# 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 |
|---|---|---|
| **Computing Core** | | |
| 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 |
| **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 |
| **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 [1] | 1 |
| Section Credits Required | | 20 |
| **Select Two of the Following** | | **10** |
| BUS 4625 | The Organization's Presence on the Net | |
| BUS 4650 | Data Analytics and Visualization | |
| CSC 4750 | Computer Networks | |
| Section Credits Required | | 10 |
| **Total Credits** | | **86** |

[1]

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 |
|---|---|---|
| **Freshman** | | |
| **Variable** | | |
| UFDN 1000 | The Christian Faith | 5 |
| WRI 1000 | Academic Inquiry and Writing Seminar | 5 |
| WRI 1100 | Disciplinary Research and Writing Seminar | 5 |
| 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 | | 10-15 |
| | **Credits** | **25-30** |
| **Autumn** | | |
| CSC 1230 | Problem Solving and Programming | 5 |
| UCOL 1000 | University Colloquium | 1 |
| MAT 1010 | College Algebra (if needed) | 3 |
| | **Credits** | **9** |
| **Winter** | | |
| CSC 2430 | Data Structures I | 5 |
| | **Credits** | **5** |
| **Spring** | | |
| MAT 1221 | Survey of Calculus | 5 |
| | **Credits** | **5** |
| **Sophomore** | | |
| **Variable** | | |
| BUS 3620 | Management Information Systems | 5 |
| MAT 2360 | Introduction to Statistics for the Sciences | 5 |
| GS 3001 | Internship and Job Search Strategies [1] | 1 |
| UFDN 2000 | Christian Scripture | 5 |

| Course | Title | Credits |
|---|---|---|
| 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 | | 15 |
| | **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 |
| | **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 | | 20-30 |
| | **Credits** | **20-30** |
| **Autumn** | | |
| GS 3001 | Internship and Job Search Strategies [2] | 1 |
| | **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 |
| 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 |
| CSC 4941 | Computer Science Professional Experience [3] | 1 |
| CSC 4410 or BUS 4622 | Database Management or Information and Database Systems | 5 |
| 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 | | 20-25 |
| | **Credits** | **31-36** |
| **Autumn** | | |
| CSC 4151 | Software Engineering I | 3 |
| COM 4265 | Organizational Communication | 5 |
| | **Credits** | **8** |
| **Winter** | | |
| CSC 4152 | Software Engineering II | 3 |
| | **Credits** | **3** |
| **Spring** | | |
| CSC 4898 | Senior Capstone Seminar | 3 |
| 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 |
|---|---|---|
| **General Education Curriculum** | | |
| UCOR 2000 | The Emergence of the Modern Global System | 5 |
| UCOR 3000 | Faith, Philosophy, and Science | 5 |
| UFDN 2000 | Christian Scripture | 5 |
| UFDN 3100 | Christian Theology | 5 |
| Ways of Knowing | | 35 |
| Ways of Engaging (https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/exploratory-curriculum/#wetext) | | |
| Cultural Understanding and Engagement (https://catalog.spu.edu/undergraduate/degree-requirements/baccalaureate-degree-requirements/cue-requirement/) | | 3 |
| Foreign Language if needed (Check Catalog under which you entered SPU) | | 0-15 |

**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 |
|---|---|---|
| **First Year** | | |
| **Variable** | | |
| BUS 3614 or BUS 4644 | Organizational Behavior for Managers or Operations Management | 5 |
| 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** |

| Autumn | | |
|---|---|---|
| GS 3001 | Internship and Job Search Strategies | 1 |
| CSC 2330 | Data Structures Programming | 5 |
| | **Credits** | **6** |
| **Winter** | | |
| CSC 3220 | Applications Programming | 4 |
| MAT 1720 | Mathematics for Computer Science | 5 |
| BUS 3620 | Management Information Systems | 5 |
| | **Credits** | **14** |
| **Spring** | | |
| 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 | |
| | **Credits** | **8-13** |
| **Second Year** | | |
| **Variable** | | |
| UFDN 3100 | Christian Theology [1] | 5 |
| CSC 4410 or BUS 4622 | Database Management or Information and Database Systems | 5 |
| CSC 4941 | Computer Science Professional Experience [2] | 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 (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** | **16-21** |
| **Autumn** | | |
| CSC 4151 | Software Engineering I | 3 |
| COM 4265 | Organizational Communication | 5 |
| UFDN 3001 | Christian Scripture for Transfer Students | 5 |
| | **Credits** | **13** |
| **Winter** | | |
| CSC 4152 | Software Engineering II | 3 |
| CSC 3750 | Computer Architecture and Organization | 5 |
| CSC 3011 | Living in a Digital World | 3 |
| | **Credits** | **11** |
| **Spring** | | |
| CSC 4898 | Senior Capstone Seminar | 3 |
| | **Credits** | **3** |
| | **Total Credits** | **76-86** |

**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 |
|---|---|---|
| **Math courses equivalent to SPU's** | | **10** |
| MAT 1221 or MAT 1234 | Survey of Calculus Calculus I | |

| | | |
|---|---|---|
| MAT 2360 | Introduction to Statistics for the Sciences | |
| **Two Quarters of Object Oriented Programming in the Same Language** [1] | | **10** |
| | Object oriented progamming 1 | |
| | Object oriented programming 2 with Data Structures | |

**1**

The second must include data structures concepts.