>Self, Society and the Modern World (SSMW)</strong></td>
<td>3 Courses Required</td>
</tr>
<tr>
<td><strong>Understanding the Past (UP)</strong></td>
<td>2 Courses Required</td>
</tr>
</tbody>
</table>

### Notes:
- *Students must earn a C- or better in this course.

---

**Note:** Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

---

### First Year

- GAM 226 Game Design for Majors
- GD 105 Intro to Visual Design
- GAM 244 Game Development I
- GAM 245 Game Development II
- ANI 101 Animation for Non-Majors
  or ANI 201 Animation I
- 7 Liberal Studies

### Second Year

- GAM 230 Intro to Game Production
- MAT 150 Calculus I
- CSC 261 Programming in C++ I
- CSC 262 Programming in C++ II
- GAM 341 Introduction to Level Design
- ANI 230 3D Design & Modeling
- 5 Liberal Studies
- 1 Major Elective

### Third Year

- ANI 231 3D Animation
- GAM 250 Digital Sound for Computer Games
- GAM 374 Fundamentals of Game Programming I
- IM 220 Interactive Media I
WRD 204 Technical Writing
4 Liberal Studies
3 Major Electives

**Fourth Year**
GAM 333 The Business of Games
GAM 392 Game Modification Workshop
GAM 394 Game Development Project I
GAM 395 Game Development Project II (Capstone)
3 Liberal Studies
1 Major Elective
4 Open Electives

**Major Electives**

Major electives can be chosen from the following list

*200 level ANI, DC, GAM, GD, GPH, or IM courses*
*300 level CDM courses*

Students must earn a grade of C- or higher in all major elective courses.

**Open Electives**

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. Click here for details. Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a **CDM minor or other minors** are normally credited as open electives.

**Degree Requirements**

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the **DePaul Undergraduate Handbook**.

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**Game Programming Concentration**

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. in Computer Games Development (Game Programming Concentration).

<table>
<thead>
<tr>
<th>First Year Program</th>
<th></th>
</tr>
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<td><strong>Writing</strong></td>
<td>WRD 103* and WRD 104*</td>
</tr>
<tr>
<td><strong>Quantitative Reasoning &amp; Technological Literacy</strong></td>
<td>Not Required</td>
</tr>
<tr>
<td><strong>Sophomore Year</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Multiculturalism in the US</strong></td>
<td>LSP 200</td>
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<tr>
<td><strong>Junior Year</strong></td>
<td></td>
</tr>
<tr>
<td>Experiential Learning</td>
<td>Required</td>
</tr>
<tr>
<td>-----------------------------</td>
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</tr>
<tr>
<td>Senior Year</td>
<td></td>
</tr>
<tr>
<td>Capstone</td>
<td>GAM 395*</td>
</tr>
</tbody>
</table>

## Learning Domains

<table>
<thead>
<tr>
<th>Learning Domain</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arts and Literature (AL)</strong></td>
<td>3 courses required:&lt;br&gt;- DC 201&lt;br&gt;- ANI 101&lt;br&gt;- 1 Additional Course</td>
</tr>
<tr>
<td><strong>Philosophical Inquiry (PI)</strong></td>
<td>2 courses required:&lt;br&gt;- DC 228/IT 228&lt;br&gt;- 1 Additional Course</td>
</tr>
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<td><strong>Religious Dimensions (RD)</strong></td>
<td>2 Courses Required</td>
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<tr>
<td><strong>Scientific Inquiry (SI)</strong></td>
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<tr>
<td><strong>Self, Society and the Modern World (SSMW)</strong></td>
<td>3 Courses Required</td>
</tr>
<tr>
<td><strong>Understanding the Past (UP)</strong></td>
<td>2 Courses Required</td>
</tr>
</tbody>
</table>

**Notes:** *Students must earn a C- or better in this course.*

---

**Note:** Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

### First Year

- **GAM 226** Game Design For Majors
- **GD 105** Intro to Visual Design
- **GAM 244** Game Development I
- **CSC 261** Programming in C++ I
- **CSC 262** Programming in C++ II
- **MAT 150** Calculus I
- **MAT 151** Calculus II
- 5 Liberal Studies

### Second Year

- **GAM 245** Game Developement II
- **CSC 393** Data Structures in C++
- **ANI 230** 3D Design & Modeling
- 7 Liberal Studies
- 2 Major Electives

### Third Year

- **CSC 373** Computer Systems I
- **CSC 374** Computer Systems II
- **GAM 350** Physics for Game Developers
- **GAM 374** Fundamentals of Game Programming I
- **GAM 377** Fundamentals of Game Programming II
- **GPH 321** Computer Graphics Development I
- **GPH 329** Computer Graphics Development II
- 4 Liberal Studies
- 1 Major Elective
Fourth Year
GAM 376  Artificial Intelligence for Computer Games
GPH 389  Real-Time Graphics Techniques
GAM 392  Game Modification Workshop
GAM 394  Game Development Project I
GAM 395  Game Development Project II (Capstone)
3 Liberal Studies
1 Major Elective
3 Open Electives

Major Electives
Major electives can be chosen from the following list
200 level ANI, DC, GAM, GPH, or IM courses
300 level CDM courses

Students must earn a grade of C- or higher in all major elective courses.

Open Electives
Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements
Students in this degree must meet the following requirements:
• complete a minimum of 192 credit hours (generally 48 courses)
• earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
• maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:
• between 3.500 and 3.699 will be graduated cum laude
• between 3.700 and 3.849 will be graduated magna cum laude
• of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook

College of Computing and Digital Media - Undergraduate Studies • School of Cinema and Interactive Media (CIM) • Bachelor of Science Degree Programs • Computer Graphics and Motion Technology (Joint with SoC)

Computer Graphics and Motion Technology (Joint with SoC)
The B.S. in Computer Graphics and Motion Technology prepares students who have a passion for art, math or technology for a multitude of career paths in computer graphics animation. Graduates from this major create visuals for video games, scientific and aerospace visualization, movies, television, and advertising. Students in this program will learn
• Design and analysis of mathematics/computer science programming principles for computer graphic design.
• History and theory of graphic design (color theory, perception).
• Usability and human-computer interaction.
• Hands-on, practical knowledge of digital photography, 3D animation, 3D modeling, texturing and rendering.
• Visual communication techniques.
• Real world experience working in a group as a contributing team member.
Creating animation in a production pipeline environment.

**Concentrations**

**Developer Concentration**
This concentration prepares students for careers in graphics software development, with courses in programming languages (C/C++) and mathematics (calculus and algebra), in addition to animation and computer graphics.

