COMPUTER & INFORMATION TECHNOLOGY DEPARTMENT

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Program Description

The Computer & Information Technology (CIT) programs at DSC have the latest equipment, the best software, and a strong faculty who can teach you to use it well. The CIT programs prepare students for careers in graphic design, illustration, web development, multimedia, digital video, systems administration, security and networking, software engineering, and computer programming.

The department offers students a general Computer & Information Technology degree as well as the option to focus on any of three areas: Computer Science, Information Technology, or Visual Technologies. CIT also coordinates with the Udvar-Hazy School of Business in offering a Bachelor of Science in Business with an emphasis in Visual Technologies.

The fields of Computer & Information Technology are diverse, exciting, rapidly changing, and ever expanding. Our programs offer you the opportunity to be challenged in small, personalized classes where you can develop your knowledge and skills to be successful.

Scholarships

The CIT Department has several scholarships available for advanced students in the Computer & Information Technology program. In addition, The National Science Foundation (NSF) Scholarship is designated for individuals majoring in the fields of Computer Science, Computer Information Technology, Pre-Engineering and Biology. These scholarships pay full tuition, fees and a small book stipend. Entering freshman are eligible up to four years. Sophomore, junior, and senior students may be eligible for one to three years (depending on length of major program). Contact Dr. Victor Hasfurther for further information.

Clubs

Dixie State College's Association of Computing Machinery Club, also known as the Computer Club, provides computer enthusiasts a place to meet, form friendships, share ideas and play computer games. The club meets every week, alternating between learning workshops (where refreshments are provided) and fun game nights.

Each fall semester we participate in the A.C.M.'s international programming contest. During the spring semester our club sponsors a local programming contest for students from Dixie State College and local high schools. For more information, contact Dr. Russ Ross, the club's faculty advisor.

Course Prefixes

- CIT, CS, IT, VT

Degrees & Certificates

- Bachelor of Science in Computer & Information Technology
- Bachelor of Science in Computer & Information Technology – Computer Science Emphasis
- Bachelor of Science in Computer & Information Technology – Information Technology Emphasis
- Bachelor of Science in Computer & Information Technology – Visual Technologies Emphasis
- Visual Technologies Certificate

Bachelor of Science in Computer & Information Technology

120 credits

The Bachelor of Science in Computer & Information Technology has three basic components:

1. General Education & Institutional Requirements
2. Core Discipline Requirements
3. Discipline Elective Requirements

General Education & Institutional Requirements

All DSC General Education and Institutional requirements must be fulfilled. A previously earned degree **may** fulfill those requirements, but courses must be equivalent to DSC's minimum General Education standards in American Institutions, English, and Mathematics.

Institutional Requirement		
Complete **one** of the following:		
CIS 1200	Computer Literacy	3
CIS 1201	Computer Literacy Exam	0

General Education Requirements		
Complete the following:		
ENGL 1010	Intro to Writing	3
ENGL 2010	Intermediate Writing	3
LIB 1010	Information Literacy	1
Complete the following:		
American Institutions GE course		3
Life Sciences GE course		3-5
Physical Science GE course		3-5
Laboratory Science GE course		0-1
Fine Arts GE course		3
Literature / Humanities GE course		3
Social & Behavioral Sciences GE course		3
Exploration GE course		3-5
Two (2) Global & Cultural Perspectives Courses		0-6
Complete **one** of the following:		
MATH 1100	Business Calculus	3
MATH 1210	Calculus I	5

Core Discipline Requirements		
Complete the following:		
CS 1400	Fundamentals of Programming	3
CS 1410	Object-Oriented Programming	3
CS 2420	Intro to Algorithms and Data Structures	3
CS 2450	Software Engineering	3
CS 3005	Programming in C++	2
CS 3500	Application Development	3
ENGL 3010	Writing in the Professions	3
IT 1100	Introduction to Operating Systems	3
IT 2400	Introduction to Networking	3
IT 3100	Systems Design and Administration I	3
IT 3500	Electronic Commerce	3
VT 1300	Communication Design	3
VT 1400	Intro. to Internet Development	3
VT 2500	Computer Illustration	3
VT 2600	Creative Imaging	3
VT 3000	Internet Publishing and Design	3
VT 3100	Interactive Multimedia	3
Complete **one** of the following:		
MATH 1100	Business Calculus	3
MATH 1210	Calculus I	5
Complete **one** of the following:		
CS 4600	Senior Project	3
IT 4600	Senior Project	3
VT 4600	Senior Project	3

