

# INFORMATION SYSTEMS (BS)

## Program Description

The BS in Information Systems is designed to combine the foundations of computer science and business. The program concludes with the integration of all concepts and skills acquired during the major in a year-long software development project. Graduates are well-prepared to help organizations define and achieve their information technology goals.

## Entering and Completing the Major

In order to earn a degree, you must complete at least one academic major. SPU encourages students to explore various academic paths, so if you change your mind about a major, or want to include an additional program, you are able to do so, as outlined below.

Note that the University encourages you to enter your chosen major(s) as soon as you have determined it and are eligible to join it, especially by the start of your junior year. Students who transfer as juniors and seniors should enter a major within their first two quarters at SPU.

- If this is your first quarter at SPU and you identified a major in this department as your first choice on your application for admission to the University, you have gained entry to the major. To change or add a major, follow these instructions (<https://spu.atlassian.net/l/cp/a3th1keb/>).
- If you are an SPU student with an SPU cumulative GPA of 2.0 or better, follow these instructions (<https://spu.atlassian.net/l/cp/a3th1keb/>) to enter a major in this department.
- The University requires a grade of C- or better in all classes that apply to a major; however, programs may require higher minimum grades in specific courses. You may repeat an SPU course only once for a higher grade.
- To advance in this program, meet with your faculty advisor regularly to discuss your grades, course progression, and other indicators of satisfactory academic progress. If your grades or other factors indicate that you may not be able to successfully complete the major or minor, your faculty advisor can work with you to explore options, which may include choosing a different major.
- You must complete the major requirements that are in effect in the SPU Undergraduate Catalog for the year you enter the major.

## Information Systems (BS)

86 Credits Minimum, Including 40 Upper Division (UD)

Code	Title	Credits
<b>Computing Core</b>		
CSC 1230	Problem Solving and Programming	5
CSC 2430	Data Structures I	5
CSC 3150	Systems Design	4
CSC 3220	Applications Programming	4
CSC 3221	Netcentric Computing	4
CSC 3750	Computer Architecture and Organization	5
CSC 4151	Software Engineering I	3
CSC 4152	Software Engineering II	3
CSC 4410	Database Management	5
or BUS 4622	Information and Database Systems	
CSC 4898	Senior Capstone Seminar	3

Section Credits Required	41
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### Quantitative Analysis

MAT 1221	Survey of Calculus	5
MAT 2360	Introduction to Statistics for the Sciences	5
MAT 1720	Mathematics for Computer Science	5

Section Credits Required	15
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### IS Environment

BUS 3620	Management Information Systems	5
BUS 3614	Organizational Behavior for Managers	5
or BUS 4644	Operations Management	
COM 4265	Organizational Communication	5
CSC 3011	Living in a Digital World	3
CSC 3000	Principles of Professional Practice	1
or GS 3001	Internship and Job Search Strategies	

CSC 4941	Computer Science Professional Experience <sup>1</sup>	1
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Section Credits Required	20
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### Select Two of the Following

BUS 4625	The Organization's Presence on the Net	
BUS 4650	Data Analytics and Visualization	
CSC 4750	Computer Networks	

Section Credits Required	10
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<b>Total Credits</b>	<b>86</b>
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<sup>1</sup>

A tech internship or professional experience must be approved before enrolling in CSC 4941 and must be completed before passing CSC 4941.

## Suggested Course Sequences

### Four Year Plan

Course	Title	Credits
<b>Freshman</b>		
<b>Variable</b>		
UFDN 1000	The Christian Faith	5
WRI 1000	Academic Inquiry and Writing Seminar	5
WRI 1100	Disciplinary Research and Writing Seminar	5
Common Curriculum ( <a href="https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/common-curriculum/">https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/common-curriculum/</a> ) and Exploratory Curriculum ( <a href="https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/exploratory-curriculum/">https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/exploratory-curriculum/</a> ) as needed		10-15
		<b>Credits</b>
		<b>25-30</b>
<b>Autumn</b>		
CSC 1230	Problem Solving and Programming	5
UCOL 1000	University Colloquium	1
MAT 1010	College Algebra (if needed)	3
		<b>Credits</b>
		<b>9</b>
<b>Winter</b>		
CSC 2430	Data Structures I	5
		<b>Credits</b>
		<b>5</b>
<b>Spring</b>		
MAT 1221	Survey of Calculus	5
		<b>Credits</b>
		<b>5</b>
<b>Sophomore</b>		
<b>Variable</b>		
BUS 3620	Management Information Systems	5
MAT 2360	Introduction to Statistics for the Sciences	5
GS 3001	Internship and Job Search Strategies <sup>1</sup>	1
UFDN 2000	Christian Scripture	5

## 2 Information Systems (BS)

Common Curriculum (<https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/common-curriculum/>) and Exploratory Curriculum (<https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/exploratory-curriculum/>) as needed

**Credits** 31

### Autumn

Common Curriculum (<https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/common-curriculum/>) and Exploratory Curriculum (<https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/exploratory-curriculum/>) as needed

**Credits** 0

### Winter

CSC 3220	Applications Programming	4
MAT 1720	Mathematics for Computer Science	5

**Credits** 9

### Spring

CSC 3221	Netcentric Computing	4
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**Credits** 4

### Junior

#### Variable

Common Curriculum (<https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/common-curriculum/>) and Exploratory Curriculum (<https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/exploratory-curriculum/>) as needed

**Credits** 20-30

### Autumn

GS 3001	Internship and Job Search Strategies <sup>2</sup>	1
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**Credits** 1