**Technical Designer Concentration**
This concentration prepares students interested in visual aspects, including lighting setup, shader development, scripting and character rigging.

**Online Learning Options**

Some courses are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

---

**Developer Concentration**

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. degree in Computer Graphics and Motion Technology (Developer Concentration).

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<th><strong>First Year Program</strong></th>
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<tbody>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Capstone</strong></td>
<td>GPH 395*</td>
</tr>
</tbody>
</table>

**Learning Domains**

| **Arts and Literature (AL)** | 3 Courses Required |
| **Philosophical Inquiry (PI)** | 2 Courses Required |
| (See note below) | |
| **Religious Dimensions (RD)** | 2 Courses Required |
| (See note below) | |
| **Scientific Inquiry (SI)** | 1 SI Lab Course Required |
| **Self, Society and the Modern World (SSMW)** | 3 Courses Required |
| **Understanding the Past (UP)** | 2 Courses Required |

**Notes:**

1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD)

* Students must earn a C- or better in this course.

\*Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If
students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

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The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

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<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>CSC 261</td>
<td>Programming in C++ I</td>
</tr>
<tr>
<td>CSC 262</td>
<td>Programming in C++ II</td>
</tr>
<tr>
<td>CSC 393</td>
<td>Data Structures in C++</td>
</tr>
<tr>
<td>GPH 211</td>
<td>Perceptual Principles for Digital Environments I</td>
</tr>
<tr>
<td>or GD 105</td>
<td>Intro to Visual Design</td>
</tr>
<tr>
<td>GPH 212</td>
<td>Perceptual Principles for Digital Environments II</td>
</tr>
<tr>
<td>ANI 201</td>
<td>Animation I</td>
</tr>
<tr>
<td>MAT 140</td>
<td>Discrete Mathematics I</td>
</tr>
</tbody>
</table>

One of the following two-course sequences

**Calculus Sequence (option 1)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 150</td>
<td>Calculus I</td>
</tr>
<tr>
<td>MAT 151</td>
<td>Calculus II</td>
</tr>
</tbody>
</table>

**Calculus for Mathematics and Science Majors Sequence (option 2)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 160</td>
<td>Calculus for Mathematics and Science Majors I</td>
</tr>
<tr>
<td>MAT 161</td>
<td>Calculus for Mathematics and Science Majors II</td>
</tr>
</tbody>
</table>

**Calculus with Scientific Applications Sequence (option 3) Recommended**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>MAT 170</td>
<td>Calculus I with Scientific Applications</td>
</tr>
<tr>
<td>MAT 171</td>
<td>Calculus II with Scientific Applications</td>
</tr>
</tbody>
</table>

3 Liberal Studies

**Second Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPH 325</td>
<td>Survey of Computer Graphics</td>
</tr>
<tr>
<td>GPH 329</td>
<td>Computer Graphics Development II</td>
</tr>
<tr>
<td>GPH 339</td>
<td>Advanced Rendering Techniques</td>
</tr>
<tr>
<td>GPH 321</td>
<td>Computer Graphics Development I</td>
</tr>
<tr>
<td>or MAT 220</td>
<td>Linear Algebra with Applications</td>
</tr>
<tr>
<td>CMNS 220</td>
<td>Public Speaking</td>
</tr>
</tbody>
</table>

7 Liberal Studies

**Third Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>GPH 372</td>
<td>Principles of Computer Animation</td>
</tr>
<tr>
<td>CSC 321</td>
<td>Design and Analysis of Algorithms</td>
</tr>
<tr>
<td>IM 315</td>
<td>Theory and Perception of Color</td>
</tr>
<tr>
<td>WRD 204</td>
<td>Technical Writing</td>
</tr>
</tbody>
</table>

5 Liberal Studies

3 Major Electives

**Fourth Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>GPH 375</td>
<td>Advanced Graphics Development</td>
</tr>
<tr>
<td>GPH 388</td>
<td>Production Pipeline Techniques</td>
</tr>
<tr>
<td>GPH 389</td>
<td>Real-Time Graphics Techniques</td>
</tr>
<tr>
<td>GPH 395</td>
<td>Computer Graphics Senior Project (Capstone)</td>
</tr>
</tbody>
</table>

4 Liberal Studies

1 Major Elective

3 Open Electives
Major Electives

Students must earn a grade of C- or higher in all major elective courses.

Students can take any of the following courses, as long as it was not previously used to satisfy a major requirement.

ANI 300  3D Character Animation
ANI 310  Motion Capture Workshop
ART 225  Beginning Photography
ART 329  Advanced Digital Photography
ART 360  Illustration
ART 373  History of Design
GPH 336  Smooth Surface Modeling for Graphics and Animation
GPH 340  Procedural Shading
GPH 341  Advanced Lighting Techniques
GPH 348  Rigging for Animation
GPH 376  Artificial Intelligence in Computer Games
GPH 380  Visualization
GPH 389  Real-Time Graphics Techniques
GPH 345  Digital Surface Modeling
GPH 259  Design Geometry
GPH 329  Computer Graphics Development II
GPH 350  Digital Modeling II
GPH 358  Computer Graphics Automation
GPH 360  Modeling Spaces
GPH 374  Computer Games
GPH 375  Advanced Graphics Development
IM 210  Introduction to Human-Computer Interaction
IM 270  User-Centered Web Design
IM 322  Multimedia
IM 330  Advanced Scripting for Interactive Media
or IM 336  Interactive Media Scripting for Programmers *
IT 223  Data Analysis Self Placement Test
MAT 150  Calculus I
MAT 151  Calculus II
MAT 152  Calculus III

* Students who take CSC 261 and CSC 262 may take IM 330 or IM 336 as an elective. Only one of the two would count as an elective.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
Technical Designer Concentration:

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. degree in Computer Graphics and Motion Technology (Technical Designer Concentration).

