

INFORMATION TECHNOLOGY, BACHELOR OF SCIENCE

The program in information technology prepares students for careers in administering and supporting the computing infrastructures of an organization. The curriculum consists of an integrated set of courses in networking, web development and administration, database development and administration, systems administration, and computer forensics.

Curriculum

Curriculum Track 1: Programming, Database, and Web

Both matrices below are sample plans for all coursework required for Track 1 and Track 2.

Course	Title	Hours
Freshman		
Fall		
ENGL 1013	Composition I ¹	3
MATH 1113	College Algebra ²	3
CSEC 1003	Introduction to Cybersecurity	3
TECH 1001	Orientation to the University ³	1
CSEC 1113	Introduction to Networking	3
COMS 1333	Web and Mobile Technologies	3
Hours		16
Spring		
ENGL 1023	Composition II ¹	3
MATH 2243	Calculus for Business and Economics ⁴	3
COMS 1011 & COMS 1013	Programming Foundations I Lab and Programming Foundations I	4
SS 1XXX	Social Science Courses ¹	3
COMS 2703	Computer Hardware and Architecture	3
Hours		16
Sophomore		
Fall		
SCIL 1XXX	Science with Laboratory ¹	4
COMS 2203	Programming Foundations II	3
ENGL 2053	Technical Writing	3
MATH 2703	Discrete Mathematics	3
COMS 2163	Scripting Languages	3
Hours		16
Spring		
COMM 2173	⁵	3
COMS 2213	Data Structures	3
STAT 2163	Introduction to Statistical Methods	3
COMS 2323	Programming in Python	3
COMS 2713	Survey of Operating Systems ⁶	3
Hours		15
Junior		
Fall		
SCIL 1XXX	Science with Laboratory ¹	4
COMS 3233	Database Design and Implementation	3
COMS 3413	App Development	3
COMS 3523	Human Factors in Information Technology	3
Approved 3000-4000 level Elective		2
Hours		15
Spring		
FAH 1XXX	Fine Arts and Humanities Courses ¹	3

COMS 3053	Ethical Issues in Technology	3
COMS 3163	Web Programming	3
COMS 3243	Data Mining	3
Approved 3000-4000 level Elective		3
Hours		15
Senior		
Fall		
SS 1XXX	Social Science Courses ¹	3
USHG 1XXX	U.S. History and Government ¹	3
COMS 4033	Information Systems Analysis and Design	3
COMS 4913	Capstone I	3
Approved 3000-4000 level Elective		3
Hours		15
Spring		
FAH 1XXX	Fine Arts and Humanities Courses ¹	3
COMS 4213	Database Administration	3
COMS 4923	Capstone II	3
Approved 3000-4000 level Elective		3
Hours		12
Total Hours		120

- ¹ See appropriate alternatives or substitutions in "General Education Requirements (<https://catalog.atu.edu/undergraduate/general-education-requirements/>)".
- ² Student may waive this course by taking MATH 2243 Calculus for Business and Economics or MATH 2914 Calculus I instead and take an elective in its place.
- ³ TECH 1013 Introduction to the University is a substitution for TECH 1001 Orientation to the University.
- ⁴ MATH 2914 Calculus I is a substitution for MATH 2243 Calculus for Business and Economics.
- ⁵ COMM 2003 Public Speaking is a substitution for COMM 2173 Business and Professional Speaking.
- ⁶ COMS 3703 Advanced Operating Systems is a substitution for COMS 2713 Survey of Operating Systems.

Curriculum Track 2: Network and Security

Course	Title	Hours
Freshman		
Fall		
ENGL 1013	Composition I ¹	3
MATH 1113	College Algebra ²	3
CSEC 1003	Introduction to Cybersecurity	3
TECH 1001	Orientation to the University ³	1
CSEC 1113	Introduction to Networking	3
COMS 1333	Web and Mobile Technologies	3
Hours		16
Spring		
ENGL 1023	Composition II ¹	3
MATH 2243	Calculus for Business and Economics ⁴	3
COMS 1011 & COMS 1013	Programming Foundations I Lab and Programming Foundations I	4
COMS 2703	Computer Hardware and Architecture	3
SS 1XXX	Social Science Courses ¹	3
Hours		16
Sophomore		
Fall		
SCIL 1XXX	Science with Laboratory ¹	4
COMS 2203	Programming Foundations II	3
CSEC 2223	Virtualization	3

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MATH 2703	Discrete Mathematics	3
CSEC 2213	Network Forensics and Incident Response	3
Hours		16
Spring		
ENGL 2053	Technical Writing	3
STAT 2163 or COMS 2323	Introduction to Statistical Methods or Programming in Python	3
COMS 2213	Data Structures	3
COMS 2713	Survey of Operating Systems ⁵	3
COMM 2173	Business and Professional Speaking ⁶	3
Hours		15
Junior		
Fall		
FAH 1XXX	Fine Arts and Humanities Courses ¹	3
COMS 3233	Database Design and Implementation	3
COMS 3363	Server Administration	3
CSEC 3123	Cyber Defense I	3
Approved 3000-4000 level Elective		3
Hours		15
Spring		
SCIL 1XXX	Science with Laboratory	4
COMS 3053	Ethical Issues in Technology	3
COMS 3373	Data Center Operations	3
CSEC 3233	Cyber Defense II	3
Approved 3000-4000 level Elective		2
Hours		15
Senior		
Fall		
USHG 1XXX	U.S. History and Government ¹	3
SS 1XXX	Social Science Courses ¹	3
COMS 3523	Human Factors in Information Technology	3
COMS 4913	Capstone I	3
Approved 3000-4000 level Elective		3
Hours		15
Spring		
FAH 1XXX	Fine Arts and Humanities Courses ¹	3
COMS 4713	Networking Practicum	3
COMS 4923	Capstone II	3
Approved 3000-4000 level Elective		3
Hours		12
Total Hours		120

¹ See appropriate alternatives or substitutions in "General Education Requirements (<https://catalog.atu.edu/undergraduate/general-education-requirements/>)".

² Student may waive this course by taking MATH 2243 Calculus for Business and Economics or MATH 2914 Calculus I instead and take an elective in its place.

³ TECH 1013 Introduction to the University is a substitution for TECH 1001 Orientation to the University.

⁴ MATH 2914 Calculus I is a substitution for MATH 2243 Calculus for Business and Economics.

⁵ COMS 3703 Advanced Operating Systems is a substitution for COMS 2713 Survey of Operating Systems.

⁶ COMM 2003 Public Speaking is a substitution for COMM 2173 Business and Professional Speaking.