

# Information Systems - Data Analytics Emphasis, B.S.

Visit the Information Systems and Technology Department page (<https://www.uvu.edu/ist/>) for more information on the program and access to advising.

## Program Description

The BS in Information Systems program prepares students to be Information Systems professionals. Graduates develop and deploy enterprise-level systems to meet organizational needs. The Data Analytics emphasis prepares graduates to become analysts and developers who produce data-driven financial, operational, and marketing intelligence by querying data repositories, developing and evaluating analytics models, generating interactive managerial insight tools, and devising methods for identifying data patterns and trends. Organizations store an enormous amount of data. People who are able to analyze the data to detect trends, extract and visualize stories, and form predictions are highly sought by national and regional organizations.

## Program Requirements

Code	Title	Credit Hours
<b>Total Credit Hours</b>		<b>120</b>
<b>Information Systems Requirements</b>		<b>90</b>
		<b>Credits</b>
Complete the requirements		90
<b>Emphasis Requirements</b>		<b>30</b>
		<b>Credits</b>
MGMT 3345	Business Statistics II	3
INFO 4120	Data Visualization	3
INFO 4130	Data Science and Big Data Analytics	3
CYBR 4150	Data Security Analytics	3
Emphasis Elective Requirements:		
Complete 12 credit hours from the following:		12
IM 3600	Advanced Excel for Decision Making (3)	
INFO 3120	Management Information Systems (3)	
INFO 3330	Client-Side Web Development (3)	
INFO 3360	Server-Side Web Frameworks (3)	
INFO 4300	Enterprise Web Development (3)	
INFO 4410	Database Administration (3)	
CYBR 4250	Database Security and Auditing (3)	
CYBR 4350	Web and Application Security (3)	
INFO 4420	Mobile Application Development (3)	
Other approved upper-division Information Systems courses		
MKTG 3300	Marketing Analytics (3)	
Free Electives	Complete six credits of free electives	6

## Core Requirements

Code	Title	Credit Hours
<b>Total Credit Hours</b>		<b>90</b>
<b>General Education Requirements</b>		<b>30</b>
		<b>Credits</b>
ENGL 1010 or ENGL 1005	Introduction to Academic Writing Foundations of Academic Writing	3
ENGL 2010	Intermediate Academic Writing	3
Math Requirement (GE):		
Complete one of the following:		3

MATH 1090	College Algebra for Business (3)	
MATH 1050	College Algebra (4)	
MATH 1055	College Algebra with Preliminaries (5)	
American Institutions:		
Complete one of the following:		3
HIST 2700 & HIST 2710	US History to 1877 and US History since 1877 (6)	
HIST 1700	American History (3)	
HIST 1740	US Economic History (3)	
POLS 1000	American Heritage (3)	
POLS 1100	American National Government (3)	
Distribution Courses:		
Biology Distribution		3
Physical Science Distribution		3
Fine Arts Distribution		3
Personal, Professional, and Civic Growth		3
Humanities Distribution		3
Social/Behavioral Science Distribution <sup>1</sup>		3
<b>Discipline Core Requirements</b>		<b>60</b>
		<b>Credits</b>
Math Requirement:		
MGMT 2340	Business Statistics I	3
IS Core Requirements:		
INFO 1120	Information Systems and Technology Fundamentals	3
INFO 1200 or CS 1400	Computer Programming I for IS IT Fundamentals of Programming	3
INFO 2200	Computer Programming II for IS IT	3
INFO 2410	Database Fundamentals	3
INFO 2420	Web Application Design	3
IM 2600	Spreadsheet Applications	3
IT 1510	Introduction to System Administration--Linux/UNIX	3
IT 2600	Data Communication Fundamentals	3
CYBR 2700	Information Security Fundamentals	3
INFO 3130	Introduction to Applied Data Analytics	3
INFO 3300	Web Systems Development	3
INFO 3410	Database Systems and Warehousing	3
INFO 3430	Systems Analysis and Design	3
INFO 4050G	Global Ethical and Professional Perspectives in IS and IT	3
IS Environment/Business Foundation Requirements:		
MKTG 2200G	Written Business Communication	3
ACC 2110	Principles of Accounting I	3
MGMT 3000	Organizational Behavior	3
MKTG 3600	Principles of Marketing	3
Any 3-credit 1000 or 2000 level course from ACC, ECON, FIN, MGMT, HR, MKTG		3

<sup>1</sup> ECON 2010 Principles of Economics I recommended.