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<td>Writing</td>
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<tr>
<td>Quantitative Reasoning &amp; Technological Literacy</td>
<td>Not Required</td>
</tr>
</tbody>
</table>

### Sophomore Year

| Multiculturalism in the US | LSP 200 |

### Junior Year

| Experiential Learning | Required |

### Senior Year

| Capstone             | GPH 395* |

### Learning Domains

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<thead>
<tr>
<th>Arts and Literature (AL)</th>
<th>3 Courses Required</th>
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<tbody>
<tr>
<td>- HAA 130</td>
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<td>- ART 106</td>
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<th>Scientific Inquiry (SI)</th>
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<th>Self, Society and the Modern World (SSMW)</th>
<th>3 Courses Required</th>
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</table>

| Understanding the Past (UP) | 2 Courses Required |

### Notes:

- 1 of the PI or RD courses must be an ethics course: Recommended choices are CSC 208 (PI), PHL 248/MGT 248 (PI) or REL 228/MGT 228 (RD)
- * Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees. The representation of the following Course Requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.
First Year
IM 230        Scripting for Interactive Media
and IM 330     Advanced Scripting for Interactive Media
or CSC 261     Programming in C++ I
and CSC 262    Programming in C++ II
GPH 211       Perceptual Principles for Digital Environments I
or GD 105      Intro to Visual Design
GPH 212       Perceptual Principles for Digital Environments II
ANI 201       Animation I
MAT 140       Discrete Mathematics I
5 Liberal Studies

Second Year
GPH 345       Digital Surface Modeling
GPH 255       Hand Prototyping for Graphic Visualization
GPH 325       Survey of Computer Graphics
GPH 358       Computer Graphics Automation
IM 210        Introduction to Human-Computer Interaction
HAA 115       Principles of Asian Art
CMNS 220      Public Speaking
5 Liberal Studies

Third Year
IM 315        Theory and Perception of Color
or ART 205    Color Theory and Application
GPH 259       Design Geometry
GPH 338       Survey of 3-D Animation
GPH 339       Advanced Rendering Techniques
HAA 242       Art From 1945 - 1975
WRD 204       Technical Writing
6 Liberal Studies
1 Major Elective

Fourth Year
GPH 388       Production Pipeline Techniques
GPH 395       Computer Graphics Senior Project (Capstone)
3 Liberal Studies
4 Major Electives
3 Open Electives

Major Electives
Students must earn a grade of C- or higher in all major elective courses.

Students can take any of the following courses, as long as it was not previously used to satisfy a major requirement.

ANI 300       3D Character Animation
ANI 310       Motion Capture Workshop
ART 225       Beginning Photography
ART 329       Advanced Digital Photography
ART 360       Illustration
GPH 259       Design Geometry
GPH 336       Smooth Surface Modeling for Graphics and Animation
GPH 340       Procedural Shading
GPH 341       Advanced Lighting Techniques
GPH 348 Rigging for Animation
GPH 376 Artificial Intelligence in Computer Games
GPH 380 Visualization
GPH 389 Real-Time Graphics Techniques
GPH 345 Digital Surface Modeling
GPH 329 Computer Graphics Development II
GPH 350 Digital Modeling II
GPH 358 Computer Graphics Automation
GPH 360 Modeling Spaces
GPH 374 Computer Games
GPH 375 Advanced Graphics Development
HAA 263 History of Design
IM 210 Introduction to Human-Computer Interaction
IM 270 User-Centered Web Design
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MAT 150 Calculus I
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* Students who take CSC 261 and CSC 262 may take IM 330 or IM 336 as an elective. Only one of the two would count as an elective.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

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- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.
3-D animation, and game development. Students receive hands-on experience with the latest production equipment in the first year and get an insider's view of the industry from experienced faculty. Students in this program will gain practical production experience through classes, internships and the Project Bluelight program working under a group of professionals in a full-length feature film, or working in an all-student independent short productions.

Online Learning Options

A few courses are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the B.S. degree in Digital Cinema:

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<td>LSP 120 &amp; LSP 121</td>
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<th>Senior Year</th>
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<tbody>
<tr>
<td><strong>Capstone</strong></td>
</tr>
<tr>
<td>DC 398*</td>
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<th>Religious Dimensions (RD)</th>
<th>2 Courses Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>(See note below)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Scientific Inquiry (SI)</th>
<th>1 SI Lab Course Required</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Self, Society and the Modern World (SSMW)</th>
<th>3 Courses Required</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Understanding the Past (UP)</th>
<th>2 Courses Required</th>
</tr>
</thead>
</table>

**Notes:** 1 of the PI or RD courses must be an ethics course. Recommended choices are DC/GAM/IT 228 (PI), PHL 248/MGT 248 (PI) or REL228/MGT 228 (RD)

* Students must earn a C- or better in this course.

**Quantitative Reasoning and Technological Literacy:**

Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam. Students who complete both LSP 120 and LSP 121 take one less Learning Domain course. Students may not apply the course reduction to any Domain where only one course is required, and if taken within the SI Domain, the reduction cannot be applied to the SI Lab requirement.
**Note:** Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of the following **Course Requirements** on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

### First Year
- **DC 110** Foundation of Cinema for Majors
- **DC 101** Screenwriting for Majors
- **GD 105** Intro to Visual Design
- **DC 225** Digital Still Photography
- **DC 220** Editing I
- 6 Liberal Studies
- 1 Open Elective

### Second Year
- **ANI 201** Animation I
- **ANI 230** 3D Design and Modeling
- **VFX 200** Introduction to Visual Effects
- **DC 215** Digital Sound Design
- **DC 275** Cinematography
- **DC 210** Digital Cinema Production I
- **DC 222** Classic Hollywood Film Structure
- 5 Liberal Studies

### Third Year
- **VFX 278** Digital Compositing I
- **ANI 231** 3D Animation
- **ANI 260** Motion Graphics
- **DC 375** Advanced Cinematography
- **DC 315** Advanced Digital Sound Design
- **DC 310** Digital Cinema Production II
- 5 Liberal Studies
- 1 Open Elective

### Fourth Year
- **VFX 378** Digital Compositing II
- **DC 320** Editing II
- **DC 325** Color Correction
- **DC 206** Introduction to Film History
- **DC 398** Digital Cinema Capstone
- 4 Liberal Studies
- 3 Open Elective

### Major Electives

No major elective is required.

### Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.
**Degree Requirements**

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.

