

# BS in Information Technology

## Key Changes:

- Minimum credit hours required changed from 130 to 120
- Two management courses (co-listed with IT) added as required: IT462 and IT466
- 311 is replaced by 330 (short staffed and decision analysis topic covered in 462) as required
- Technical electives changed from 12 hours to 6 hours
- Sample curriculum updated accordingly

## Changed from

## Undergraduate Program

### Bachelor of Science in Information Technology

*Minimum credit hours required—130*

*In addition to the General Education Core Curriculum (page 7), the following courses are required:*

- CSE 222 (3), 241 (3)
- IT 101 (2), IT 113 (4), 122 (3), 213 (3), 221 (3), 263 (3), 311 (3), 321 (3), 326 (3), 353 (3), 373 (3), 382 (3), 481 (3), 482 (3)
- MATH 283 (3)
- PSY 121 (3) (can be applied as a social science course in the general education core curriculum)
- Technical Electives: a sequence of 12 hours of computer science, information technology, or management courses numbered 300 or higher, *pre-approved* by the student's advisor and an IT Program Coordinator, with no more than one course numbered IT 485. Students are encouraged to select a coherent set of courses as technical electives that will prepare them for a specific focus in their career.
- Each of the above courses must be completed with a grade of C or better.
- General Electives to complete 130 credit hours.

### Sample Curriculum for the Bachelor of Science Degree in Information Technology

#### *Semester 1*

4	MATH 131 (calculus)
1	IT 101 (introduction to comp sci & information tech)
4	IT 113 (introduction to programming)
<u>3</u>	ENGL 111 (college English)
13 Total credit hours	

#### *Semester 2*

4	MATH 132 (calculus)
3	IT 122 (algorithms and data structures)
4	CHEM 121 & 121L (general)
<u>3</u>	ENGL 112 (college English)
14 Total credit hours	

#### *Semester 2.5 (Summer)*

<u>4</u>	Chem 122 & 122L ( general chemistry II)
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4 Total credit hours

*Semester 3*

3	IT 221 (computer and network organization)
3	IT 263 (information protection and security)
3	CSE 241 (foundations for computer science)
5	PHYS 121 & 121L (general)
<u>3</u>	PSY 121 (general psychology)
17 Total credit hours	

*Semester 4*

3	CSE 222 (systems programming)
3	IT 351 (complex system modeling and simulation)
3	IT 213 (intro to object oriented programming)
3	MATH 283 (introduction to applied statistics)
<u>5</u>	PHYS 122 & 122L (general)
17 Total credit hours	

*Semester 5*

3	IT 321 (internet and web programming)
3	IT 311 (human info processing and decision making)
3	IT 373 (intro to database design and management)
3	ENGL 341 (technical writing)
3	Social Science
<u>1</u>	Elective
16 Total credit hours	

*Semester 6*

3	IT 326 (software engineering)
3	IT 382 (legal and ethical info technology issues)
4	Biology/Earth Science/Engineering with lab
<u>6</u>	Electives
16 Total credit hours	

*Semester 7*

6	Technical Electives
3	IT 481 (senior secure system design project)
3	Social Science
3	Humanities
<u>3</u>	Electives
18 Total credit hours	

*Semester 8*

6	Technical Electives
3	IT 482 (senior secure system design project)
3	Humanities/Social Science
<u>3</u>	Electives
15 Total credit hours	

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## Undergraduate Program

### Bachelor of Science in Information Technology

Minimum credit hours required—~~130~~ 120

In addition to the General Education Core Curriculum (page 7), the following courses are required:

- IT 101 (2), 113 (4), 122 (3), 213 (3), 221 (3), 263 (3), 330 (3), 321 (3), 326 (3), 353 (3), 373 (3), 382 (3), 462 (3), 466 (3), 481 (3), 482 (3)
- CSE 222 (3), 241 (3)
- MATH 283 (3)
- PSY 121 (3) (can be applied as a social science course in the general education core curriculum)
- Technical Electives: 6 hours of computer science, information technology, or management courses numbered 300 or higher, *pre-approved* by the student's advisor and an IT Program Coordinator, with no more than one course numbered IT 485. Students are encouraged to select a coherent set of courses as technical electives that will prepare them for a specific focus in their career, for instance, IT441 & 463 for cybersecurity focus and MGT 302 & 472 for management focus.
- Each of the above courses must be completed with a grade of C or better.
- ~~General Electives to complete 130 credit hours.~~