Discipline Elective Requirements		
Complete **21 credits** from the following:		
CS 2810	Computer Organization and Architecture	3
CS 3400	Operating Systems	3
CS 3410	Distributed Systems	3
CS 3600	Graphics Programming	3
CS 4000	Dynamic Web Development	3
CS 4010	Interactive Web Development	3
CS 4100	Advanced Multimedia/Internet Integration	3
CS 4300	Artificial Intelligence	3
CS 4550	Compilers	3
IT 3110	Systems Design and Administration II	3
IT 3200	Perl Programming	3
IT 3550	Internet/E-Commerce Marketing	3
IT 4200	Advanced Web Delivery	3
IT 4300	Database Design and Management	3
IT 4400	Network Design and Management	3
IT 4500	Information Security	3
MKTG 3010	Marketing Principles	3
VT 2700	Typography	3
VT 2710	Advanced Typography	3
VT 3200	Portfolio Preparation	3
VT 3300	Introduction to Digital Video Editing	3
VT 3600	3-D Visualization	3
VT 3750	Graphic Design History	3
VT 3780	Prepress & Print Production	3

VT 3800	Corporate Identity	3
VT 4000	Dynamic Web Development	3
VT 4010	Interactive Web Development	3
VT 4100	Adv Multimedia / Internet Integration	3
VT 4700	Publication Design	3
VT 4750	Package Design	3

NOTE: A course may only be used to fulfill one program requirement. Cross-listed courses may only be used once to fill elective requirements. Consult course descriptions in this catalog to verify cross-listed courses.

Graduation Requirements

1. Complete a minimum of 120 college-level credits (1000 and above).
2. Complete at least 40 upper-division credits (3000 and above).
3. Complete at least 30 upper-division credits at DSC for institutional residency.
4. Cumulative GPA 2.0 or higher.
5. Grade C- of higher in each Core Discipline and Elective Requirement course.

Bachelor of Science in Computer & Information Technology

Computer Science Emphasis

120 credits

The Bachelor of Science in Computer & Information Technology with an emphasis in Computer Science has three basic components:

1. General Education & Institutional Requirements
2. Core Discipline Requirements
3. Discipline Elective Requirements

General Education & Institutional Requirements

All DSC General Education & Institutional Requirements must be fulfilled. A previously earned degree may fulfill those requirements, but courses must be equivalent to DSC's minimum General Education standards in American Institutions, English, and Mathematics.

Institutional Requirement		
Complete **one** of the following:		
CIS 1200	Computer Literacy	3
CIS 1201	Computer Literacy Exam	0

General Education Requirements		
Complete the following:		
ENGL 1010	Intro to Writing	3
ENGL 2010	Intermediate Writing	3
LIB 1010	Information Literacy	1
MATH 1210	Calculus I	5
Complete the following:		
American Institutions GE course		3
Life Sciences GE course		3-5
Physical Science GE course		3-5
Laboratory Science GE course		0-1
Fine Arts GE course		3
Literature / Humanities GE course		3
Social & Behavioral Sciences GE course		3
Exploration GE course		3-5
Two (2) Global & Cultural Perspectives Courses		0-6

Core Discipline Requirements		
Complete the following:		
CS 1400	Fundamentals of Programming	3
CS 1410	Object-Oriented Programming	3
CS 2420	Intro to Algorithms & Data Structures	3
CS 2450	Software Engineering	3
CS 2810	Computer Org & Architecture	3
CS 3005	Programming in C++	2
CS 3310	Discrete Math	3
CS 3510	Advanced Algorithms/Data Structures	3
CS 3520	Programming Language	3
CS 3530	Computational Theory	3
CS 3600	Graphics Programming	3
CS 4300	Artificial Intelligence	3
CS 4550	Compilers	3
CS 4600	Senior Project	3
ENGL 3010	Writing in the Professions	3
IT 1100	Introduction to Operating Systems	3
IT 2400	Introduction to Networking	3
IT 4300	Database Design and Management	3
MATH 1210	Calculus I	5
VT 1400	Intro. to Internet Development	3
Complete **one** of the following:		
CS 3400	Operating Systems	3
CS 3410	Distributed Systems	3

Discipline Elective Requirements		
Complete **9 credits** from the following (courses used to complete Core Discipline Requirements may **not** be repeated here):		
CS 3310*	Discrete Math	3
CS 3400*	Operating Systems	3
CS 3410	Distributed Systems	3
CS 3500	Application Development	3