**Interactive Media (Joint with SoC)**

The **B.S. in Interactive Media** degree prepares students for the expanding field of interaction design and its application to multimedia and web development. The base program integrates technical and artistic disciplines. Technical concepts and skills involve web markup languages, interactive scripting and human-centered design. The student also explores artistic areas of study such as communication design, animation, game design and cinema. A major in interactive media provides students with broad skills and expertise including:

- Develop well-designed web pages, sites, and interactive applications
- Design, code and create content for casual games
- Conduct usability tests for interactive web sites
- Employ visual design principles to express ideas and concepts
- Create prototypes for interactive displays

**Online Learning Options**

Many courses are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the BS degree in Interactive Media:

<table>
<thead>
<tr>
<th>First Year Program</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Chicago Quarter</strong></td>
<td>LSP 110 or LSP 111</td>
</tr>
<tr>
<td><strong>Focal Point</strong></td>
<td>LSP 112</td>
</tr>
<tr>
<td><strong>Writing</strong></td>
<td>WRD 103* and WRD 104*</td>
</tr>
<tr>
<td><strong>Quantitative Reasoning &amp; Technological Literacy</strong></td>
<td>Not Required</td>
</tr>
</tbody>
</table>

**Sophomore Year**
### Multiculturalism in the US

**LSP 200**

### Junior Year

**Experiential Learning**

Required

### Senior Year

**Capstone**

Required*

### Learning Domains

<table>
<thead>
<tr>
<th>Domain</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arts and Literature (AL)</strong></td>
<td>3 Courses Required:</td>
</tr>
<tr>
<td></td>
<td>- DC 205</td>
</tr>
<tr>
<td></td>
<td>- 2 Additional Courses</td>
</tr>
<tr>
<td><strong>Philosophical Inquiry (PI)</strong></td>
<td>2 Courses Required:</td>
</tr>
<tr>
<td></td>
<td>- CSC 208 or IT 228</td>
</tr>
<tr>
<td></td>
<td>- 1 Additional Course</td>
</tr>
<tr>
<td><strong>Religious Dimensions (RD)</strong></td>
<td>2 Courses Required</td>
</tr>
<tr>
<td><strong>Scientific Inquiry (SI)</strong></td>
<td>1 SI Lab Course Required</td>
</tr>
<tr>
<td><strong>Self, Society and the Modern World (SSMW)</strong></td>
<td>3 Courses Required:</td>
</tr>
<tr>
<td></td>
<td>- PSY 105</td>
</tr>
<tr>
<td></td>
<td>- 2 Additional Courses</td>
</tr>
<tr>
<td><strong>Understanding the Past (UP)</strong></td>
<td>2 Courses Required</td>
</tr>
</tbody>
</table>

**Note:** Students must earn a C- or better in this course.

Note: Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

The representation of these course requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

### First Year

- ANI 101 Animation for Non-Majors
- ANI 201 Animation I
- GD 105 Intro to Visual Design
- IT 130 The Internet and the Web
- IT 240 Introduction to Desktop Databases
- IM 270 User-Centered Web Design
- ART 260 Art and Design I: History, Concept, Structure
- 6 Liberal Studies

### Second Year

- IT 231 Web Development I
- IM 210 Introduction to Human-Computer Interaction
- IM 220 Interactive Media I
- IM 230 Scripting for Interactive Media
IT 223 Data Analysis
ANI 230 3D Design & Modeling
ART 264 Typography I
5 Liberal Studies

Third Year
IM 320 Interactive Media II
IM 330 Advanced Scripting for Interactive Media
IM 360 User-Centered Evaluation
GAM 244 Game Development I
WRD 204 Technical Writing
4 Liberal Studies
3 Major Electives

Fourth Year
IM 394 Human-Computer Interaction Capstone
or CSC 394 Software Projects (Capstone)
4 Liberal Studies
2 Major Elective
5 Open Electives

Major Electives

Major electives can be chosen from the following list
Any 200- or 300-level CDM, ART or CMN course.

Any of the following:
PSY 241 Research Methods I
PSY 242 Research Methods II
PSY 360 Theories of Learning and Cognition
PSY 375 Sensation and Perception
PSY 380 Industrial and Organizational Psychology
PSY 383 Psychology of Design

Students must earn a grade of C- or higher in all major elective courses.

Open Electives

Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.

Degree Requirements

Students in this degree must meet the following requirements:

- complete a minimum of 192 credit hours (generally 48 courses)
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)
- maintain a cumulative GPA of 2.0 or higher

Students who earn a cumulative DePaul University GPA:

- between 3.500 and 3.699 will be graduated cum laude
- between 3.700 and 3.849 will be graduated magna cum laude
- of at least 3.850 will be graduated summa cum laude

For DePaul's policy on repeat courses and a complete list of academic policies see the DePaul Undergraduate Handbook.
Bachelor of Fine Arts Degree Programs

College of Computing and Digital Media - Undergraduate Studies » School of Cinema and Interactive Media (CIM) » Bachelor of Fine Arts Degree Programs

Graphic Design

The **BFA in Graphic Design** at DePaul CDM provides a balance of conceptual, creative and technical design skills. Students will gain a strong foundation in both traditional and computer-based forms of graphic design with a professional orientation actively preparing students for the job market as well as their own creative practice. A unique feature of this degree is its practice in the allied fields of cinema, animation, game development and interaction design. Graduating students will be prepared for design careers in advertising, book and web design, motion graphics, photography, poster design, signage, typography, multimedia, print, visual design, art direction and title design in cinema, television, games, and interactive media, among others.

Online Learning Options

Some courses are available for review and playback via the CDM Course Online playback system (COL). If a course is COL-enabled, any student registered in the course has access to the course playback. Students are strongly encouraged to utilize the COL resource wherever available. Some undergraduate courses are offered online. However, CDM currently does not offer any undergraduate program completely online. For more information on online learning at CDM visit the Online Learning page.

The Liberal Studies program is the general education portion of the curriculum at DePaul University. Students must earn a grade of D or better in all courses taken to satisfy these requirements. The only exceptions are WRD 103, WRD 104 and the capstone course (which is also considered a major field requirement) in which students need to earn a C- or better. Following are the specific requirements for the BFA in Graphic Design:

<table>
<thead>
<tr>
<th>First Year Program</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chicago Quarter</strong></td>
<td>LSP 110 or LSP 111</td>
</tr>
<tr>
<td><strong>Focal Point</strong></td>
<td>Not Required</td>
</tr>
<tr>
<td><strong>Writing</strong></td>
<td>WRD 103* and WRD 104*</td>
</tr>
<tr>
<td><strong>Quantitative Reasoning &amp; Technological Literacy</strong></td>
<td>LSP 120</td>
</tr>
<tr>
<td></td>
<td>(Note: See information below )</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Multiculturalism in the US</strong></td>
<td>LSP 200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Junior Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Experiential Learning</strong></td>
<td>Required</td>
</tr>
<tr>
<td></td>
<td>(Note: GD 380 recommended)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Senior Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capstone</strong></td>
<td>Two Course Sequence Required:</td>
</tr>
<tr>
<td></td>
<td>GD 394 - Capstone Project I</td>
</tr>
<tr>
<td></td>
<td>GD 395 - Capstone Project II</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Learning Domains</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arts and Literature (AL)</strong></td>
<td>2 Courses Required from following list:</td>
</tr>
<tr>
<td></td>
<td>- Any HAA course approved for A&amp;L</td>
</tr>
<tr>
<td></td>
<td>- ANI 206 History of Animation</td>
</tr>
<tr>
<td></td>
<td>- DC 202 History of Film Editing</td>
</tr>
<tr>
<td></td>
<td>- DC 233 Cinema and Art</td>
</tr>
<tr>
<td></td>
<td>- MCS 207 History of Cinema I</td>
</tr>
<tr>
<td></td>
<td>- MCS 208 History of Cinema II</td>
</tr>
<tr>
<td></td>
<td>- MCS 209 History of Cinema III</td>
</tr>
<tr>
<td>Philosophical Inquiry (PI)</td>
<td>1 Course Required (See note below)</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>Religious Dimensions (RD)</td>
<td>1 Course Required (See note below)</td>
</tr>
<tr>
<td>Scientific Inquiry (SI)</td>
<td>1 SI Lab Course Required</td>
</tr>
<tr>
<td>Self, Society and the Modern World (SSMW)</td>
<td>1 Course Required</td>
</tr>
<tr>
<td>Understanding the Past (UP)</td>
<td>1 Course Required</td>
</tr>
</tbody>
</table>

**Notes:**
* Students must earn a C- or better in this course.

**Quantitative Reasoning and Technological Literacy:**
Readiness for LSP 120 is determined by the math placement test taken online after admission. Students may need to take developmental coursework prior to LSP 120. The LSP 120 requirement may be waived by credit already earned for advanced math coursework or by passing a dedicated proficiency exam.

**Note:** Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the JYEL requirement.

In meeting learning domain requirements, no more than one course that is outside the students major and is cross-listed with a course within the students major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees. The representation of these course requirements on a year-by-year basis is just a suggestion. Students are free to take these courses in any order they choose, provided they have mastered the course-specific prerequisites.

**First Year**
- GD 105 Intro to Visual Design
- GD 150 Illustrator Workshop *
- GD 151 Photoshop Workshop *
- GD 200 Graphic Design I
- GD 230 Typography
- IT 130 The Internet and the Web
- ANI 101 Animation for Non-Majors **
- or ANI 201 Animation I
- DC 225 Digital Still Photography
- or ART 224 Beginning Digital Photography
- ART 106 Beginning Drawing
- * 2 quarter hours of credit
- ** ANI 101 Animation for Non-Majors allowed for transfer students
- 5 Liberal Studies

**Second Year**
- GD 210 Digital Illustration I
- GD 220 History of Design I
- GD 221 History of Design II
- DC 220 Editing I
- IM 220 Interactive Media I
- IM 270 User-Centered Web Design
- 4 Liberal Studies
- 3 Major Electives

**Third Year**
- GD 270 Semiotics and Visual Design
- GD 300 Graphic Design II
- ANI 230 3D Design and Modeling
- ANI 260 Motion Graphics
ANI 360  Advanced Motion Graphics  
GD 152  Digital Typography Workshop *  
GD 350  Portfolio Workshop *  
IM 320  Interactive Media II  

2 Liberal Studies  
2 Major Electives  
2 Open Electives  
* 2 quarter hours of credit  

**Fourth Year**  
GD 330  Advanced Typography  
GD 340  Publication Design  
GD 360  Advertising Design  
GD 394  Capstone Project I  
GD 395  Capstone Project II  
DC 376  Visual Design  
DC 321  Production Design  

2 Liberal Studies  
2 Major Electives  
2 Open Electives  

**Major Electives**  
Major electives can be chosen from the following list:  

*Any GD, ANI, IM, DC, GAM, TV, VFX or ART course.*  
**EXCEPT:** ART 102, ART 104, ART 105, DC 120 or GPH 211.  

Students must earn a grade of C- or higher in all major elective courses.  

**Open Electives**  
Open Electives may be taken from any unit at DePaul. These are the only courses that may be taken under the pass/fail option. (Click here for details). Students must earn a grade of D or higher in all open elective courses. Courses that satisfy a CDM minor or other minors are normally credited as open electives.  

**Degree Requirements**  
Students in this degree must meet the following requirements:  

- complete a minimum of 208 credit hours (generally 54 courses)  
- earn a grade of C- or higher in all Major courses (excluding Liberal Studies courses and Open Electives)  
- maintain a cumulative GPA of 2.0 or higher  

Students who earn a cumulative DePaul University GPA:  

- between 3.500 and 3.699 will be graduated cum laude  
- between 3.700 and 3.849 will be graduated magna cum laude  
- of at least 3.850 will be graduated summa cum laude  

For DePaul's policy on repeat courses and a complete list of academic policies see the [DePaul Undergraduate Handbook](#).
Minors

A minor is a combination of courses that provides a cohesive introduction to an area of study. Typically, courses taken to satisfy minor field requirements are credited as open electives; however, there are some instances where minor field courses may be used for credit in other areas of the student's curriculum. Grades for all courses, taken to fulfill a minor field requirement must be 'C' or above. Grades of 'C-' may be accepted for credit in the minor provided the minor GPA is 2.0 or above. A minimum of one-half of the courses required for a minor must be completed at DePaul University.

MINORS IN THE COLLEGE OF COMMERCE

Students enrolled in the College of Computing and Digital Media (CDM) may obtain a minor in Accounting, Business Administration, E-Business, Economics, Management, MIS, Marketing, and Pre-MBA. Please see the College of Commerce Section for Minor Requirements.

MINORS IN THE COLLEGE OF LIBERAL ARTS AND SCIENCES

Students enrolled in the College of Computing and Digital Media (CDM) may obtain a minor through the College of Liberal Arts and Sciences. Most Liberal Arts and Science departments offer minor concentrations of study. In general, a minor in a Liberal Arts and Sciences discipline consists of a set of introductory courses plus another set of more specialized courses. Most minors require six courses, some of which may also be used for credit in the Liberal Studies Program. For a complete list of minors offered through the College of Liberal Arts and Sciences, please consult that section of this online Bulletin.

MINORS IN THE COLLEGE OF COMPUTING AND DIGITAL MEDIA

Computer technology is an omnipresent part of our world, used in academic disciplines from physics to history to geography. CDM offers several minors that will appeal to all DePaul University students.

Political science and geography majors can pursue a minor in Data Analysis, Databases, or Data Visualization, which is important to understanding how to analyze census or GPS data.

Communications majors may be interested in Digital Cinema which will give you skills in creating videos for advertising.

