



**Bachelor of Applied Science in Computer Information Systems Technology
Data Science Specialization**

Associate Degree Awarded 60 Credit hours		
An AS or AA degree from a Regionally Accredited Institution is required for admission into EFSC BAS programs		
General Education Credit Requirement		
Students entering the program with an Associate in Arts degree from a Florida state institution will receive credit for all 36 general education credits. Students entering the program with an AS degree, or an AA degree from an institution other than a Florida state institution may need to complete additional general education credits.		
Technical Elective Requirement		
Students entering the program with an Associate in Arts degree may need to complete additional Technical Electives. Technical Electives are 1000 and 2000 level courses in a computer related area. Students entering the program with an AS degree may already have this requirement completed depending on the focus of their AS degree. 21 credits of Technical Electives are required.		
Calculus and Physics Requirements		
The courses below are required to obtain the BAS degree in Computer Information Systems Technology. Some students may have already completed these courses during their AA or AS degree. If not, they can be completed during the BAS program. COP 2334 and its prerequisites can be considered Technical Electives whereas Calculus and Physics cannot.		
MAC 1311	Calculus 1	5
	Prerequisites: MAC 1114 - Trigonometry (or MAC 1147 Precalc/Trig)	
	Prerequisite: MAC 1105 - College Algebra	
	MAC 1140 - Pre-Calculus Algebra (or MAC 1147 Precalc/Trig)	
	Prerequisite: MAC 1105 - College Algebra	
PHY 2025	Intro to Physics (or 1 year of High School physics)	3
	Prerequisite: MAC 1105 - College Algebra	
PHY 2048 & PHY 2048	General Physics 1 and Lab	5
	Prerequisite: MAC 1311 - Calculus I - see above	
COP 2334	Intro to C++	3
	Prerequisite: COP 1000 -Intro to Programming	
Common Required Core (complete all courses)		Credits: 12
GEB 3213	Foundations of Managerial Communications Prerequisite : ENC 1101- Composition I - with 'C' or higher)	3
ISM 3011	Introduction to Information Tech Management	3
ISM 4300	Information Systems Operations Management Prerequisite: ISM 3113 - Info Systems Analysis & Design (Co-req ISM 3011 - Intro to Info Tech Mgmt) OR ISM 4041 - Emerging Information Technologies Prerequisite - ISM 3011 - Intro to Info Tech Mgmt	3
MAN 4504	Operational Decision Making	3
Data Science Specialization		Credits: 27
CAP 3783	Database Systems with Big Data Prerequisites: COP 3703 -Database Design and Architecture Prerequisites: COP 2700 - Database Techniques Prerequisite: CGS 2100 -Microcomputer Applications	