### Winter

CSC 3750	Computer Architecture and Organization	5
CSC 3011	Living in a Digital World	3

**Credits** 8

### Spring

CSC 3150	Systems Design	4
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Select one or two of the following: 5-10

CSC 4750	Computer Networks	
BUS 4625	The Organization's Presence on the Net	
BUS 4650	Data Analytics and Visualization	

**Credits** 9-14

### Senior

#### Variable

BUS 3614 or BUS 4644	Organizational Behavior for Managers or Operations Management	5
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CSC 4941	Computer Science Professional Experience <sup>3</sup>	1
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CSC 4410 or BUS 4622	Database Management or Information and Database Systems	5
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Common Curriculum (<https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/common-curriculum/>) and Exploratory Curriculum (<https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/exploratory-curriculum/>) as needed

**Credits** 31-36

### Autumn

CSC 4151	Software Engineering I	3
COM 4265	Organizational Communication	5

**Credits** 8

### Winter

CSC 4152	Software Engineering II	3
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**Credits** 3

### Spring

CSC 4898	Senior Capstone Seminar	3
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Select one or two of the following (if needed) 0-10

CSC 4750	Computer Networks	
BUS 4625	The Organization's Presence on the Net	
BUS 4650	Data Analytics and Visualization	

**Credits** 3-13

**Total Credits** 171-206

Code	Title	Credits
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### General Education Curriculum

UCOR 2000	The Emergence of the Modern Global System	5
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UCOR 3000	Faith, Philosophy, and Science	5
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UFDN 2000	Christian Scripture	5
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UFDN 3100	Christian Theology	5
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Ways of Knowing 35

Ways of Engaging (<https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/exploratory-curriculum/#wetext>)

Cultural Understanding and Engagement ( <a href="https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/cue-requirement/">https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/cue-requirement/</a> )	3
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Foreign Language if needed (Check Catalog under which you entered 0-15 SPU)

1

Or Fall of junior year.

2

If not already completed.

3

Must be taken AFTER completing an approved internship or pursuing an approved certification.

## Two Year Plan for a Transfer Student with or without a DTA

See below for the pre-requisite courses required to complete the degree in two years. Note also that without a DTA, it will depend on how many of the General Education Courses (Common Curriculum (<https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/common-curriculum/>), Exploratory Curriculum (<https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/exploratory-curriculum/>), etc (<https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/graduation-requirements-policies/>)). are completed before transferring as to whether or not the degree can be completed in two years.

Check the quarter, day and time in the current schedule as course offerings may change. Pay close attention to the pre-requisites of the courses.

Course	Title	Credits
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### First Year

#### Variable

BUS 3614 or BUS 4644	Organizational Behavior for Managers or Operations Management	5
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Common Curriculum (<https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/common-curriculum/>) and Exploratory Curriculum (<https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/exploratory-curriculum/>) as needed

**Credits** 5

<b>Autumn</b>		
GS 3001	Internship and Job Search Strategies	1
CSC 2330	Data Structures Programming	5
<b>Credits</b>		<b>6</b>
<b>Winter</b>		
CSC 3220	Applications Programming	4
MAT 1720	Mathematics for Computer Science	5
BUS 3620	Management Information Systems	5
<b>Credits</b>		<b>14</b>
<b>Spring</b>		
CSC 3150	Systems Design	4
CSC 3221	Netcentric Computing	4
Select none or one of the following		0-5
BUS 4625	The Organization's Presence on the Net	
BUS 4650	Data Analytics and Visualization	
<b>Credits</b>		<b>8-13</b>
<b>Second Year</b>		
<b>Variable</b>		
UFDN 3100	Christian Theology <sup>1</sup>	5
CSC 4410 or BUS 4622	Database Management or Information and Database Systems	5
CSC 4941	Computer Science Professional Experience <sup>2</sup>	1
Select one or two of the following if still needed		5-10
CSC 4750	Computer Networks	
BUS 4625	The Organization's Presence on the Net	
BUS 4650	Data Analytics and Visualization	
Common Curriculum ( <a href="https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/common-curriculum/">https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/common-curriculum/</a> ) and Exploratory Curriculum ( <a href="https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/exploratory-curriculum/">https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/exploratory-curriculum/</a> ) as needed		
<b>Credits</b>		<b>16-21</b>
<b>Autumn</b>		
CSC 4151	Software Engineering I	3
COM 4265	Organizational Communication	5
UFDN 3001	Christian Scripture for Transfer Students	5
<b>Credits</b>		<b>13</b>
<b>Winter</b>		
CSC 4152	Software Engineering II	3
CSC 3750	Computer Architecture and Organization	5
CSC 3011	Living in a Digital World	3
<b>Credits</b>		<b>11</b>
<b>Spring</b>		
CSC 4898	Senior Capstone Seminar	3
<b>Credits</b>		<b>3</b>
<b>Total Credits</b>		<b>76-86</b>

1

If not already completed.

2

Must be taken AFTER completing an approved internship or pursuing an approved certification.

### Prerequisites for the Two Year Plan

The following courses must be completed before coming to SPU in order to finish at SPU in two years.

Code	Title	Credits
<b>Math courses equivalent to SPU's</b>		<b>10</b>
MAT 1221	Survey of Calculus or MAT 1234 Calculus I	

MAT 2360 Introduction to Statistics for the Sciences

### Two Quarters of Object Oriented Programming in the Same Language 10

- Object oriented programming 1
- Object oriented programming 2 with Data Structures

1

The second must include data structures concepts.