Art majors interested in a career in graphics programming, animation or design may be interested in CDM's tech-focused minors in Animation or Computer Graphics Software Development.

An academic foundation in E-Commerce Technology, Networks or Information Systems can give Commerce students an edge in a tough job market.

There are other examples too numerous to mention. So if you have questions or want advice on what minor is best for you, can email our CDM Undergraduate Services team: gocdm@cdm.depaul.edu or call them at: 312-362-8714.

Policies for Academic Minors

Students must:

1. earn at least a grade of C- in each minor course and a GPA of no less than 2.0 for all courses in the minor;
2. earn at least a cumulative GPA of 2.0 for all courses applied to the minor;
3. not select the pass/fail option for courses in the minor
4. meet the following residency requirement: no more than 50% of the requirements of a minor may be fulfilled by transfer credits, AP credit, IB credit of CLEP credit.

Finally, students cannot earn a minor in their major program. Courses required to fulfill a minor are determined by the unit in which the minor resides.
**CDM Minors for CDM Students**

To obtain a minor in CDM when the major is also in CDM:

1. Satisfy all requirements for the major
2. Satisfy all requirements for the minor
3. Students must take at least 6 courses in the minor area that do not count towards their CDM major

**Note:** If you have already taken some of the courses listed under your minor on this page, work with your advisor to choose other courses within the same program area, i.e. NT minor would look under NT major courses and Computer Graphics Software Development would look under Computer Graphics Courses, in order to have 6 distinct courses.

- Animation Minor
- Computer Graphics Software Development
- Computer Science
- Data Analysis and Data Mining
- Database
- Data Visualization Development
- Digital Cinema
- E-Commerce Technology
- Game Design
- Game Programming
- Graphic Design
- Information and Computing in the Modern World
- Interactive Media
- Information Systems
- Information Technology
- Network Technologies
- Screenwriting
- Security
- Security in the Electronic World
- Software Engineering
- Sound Design
- Television Production Minor
- Visual Computing
- Visual Effects

**CDM Minor Requirements**

**Animation Minor**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANI 101</td>
<td>Animation for Non-Majors</td>
</tr>
<tr>
<td>or ANI 201</td>
<td>Animation I</td>
</tr>
<tr>
<td>ANI 230</td>
<td>3D Design &amp; Modeling</td>
</tr>
<tr>
<td>ANI 231</td>
<td>3D Animation</td>
</tr>
<tr>
<td>ANI 206</td>
<td>History of Animation</td>
</tr>
</tbody>
</table>

3 courses from the following list: (at least 1 must be ANI)

- DC 201 Introduction to Screenwriting
- DC 210 Digital Cinema Production I
- DC 220 Editing I
- Any ANI course

**Computer Graphics Software Development Minor**

**Liberal Studies**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPH 211</td>
<td>Perceptual Principles for Digital Environments I</td>
</tr>
<tr>
<td>or GD 105</td>
<td>Intro to Visual Design</td>
</tr>
</tbody>
</table>
Course Requirements
CSC 261 Programming Languages I: C/C++
CSC 262 Programming Languages II: C/C++
CSC 393 Data Structures in C++
GPH 329 Computer Graphics Development II
GPH 339 Advanced Rendering Techniques
GPH 372 Principles of Computer Animation

Computer Science Minor
CSC 241 Introduction to Computer Science I
and CSC 242 Introduction to Computer Science II
and CSC 224 Java for Programmers
or
CSC 211 Programming in Java I
and CSC 212 Programming in Java II
and CSC 309 Object-Oriented Programming in C++
or
CSC 261 Programming Languages I: C/C++
and CSC 262 Programming Languages II: C/C++
and CSC 224 Java for Programmers
CSC 393 Data Structures in C++
or CSC 383 Data Structures and Algorithms in Java
MAT 140 Discrete Mathematics I
CSC 373 Computer Systems I
CSC 374 Computer Systems II

Data Analysis and Data Mining Minor
IT 240 Introduction to Desktop Databases
IT 223 Data Analysis
CSC 324 Data Analysis and Statistical Software II
CSC 367 Introduction to Data Mining
CSC 334 Advanced Data Analysis
2 CDM Electives

Database Minor
CSC 211 Programming in Java I
and CSC 212 Programming in Java II
IT 223 Data Analysis
IT 240 Introduction to Desktop Databases
CSC 352 Database Programming
CSC 367 Introduction to Data Mining
1 CDM Elective

Data Visualization Development Minor

Liberal Studies
GPH 211 Perceptual Principles for Digital Environments I
GPH 212 Perceptual Principles for Digital Environments II
Course Requirements

CSC 261  Programming Languages I: C/C++
CSC 262  Programming Languages II: C/C++
CSC 323  Data Analysis
CSC 393  Data Structures in C++
GPH 329  Computer Graphics Development II
GPH 372  Principles of Computer Animation
GPH 380  Visualization

Digital Cinema Minor

DC 205  Foundations of Cinema
DC 225  Digital Still Photography
DC 201  Introduction to Screenwriting
DC 220  Editing I
3 courses from the following list:
ANI 101  Animation for Non-Majors
DC 210  Digital Cinema Production I
DC 270  Topics in Digital Cinema
DC 215  Digital Sound Design
DC 275  Cinematography
DC 310  Digital Cinema Production II
DC 320  Editing II
DC 389  The Big Picture: The Entertainment Industry

E-Commerce Technology Minor

IT 130  The Internet and the Web
CSC 211  Programming in Java I
CSC 212  Programming in Java II
IT 230  Building Internet Applications
ECT 330  Advanced Internet Application Development
IM 210  Introduction to Human-Computer Interaction
1 course from the following list:
ECT 355  Internet Systems: Collaboration, Commerce, and Media
ECT 360  Introduction to XML
ECT 365  Web Server Operations

Game Design Minor

DC 201  Introduction to Screenwriting
ANI 105  Intro to Visual Design
ANI 101  Animation for Non-Majors
or ANI 201  Animation I
ANI 230  3D Design & Modeling
GAM 224  Introduction to Game Design
or GAM 226  Game Design for Majors
GAM 244  Game Development I
GAM 245  Game Development II

Game Programming Minor

GAM 224  Introduction to Game Design
or GAM 226  Game Design for Majors
GAM 244 Game Development I
GAM 245 Game Development II
GAM 374 Action Games Programming

2 courses from the following list:
ANI 230 3D Design & Modeling
GPH 321 Computer Graphics Development I
GPH 329 Computer Graphics Development II
GPH 350 Digital Modeling II
Any other 300-Level GAM or GPH course