	<p>COP 3530 - Data Structures and Algorithm Analysis</p> <p>Prerequisite:</p> <p>COP 2334 - Intro to C++</p> <p>Prerequisite: COP 1000 -Intro to Prog</p> <p>OR</p> <p>COP 2800 - Intro to Java Programming</p> <p>Prerequisite: COP 1000 -Intro to Prog</p> <p>OR</p> <p>COP 1332 -Visual Basic Programming</p> <p>Prerequisite: COP 1000 -Intro to Prog</p>	3
CAP 3940	Data Science Internship (<i>must be taken in last semester</i>)	3
CAP 4770	<p>Data Mining</p> <p>Prerequisite:</p> <p>COP 3530 -Data Structures and Algorithm Analysis</p> <p>Prerequisite:</p> <p>COP 2334 - Intro to C++</p> <p>Prerequisite: COP 1000 -Intro to Prog</p> <p>OR</p> <p>COP 2800 - Intro to Java Programming</p> <p>Prerequisite: COP 1000 -Intro to Prog</p> <p>OR</p> <p>COP 1332 -Visual Basic Programming</p> <p>Prerequisite: COP 1000 -Intro to Prog</p>	3
CAP 4773	<p>Capstone Project - Data Management Science (<i>must be taken in last semester</i>)</p> <p>Prerequisite:</p> <p>CAP 4770 Data Mining</p> <p>Prerequisite:</p> <p>COP 3530 -Data Structures and Algorithm Analysis</p> <p>Prerequisite:</p> <p>COP 2334 - Intro to C++</p> <p>Prerequisite: COP 1000 -Intro to Prog</p> <p>OR</p> <p>COP 2800 - Intro to Java Programming</p> <p>Prerequisite: COP 1000 -Intro to Prog</p> <p>OR</p> <p>COP 1332 -Visual Basic Programming</p> <p>Prerequisite: COP 1000 -Intro to Prog</p>	3
COP 3330	<p>Object Oriented Programming</p> <p>Prerequisite: COP 2334 - <i>Intro to C++</i></p> <p>Prerequisite: COP 1000 -Intro to Prog</p>	3
COP 3530	<p>Data Structures and Algorithm Analysis</p> <p>Prerequisite:</p> <p>COP 2334 - Intro to C++</p> <p>Prerequisite: COP 1000 -Intro to Prog</p> <p>OR</p> <p>COP 2800 - Intro to Java Programming</p> <p>Prerequisite: COP 1000 -Intro to Prog</p> <p>OR</p> <p>COP 1332 -Visual Basic Programming</p> <p>Prerequisite: COP 1000 -Intro to Prog</p>	3
COP 3703	<p>Database Design/Architecture</p> <p>Prerequisite: COP 2700 - <i>Database Techniques</i></p> <p>Prerequisite: CGS 2100 -<i>Microcomputer Applications</i></p>	3
COT 4500	<p>Numerical Analysis</p> <p>Prerequisites:</p> <p>COP 2335 - C++ Programming Advanced</p> <p>Prerequisite: COP 2334 - Intro to C++</p> <p>Prerequisite: COP 1000 -Intro to Prog</p> <p>MAC 1233 -Essentials of Calculus</p> <p>Prerequisite: MAC 1105 -College Algebra</p> <p>MAS 2103 - Linear Algebra</p>	3

	Prerequisite: MAC 1311 - Calculus I Prerequisites: MAC 1114 - Trigonometry (or MAC 1147 Precalc/Trig) Prerequisite: MAC 1105 - College Algebra MAC 1140 - Pre-Calculus Algebra (or MAC 1147 Precalc/Trig) Prerequisite: MAC 1105 - College Algebra	
ISM 3113	Information Systems Analysis and Design Co-requisite: ISM 3011 -Intro to Info Tech Mgmt	3
ISM 3324	Applications in Information Security Prerequisite -COP 3330 -Object Oriented Programming Prerequisite: COP 2334 -Intro to C++ Prerequisite: COP 1000 -Intro to Prog	3
STA 3024	Statistics 2 for Data Scientists Prerequisites: MAC 1233 - Essentials of Calculus Prerequisite: MAC 1105 - College Algebra STAT 2023 - Statistics Prerequisite: MAC 1105 - College Algebra	3

Total Credits	120
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Note: Successfully complete the Florida foreign language requirement: two high school credits or at least eight college credits or demonstration of proficiency in a single foreign language. American Sign Language is acceptable. Foreign language taken at the college level **does not** satisfy the General Education or Technical Concentration credits.

Note: All prerequisites must be completed with a grade of "C" or higher

Note: Students may earn the BAS/CTBS degree once, choosing one specialization from available tracks. If BAS graduates wish to take courses from another specialization within this degree, they may do so as a non-degree student The official curriculum in the current online EFSC catalog supersedes this document. EFSC reserves the right to make changes in the online and printed versions of the curriculum as circumstances require. It is expected that the only changes will be the correction of errors and the inclusion of new courses and programs approved during the academic year.

For additional information please contact Bachelor Advising at 321-433-7241 Bachelor@easternflorida.edu or visit easternflorida.edu/go/bachelors