CS 4000	Dynamic Web Development	3
CS 4010	Interactive Web Development	3
IT 3100	Systems Design and Administration I	3
IT 3110	Systems Design and Administration II	3
IT 3200	Perl Programming	3
IT 4200	Advanced Web Delivery	3
IT 4500	Information Security	3
MATH 1220	Calculus II	4
MATH 2210	Multivariable Calculus	3
MATH 2270	Linear Algebra	3
MATH 2280	Ordinary Differential Equations	3
MATH 3400	Probability and Statistics	3

*No course can be used to fulfill more than one requirement. The systems course not used to fulfill the core requirement may be used in partial fulfillment of the 9-credit elective requirement.

NOTE: Cross-listed courses may only be used once to fill elective requirements. Consult course descriptions in this catalog to verify cross-listed courses.

Graduation Requirements

1. Complete a minimum of 120 college-level credits (1000 and above).
2. Complete at least 40 upper-division credits (3000 and above).
3. Complete at least 30 upper-division credits at DSC for institutional residency.
4. Cumulative GPA 2.0 or higher.
5. Grade C- of higher in each Core Discipline and Elective Requirement course.

Bachelor of Science in Computer & Information Technology

Information Technology Emphasis

120 credits

The Bachelor of Science in Computer & Information Technology with an emphasis in Information Technology has three basic components:

1. General Education & Institutional Requirements
2. Core Discipline Requirements
3. Discipline Elective Requirements

General Education & Institutional Requirements

All DSC General Education and Institutional requirements must be fulfilled. A previously earned degree **may** fulfill those requirements, but courses must be equivalent to DSC's minimum General Education standards in American Institutions, English, and Mathematics.

Institutional Requirement		
Complete **one** of the following:		
CIS 1200	Computer Literacy	3
CIS 1201	Computer Literacy Exam	0

General Education Requirements		
Complete the following:		
ENGL 1010	Intro to Writing	3
ENGL 2010	Intermediate Writing	3
LIB 1010	Information Literacy	1
Complete the following:		
American Institutions GE course		3
Life Sciences GE course		3-5
Physical Science GE course		3-5
Laboratory Science GE course		0-1
Fine Arts GE course		3
Literature / Humanities GE course		3
Social & Behavioral Sciences GE course		3
Exploration GE course		3-5
Two (2) Global & Cultural Perspectives Courses		0-6
Complete **one** of the following:		
MATH 1100	Business Calculus	
MATH 1210	Calculus I	

Core Discipline Requirements		
Complete the following:		
CS 1400	Fundamentals of Programming	3
CS 1410	Object Oriented Programming	3
CS 2420	Intro to Algorithms and Data Structures	3
ENGL 3010	Writing in the Professions	3
IT 1100	Introduction to Operating Systems	3
IT 2400	Introduction to Networking	3
IT 3100	Systems Design and Administration I	3
IT 3110	Systems Design and Administration II	3
IT 3500	Electronic Commerce	3
IT 4200	Advanced Web Delivery	3
IT 4300	Database Design and Management	3
IT 4400	Network Design and Management	3
IT 4500	Information Security	3
IT 4600	Senior Project	3
VT 1300	Communication Design	3
VT 1400	Introduction to Internet Development	3
VT 2500	Computer Illustration	3
VT 2600	Creative Imaging	3

Discipline Elective Requirements

Complete **15 credits** from the following:		
CS 2450	Software Engineering	3
CS 2810	Computer Organization and Architecture	3
CS 3000	Internet Publishing and Design	3
CS 3005	Programming in C++	2
CS 3100	Interactive Multimedia	3
CS 3400	Operating Systems	3
CS 3410	Distributed Systems	3
CS 3500	Application Development	3
CS 3600	Graphics Programming	3
CS 4000	Dynamic Web Development	3
CS 4010	Interactive Web Development	3
CS 4100	Adv Multimedia/Internet Integration	3
CS 4300	Artificial Intelligence	3
CS 4550	Compilers	3
IT 3200	Perl Programming	3
IT 3550	Internet and E-commerce Marketing	3
MKTG 3010	Marketing Principles	3
VT 3000	Internet Publishing and Design	3
VT 3100	Interactive Multimedia	3
VT 3200	Portfolio Preparation	3
VT 3800	Corporate Identity	3
VT 4000	Dynamic Web Development	3
VT 4010	Interactive Web Development	3
VT 4100	AdvMultimedia/ Internet Integration	3

NOTE: A course may only be used to fulfill one program requirement. Cross-listed courses may only be used once to fill elective requirements. Consult course descriptions in this catalog to verify cross-listed courses.