## Graduation Requirements

1. Completion of at least 120 semester credits required in the BS degree; at least 40 credit hours must be upper-division courses.
2. Overall grade point average 2.0 or above with a minimum of 2.5 GPA in all discipline core, specialty core, and elective courses with no grade lower than a "C-."
3. Residency hours: Minimum of 30 credit hours through course attendance at UVU, with at least 10 hours earned in the last 45 hours.

4. Completion of GE and specified departmental requirements. Students are responsible for completing all prerequisite courses.
5. Successful completion of at least one Global/Intercultural course.
6. Successful completion of at least two Writing Enriched (WE) courses.

## Graduation Plan

This graduation plan is a sample plan and is intended to be a guide. Your specific plan may differ based on your Math and English placement and/or transfer credits applied. You are encouraged to meet with an advisor and set up an individualized graduation plan in Wolverine Track (<http://www.uvu.edu/wolverinetrack/>).

### First Year

Semester 1		Credit Hours
ENGL 1010	Introduction to Academic Writing	3
INFO 1120	Information Systems and Technology Fundamentals	3
Math Requirement. Complete one of the following:		3
MATH 1090	College Algebra for Business	
MATH 1050	College Algebra	
MATH 1055	College Algebra with Preliminaries	
Biology General Education		3
Personal, Professional, and Civic Growth General Education <small>Recommend CYBR 1700</small>		3
<b>Credit Hours</b>		<b>15</b>

### Semester 2

ENGL 2010	Intermediate Academic Writing	3
INFO 1200	Computer Programming I for IS IT	3
MKTG 2200G	Written Business Communication	3
ACC 2110	Principles of Accounting I	3
INFO 2420	Web Application Design	3
<b>Credit Hours</b>		<b>15</b>

### Second Year

#### Semester 3

MGMT 2340	Business Statistics I	3
IM 2600	Spreadsheet Applications	3
Any 3-credit 1000 or 2000 level course from ACC, ECON, FIN, MGMT, HR, MKTG		3
IT 1510	Introduction to System Administration--Linux/UNIX	3
Humanities General Education		3
<b>Credit Hours</b>		<b>15</b>

#### Semester 4

INFO 2200	Computer Programming II for IS IT	3
IT 2600	Data Communication Fundamentals	3
Physical Science General Education		3
Fine Arts General Education		3
American Institutions General Education		3
<b>Credit Hours</b>		<b>15</b>

### Third Year

#### Semester 5

INFO 2410	Database Fundamentals	3
CYBR 2700	Information Security Fundamentals	3
Social Science General Education		3
MGMT 3000	Organizational Behavior	3
MGMT 3345	Business Statistics II	3
<b>Credit Hours</b>		<b>15</b>

#### Semester 6

INFO 3410	Database Systems and Warehousing	3
INFO 3130	Introduction to Applied Data Analytics	3
MKTG 3600	Principles of Marketing	3
Data Analytics Elective		3
INFO 3300	Web Systems Development	3
<b>Credit Hours</b>		<b>15</b>

### Fourth Year

#### Semester 7

INFO 3430	Systems Analysis and Design	3
INFO 4120	Data Visualization	3

Data Analytics Elective		3
Data Analytics Elective		3
Free Elective		3
	<b>Credit Hours</b>	<b>15</b>
<b>Semester 8</b>		
INFO 4050G	Global Ethical and Professional Perspectives in IS and IT	3
INFO 4130	Data Science and Big Data Analytics	3
CYBR 4150	Data Security Analytics	3
Data Analytics Elective		3
Free Elective		3
	<b>Credit Hours</b>	<b>15</b>
	<b>Total Credit Hours</b>	<b>120</b>

## Program Learning Outcomes

1. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Support the delivery, use, and management of information systems within an information systems environment.
7. Prepare computer models, analyses, and visualizations of data that are designed to improve organizational decision-making.

## Computer and information systems managers

- Total Positions 613,500
- Field Growth 17.4%
- Median Salary \$169,510
- Average Openings 54.7

## Computer and information research scientists

- Total Positions 36,600
- Field Growth 25.6%
- Median Salary \$145,080
- Average Openings 3.4

## Database architects

- Total Positions 61,400
- Field Growth 10.8%
- Median Salary \$134,700
- Average Openings 4.2

## Software developers

- Total Positions 1,692,100
- Field Growth 17.9%
- Median Salary \$132,270
- Average Openings 125.1

## Web and digital interface designers

- Total Positions 128,600
- Field Growth 7.9%
- Median Salary \$98,540
- Average Openings 9.9

## **Computer occupations, all other**

- Total Positions 470,900
- Field Growth 10.8%
- Median Salary \$104,920
- Average Openings 34.8

## **Computer science teachers, postsecondary**

- Total Positions 45,000
- Field Growth 6.1%
- Median Salary \$96,430
- Average Openings 3.7