Graphic Design Minor

GD 105 Intro to Visual Design
GD 200 Graphic Design I
GD 300 Graphic Design II
GD 230 Typography

3 courses from the following list and/or any GD course (at least 1 must be GD):
ANI 101 Animation for Non-Majors
ANI 201 Animation I
ANI 230 3d Design and Modeling
ANI 260 Motion Graphics
ANI 360 Advanced Motion Graphics
DC 125 Digital Still Photography for Non-Majors
DC 220 Editing I
DC 225 Digital Still Photography
DC 321 Production Design
DC 376 Visual Design
IM 220 Interactive Media I
IM 222 Information Visualization
IM 320 Interactive Media II
IM 270 User-Centered Web Design
IT 130 The Internet and the Web

2 of the following courses may substitute for 1 course:
GD 350 Portfolio Workshop
GD 150 Illustrator Workshop
GD 151 Photoshop Workshop
GD 152 Digital Typography Workshop

Information and Computing in the Modern World Minor

ECT 350 Internet, Commerce and Society
HCl 201 Multimedia and the World Wide Web
IT 201 Introduction to Information Systems
IT 215 Analysis and Design Techniques
CSC 223 The Impact of Computing Technology on Our Lives
or IT 228 Ethics in Computer Games and Cinema
or CSC 208 The Computer and Social Responsibility
or IS 208 Information Technology, Economy and Society
IS 356 Knowledge Management Systems
or IS 374 Management Support Systems
or IT 398 Topics in Global Information Technology

Interactive Media Minor
**Required Courses**

HCI 201  
Multimedia and the World Wide Web  

or  
IT 130  
The Internet and the Web  

IM 210  
Introduction to Human-Computer Interaction  

GD 105  
Intro to Visual Design  

or  
GPH 211  
Perceptual Principles for Digital Environments  

IM 220  
Interactive Media I  

IM 270  
User-centered Web Design  

2 courses from the following list:  

IM 222  
Information Visualization  

IM 208  
Virtual Worlds and Online Communities  

IM 230  
Scripting for Interactive Media  

IM 320  
Interactive Media II  

IM 330  
Advanced Scripting for Interactive Media  

IT 231  
Web Development I  

IM 320  
Interactive Media II  

**Information Systems Minor**

IT 240  
Introduction to Desktop Databases  

IT 201  
Introduction to Information Systems  

IT 215  
Analysis and Design Techniques  

IS 372  
Fundamentals of Software Project Management  

IS 373  
Introduction to Large Systems Implementation  

**Information Technology Minor**

IT 130  
The Internet and the Web  

IT 231  
Web Development I  

IT 240  
Introduction to Desktop Databases  

IT 263  
Applied Networks and Security  

or  
TDC 261  
Basic Communication Systems  

IT 215  
Analysis and Design Techniques  

1 CDM Elective  

**Network Technology Minor**

CSC 211  
Programming in Java I  

or  
CSC 261  
Programming Languages I:C/C++  

CSC 212  
Programming in Java II  

or  
CSC 262  
Programming Languahe II:C/C++  

IT 201  
Introduction to Information Systems  

IT 263  
Applied Networks and Security  

TDC 362  
Principles of Data Communication  

TDC 363  
Introduction to Local Area Networks  

TDC 365  
Network Interconnection Technologies  

**Screenwriting Minor**

DC 201  
Introduction to Screenwriting  

DC 222  
Classic Hollywood Film Structure  

DC 301  
Advanced Screenwriting I  

DC 302  
Advanced Screenwriting II  

DC 303  
Advanced Screenwriting III
Security Minor

CSC 211 Programming in Java I
and CSC 212 Programming in Java II

or

CSC 261 Programming Language I: C/C++
and CSC 262 Programming Language II: C/C++

CSC 233 Codes and Cyphers
or CSC 333 Cryptology

CNS 378 Host and Information Security

CNS 320 Computer Forensic and Incident Response

CNS 228 Legal, Ethical and Social Issues in Information Security

CNS 340 Fundamentals of Information Assurance

Security in the Electronic World Minor

IT 130 The Internet and the Web
and IT 231 Web Development I
and IT 232 Web Development II

or

CSC 261 Programming Language I: C/C++
and CSC 262 Programming Language II: C/C++

or

CSC 241 Introduction to Computer Science I
and CSC 242 Introduction to Computer Science II

or

CSC 211 Programming in Java I
and CSC 212 Programming in Java II

CNS 228 Legal, Ethical and Society Issues in Information Security

CSC 233 Codes and Ciphers

CNS 320 Computer Forensic and Incident Response

CNS 340 Fundamentals of Information Assurance

Software Engineering Minor

CSC 261 Programming Languages I: C/C++
and CSC 262 Programming Languages II: C/C++
and CSC 224 Java for Programmers

or

CSC 241 Introduction to Computer Science I
and CSC 242 Introduction to Computer Science II
and CSC 224 Java for Programmers

or

CSC 211 Programming in Java I
CSC 212 Programming in Java II

and then

CSC 383 Data Structures and Algorithms in Java

SE 325 Principles and Practices of Software Engineering
SE 330 Object-Oriented Modeling
SE 350 Object-Oriented Software Development
Sound Design Minor

DC 215    Digital Sound Design
DC 312    Music for Film and Video
DC 313    Production Sound
DC 315    Advanced Digital Sound Design
3 courses from the following list
GAM 250    Digital Sound for Computer Games
DC 317    Advanced Sound Mixing for Cinema
DC 318    Advanced Dialogue Recording and Editing
DC 319    Advanced Sound Effects Recording and Editing
DC 313    Sound for Multimedia
DC 203    History of Motion Picture Sound

Television Production Minor

DC 210    Digital Cinema Production I
DC 220    Editing I
DC 271    Introduction to Television Production
DC 272    Writing for Television
TV 289    The Business of Television
TV 320    Editing for Television
TV 301    Television Program Development
DC 372    Topics in TV Production

Visual Computing Minor

MAT 140    Discrete Mathematics I
or MAT 220    Linear Algebra with Applications
or 1 quarter of Calculus (Prerequisite for CSC 381)
IT 223    Data Analysis (Prerequisite for CSC 367)
CSC 381    Introduction to Digital Image Processing
CSC 382    Applied Image Analysis
IT 300    Research Experience
CSC 367    Introduction to Data Mining (IT 223 requirement)

Visual Effects Minor

ANI 230    3D Design & Modeling
ANI 379    Advanced 3D Compositing
DC 220    Editing I
DC 325    Color Correction
VFX 200    Introduction to Visual Effects
VFX 278    Digital Compositing I
VFX 378    Digital Compositing II

Professional Development

The College of Computing and Digital Media established the Institute for Professional Development in 1985 to
offer certificate programs designed to meet the needs of both individuals and businesses in the Chicagoland area. These non-degree offerings provide intensive training in a wide variety of areas, with each standalone certificate program addressing a different set of theoretical concepts and practical skills. Emphasis is placed on gaining practical experience through a combination of lectures and demonstrations complemented by laboratory exercises and homework assignments. Certificate programs are typically taught by a team of instructors, that includes both full-time faculty and part-time instructors from industry. The programs require a substantial commitment of time, as most meet two nights per week and in the morning on approximately half of the Saturdays during the program.