### Sample Curriculum for the Bachelor of Science Degree in Information Technology

#### Semester 1

4	MATH 131 (calculus)
<u>2</u>	IT 101 (introduction to comp sci & information tech)
4	IT 113 (introduction to programming)
<u>4</u>	<u>CHEM 121 &amp; 121L (general chemistry I)</u>
<u>3</u>	ENGL 111 (college English)
<u>17</u>	Total credit hours

#### Semester 2

4	MATH 132 (calculus)
3	IT 122 (algorithms and data structures)
4	CHEM 122 & 122L (general <u>chemistry II</u> )
<u>3</u>	ENGL 112 (college English)
14	Total credit hours

#### Semester 3

3	IT 221 (computer and network organization)
3	IT 263 (information protection and security)
3	CSE 241 (foundations for computer science)
5	PHYS 121 & 121L (general <u>physics I</u> )
<u>3</u>	PSY 121 (general psychology)
17	Total credit hours

#### Semester 4

3	CSE 222 (systems programming)
3	IT 213 (intro to object oriented programming)
3	MATH 283 (introduction to applied statistics)

3      Humanities  
5      PHYS 122 & 122L (general physics II)  
17 Total credit hours

*Semester 5*

3      IT 321 (internet and web programming)  
3      IT 330 (management and organizational behavior)  
3      IT 353 (introduction to computer networks)  
3      IT 373 (intro to database design and management)  
3      ENGL 341 (technical writing)  
15 Total credit hours

*Semester 6*

3      IT 326 (software engineering)  
3      IT 382 (legal and ethical info technology issues)  
3      IT 462 (systems, risk and decision analysis)  
3      IT 466 (project management)  
3      Social Science  
15 Total credit hours

*Semester 7*

3      Technical Elective  
3      IT 481 (senior secure system design project)  
4      Biology/Earth Science/Engineering with lab  
3      Humanities  
13 Total credit hours

*Semester 8*

3      Technical Elective  
3      IT 482 (senior secure system design project)  
6      Humanities/Social Science  
12 Total credit hours

## Changed from

### IT 330, Management and Organizational Behavior, 3 cr, 3cl hrs

*Prerequisites: ENGL 112 with a grade of C or higher and upper-class standing or consent of instructor*

Classical and contemporary organization theories, interpersonal and organization behavior, motivation, communication, leadership, decision process in organizations. (Same as MGT 330.)

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### IT 330, Management and Organizational Behavior, 3 cr, 3cl hrs

*Prerequisites: ENGL 112 ~~with a grade of C or higher~~ and upper-class standing or consent of instructor*

Classical and contemporary organization theories, interpersonal and organization behavior, motivation, communication, leadership, decision process in organizations. (Same as MGT 330.)

### **3 Management courses (co-listed with IT) added as required courses for BS IT**

#### **IT 330, Management and Organizational Behavior, 3 cr, 3cl hrs**

*Prerequisites: ENGL 112 ~~with a grade of C or higher~~ and upper-class standing or consent of instructor*

Classical and contemporary organization theories, interpersonal and organization behavior, motivation, communication, leadership, decision process in organizations. (Same as MGT 330.)

#### **IT 462, Systems, Risk and Decision Analysis, 3 cr, 3 cl 3 hrs**

*Prerequisites: MATH 283 or 382 with a grade of C or higher; upper division standing*

Analysis of systems and managerial decisions under conditions of risk or uncertainty. Optimal project evaluations and ranking of alternatives using expected value and expected utility criteria. Topics include risk sharing, Bayesian revision of probabilities, value of information, and preference assessment procedures. (Same as MGT 462.)

#### **IT 466, Project Management, 3 cr, 3 cl hrs**

*Prerequisite: MATH 283, MGT 472 each with a grade of C or higher, or consent of instructor*

Development of work breakdown structures and multi-factor project simulations to be used in dynamic resource allocations. Assessment and evaluation of project models over time. (Same as MGT 476.)