Graduation Requirements

1. Complete a minimum of 120 college-level credits (1000 and above).
2. Complete at least 40 upper-division credits.
3. Complete at least 30 upper-division credits at DSC for institutional residency.
4. Cumulative GPA 2.0 or higher.
5. Grade C- of higher in each Core Discipline and Elective Requirement course.

Bachelor of Science in Computer & Information Technology

Visual Technologies Emphasis

120 credits

The Bachelor of Science in Computer & Information Technology with an emphasis in Visual Technologies has three basic components:

1. General Education & Institutional Requirements
2. Core Discipline Requirements
3. Discipline Elective Requirements

General Education & Institutional Requirements

All DSC General Education and Institutional requirements must be fulfilled. A previously earned degree **may** fulfill those requirements, but courses must be equivalent to DSC's minimum General Education standards in American Institutions, English, and Mathematics.

Institutional Requirement		
Complete **one** of the following:		
CIS 1200	Computer Literacy	3
CIS 1201	Computer Literacy Exam	0

General Education Requirements		
Complete the following:		
ENGL 1010	Intro to Writing	3
ENGL 2010	Intermediate Writing	3
LIB 1010	Information Literacy	1
MATH 1100	Business Calculus	3
Complete the following:		
American Institutions GE course		3
Life Sciences GE course		3-5
Physical Science GE course		3-5
Laboratory Science GE course		0-1
Fine Arts GE course		3
Literature / Humanities GE course		3
Social & Behavioral Sciences GE course		3
Exploration GE course		3-5
Two (2) Global & Cultural Perspectives Courses		0-6

Core Discipline Requirements		
Complete the following:		
CS 1400	Fundamentals of Programming	3
CS 1410	Object Oriented Programming	3
IT 1100	Introduction to Operating Systems	3
IT 2400	Introduction to Networking	3
IT 3500	Electronic Commerce	3

ENGL 3010	Writing in the Professions	3
MATH 1100	Business Calculus	3
VT 1300	Communication Design	3
VT 1400	Introduction to Internet Development	3
VT 2500	Computer Illustration	3
VT 2600	Creative Imaging	3
VT 2700	Typography	3
VT 3000	Internet Publishing and Design	3
VT 3100	Interactive Multimedia	3
VT 3200	Portfolio Preparation	3
VT 3300	Intro. to Digital Video Editing	3
VT 3600	3-D Visualization	3
VT 4000	Dynamic Web Development	3
VT 4600	Senior Project	3

Discipline Electives Requirements

Complete **18 credits** from the following:

ART 1110	Basic Drawing and Composition	3
ART 2060	Digital Photography	3
ART 3060	Digital Commercial Studio Photo	3
CS 2420	Intro to Algorithms and Data Structures	3
CS 2450	Software Engineering	3
CS 3500	Application Development	3
IT 3100	Systems Design and Administration I	3
IT 3110	Systems Design and Administration II	3
IT 3550	Internet and E-Commerce Marketing	3
IT 4200	Advanced Web Delivery	3
IT 4300	Database Design and Management	3
IT 4400	Network Design and Management	3
IT 4500	Information Security	3
MKTG 3010	Marketing Principles	3
VT 2060	Digital Photography	3
VT 3060	Digital Commercial Studio Photo	3
VT 3650	3-D Animation	3
VT 3710	Advanced Typography	3
VT 3750	Graphic Design History	3
VT 3780	Prepress & Print Production	3
VT 3800	Corporate Identity	3
VT 4010	Interactive Web Development	3
VT 4100	Adv Multimedia/Internet Integration	3
VT 4700	Publication Design	3
VT 4750	Package Design	3
VT 4900	Independent Research	1-3
VT 4910	Senior Graphic Design Exhibit	3
VT 4920	Visual Technology Internship	1-3
VT 4990	Seminars in Visual Technologies	1-3

NOTE: A course may only be used to fulfill one program requirement. Cross-listed courses may only be used once to fill elective requirements. Consult course descriptions in this catalog to verify cross-listed courses.

Graduation Requirements

1. Complete a minimum of 120 college-level credits (1000 and above).