For application and registration information pertaining to the certificate programs offered by the Institute for Professional Development, please call the Institute office at (312) 362-6282.

Current certificate program offerings include:

**IPD 354 Cloud Computing Infrastructure and Operations Program**
A 6-week program in the architectures, infrastructure, and operations of Cloud Computing

**IPD 355 Cloud Computing Fundamentals Program**
An 11-week program in the principles, methods, and technologies of Cloud Computing

**IPD 356 Web Development with Ajax Technologies Program**
A 7-week program covering Web development with Ajax technologies

**IPD 357 Wireless LAN Security Program**
An 8-week program covering the latest solutions in wireless LAN security

**IPD 358 SharePoint Developer Program**
A 10-week comprehensive program covering Microsoft SharePoint development

**IPD 359 Web Development with Python Program**
A 5-week program covering Web development with the Python programming language.

**IPD 360/460 SQL Server Business Intelligence Program**
An 11-week in-depth program covering SQL Server analysis services, integration services, and reporting services

**IPD 363 SQL Server Database Administration Program**
An 11-week in-depth program covering database administration using SQL Server

**IPD 364 Lightweight Java Web Development Program**
An 8-week comprehensive program covering open-source, lightweight Java enterprise Web development using POJOs (Plain Old Java Objects)

**IPD 365 Ruby on Rails Program**
A 8-week in-depth program covering Web development using Ruby on Rails

**IPD 366 Java Web Services Program**
A 7-week concentrated program covering service-oriented architecture and the development of Web services using Java

**IPD 370 Advanced SQL Program**
A 2-week program covering advanced Structured Query Language (SQL) features

**IPD 380 IT Project Management Program**
A 10-week comprehensive program covering best practices in IT project management

**IPD 382 Java Developer Program**
A 10-week comprehensive program covering object-oriented applications development using Java

**IPD 389 .NET Developer Program**
A 10-week comprehensive program covering .NET technologies
Combined Bachelor/Master Degrees

Academically gifted students may choose to enroll in the combined degree program. This dual degree program allows students to combine any CDM bachelor's degree with any CDM master's degree, except the joint MA/JD and joint MS/JD degree programs, following the structure outlined below.

Program Structure

Students in the combined degree program take a maximum of three graduate level courses that count toward both their bachelor's and master's degree requirements. Students may enroll in graduate level coursework in the junior and senior year only. Students in the combined degree program will receive the bachelor's degree after meeting all graduation requirements including the standard 192 undergraduate credit hours. The master's degree is awarded after the student completes 10 additional graduate courses (40 credit hours), instead of the standard 13 courses (52 credit hours).

Admission Criteria

- Minimum of 6 courses (24 credit hours) completed at DePaul
- GPA of 3.3 or higher in courses taken at DePaul
- Endorsement of faculty advisor

In order to apply for the BS/MS combined degree program, your faculty advisor must send an e-mail recommendation to Becky Krochmal. The recommendation should include your full name, student ID number, and the BS and MS degrees you wish to apply for.

Bachelor of Arts in Computing students who are enrolled via the School for New Learning are eligible for this program. Interested students who meet the admission criteria for a combined degree should contact Kenn Skorupa at SNL or Becky Krochmal at CDM for more information.

Maintaining Good Standing

- Each student's cumulative GPA and course grades will be reviewed after each Autumn, Winter, and Spring Quarter
- The student and Faculty Advisor will be notified when the student's cumulative GPA falls below 3.3 or when the student receives less than a C- in graduate level course.
- If a student's cumulative GPA falls below 3.3, the student must earn a term GPA of 3.3 or above in the following quarter to stay active. If the student does not achieve a 3.3 term GPA, then the student will be dismissed from the combined program and resume the traditional BA/BS. As long as the student's cumulative GPA is below 3.3, the student must continue to achieve at least a 3.3 term GPA in all following quarters or face dismissal. If, at any point, the student's cumulative GPA is once again 3.3 or higher, term requirements no longer apply.
- If a student does not maintain good standing, they will be dismissed from the Combined Degree and returned to normal undergraduate degree seeking status. Any graduate courses passed before dismissal will not be counted toward graduate credit and may not be retaken (if the student does pursue graduate study, other graduate courses must be substituted). If dismissed students wish to apply to a CDM graduate degree program, they may do so following normal CDM Admission procedures, but will still be required to take 13 graduate courses for a MS degree.

Bachelor's Degree to Master's Degree Transition

After completing the undergraduate degree, when the student is ready to begin the graduate degree, the student should email Becky Krochmal who will process the change of status.

If, upon completion of the bachelor's degree, the student did not meet all prerequisites for the master's degree, then the student will need to complete (course, test or waiver) the missing prerequisites for the chosen master's Degree. If, while still in the undergraduate degree phase, the student receives less than a C- in graduate level course, the course cannot count towards the MS/MA Degree.

Designing a Course of Study

It is extremely important that the student and faculty advisor work together on a course of study immediately upon admission to the Combined Degree Program.
This course of study may include which undergraduate classes to avoid taking in order to take the graduate version. Failure to put together a solid plan can lead to extra coursework and a lengthening of the Combined Degree program.

It is advisable for the student and advisor to enter the proposed plan of study in the student communication record on the CDM intranet so it is available to the student and CDM faculty and staff.

Registering for Master's Degree Courses

Starting in Fall 2010, students will be enrolled in the graduate class instead of the special "Combined Degree Course". The student's advisor must email Associate Dean Lucia Dettori requesting the enrollment. The following information should be included in the email: student's full name, DePaul ID, graduate course and section, and the undergraduate course to be substituted for. Student services will process the enrollment.
Please visit Campus Connection at https://campusconnect.depaul.edu for current course information. If you do not have a password for Campus Connection you may log on as a guest. Once you are on Campus Connection please select Course Catalog followed by the department.