CURRICULUM GUIDE
Computer Science, B.S. (Artificial Intelligence in Data Science Concentration)
2023-2024

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*The schedule below is an **EXAMPLE** of how you can arrange your class schedule.*
Please consult your advisor for specific changes that may need to be made.

	Fall Semester		Spring Semester	
Freshman Year	SCO 100I	1	CSC 191	3
	CSC 185	3	CSC 195	3
	CSC 190	3	MAT 244	4
	STA 270	4	Gen. Ed. 1A *(ENG 101)*	3
	ᴳMAT 234 *(fulfills Gen. Ed. 2)*	4	Gen. Ed. 3A *(Arts)*	3
	TOTAL	**15**	**TOTAL**	**16**
Sophomore Year	CSC 310	3	CSC 340	3
	CSC 313	3	CSC 499	1
	STA 340	3	STA 380	3
	STA 375	3	Gen. Ed. 1C (*Oral Comm.*)	3
	Gen Ed. 1B (*ENG 102*)	3	Gen. Ed. 3B (*Humanities*)	3
			Gen. Ed. 5B (*Soc. & Behav. Sci.*) *(ECO 230 or 231 recommended if ECO sequence is taken)*	3
	TOTAL	**15**	**TOTAL**	**16**
Junior Year	CSC 308	3	CSC 320	3
	CSC 311	3	CSC 581	3
	CSC 546	3	Gen. Ed. 4 *(Nat. Sci.)*	3
	Gen. Ed. 4 *(Nat. Sci.) (Bio 111 or 112 recommended if BIO sequence taken)*	3-(4)	Gen. Ed. 6 *(Diversity)*	3
	Gen. Ed. 5A (*History*)	3	Free Elective	3
	TOTAL	**15-16**	**TOTAL**	**15**
Senior Year	CSC 494, † 495, or 496	1	CSC 545	3
	CSC 582	3	CSC 583	3
	STA 575	3	STA 580	3
	Supporting Course Sequence *(Class 1)*	3-‡4	STA 585	3
	Gen. Ed. 6 *(Diversity)*	3	Supporting Course Sequence *(Class 2)*	3
	TOTAL	**13-14**	**TOTAL**	**15**
			TOTAL HOURS TO DEGREE COMPLETION	**121**

* **Prerequisite**: *Consult with your advisor and/or the University catalog regarding prerequisites for upper division CSC courses. AEM 202; AGR 216; BIO 111, 112, and/or 315; CSC 160, 175, 177, 190, 322, 332 and/or 400; ECO 220, 230, 231 and/or 320; GEO 100, 210, and/or 220; GLY 102, 107, and/or 108; RMI 370; MAT 239, 254, and/or 520; STA 215, 270, 320, 340 and/or 520. See University catalog for details.*

‡ *Supporting Course sequence (class 1), if Biology sequence is selected will be 4 credits.*

Upper division courses: *All students are required to have a minimum of 42 hrs. upper division (300-level or above) courses distributed throughout Major/Supporting/Gen Ed/Free Electives categories.*

Refer to the University Catalog at http://www.catalogs.eku.edu/ regarding University and General Education Requirements.

Course Number	Course Name
GENERAL EDUCATION & UNIVERSITY REQUIREMENTS *(37)*	
SCO 100I	Student Success Seminar for Computer Science *(1)*
CORE COURSE REQUIREMENTS *(28)*	
CSC 185	Intro to Computer Concepts *(3)*
CSC 190	Object-Oriented Programming I *(3)*
CSC 191	Object-Oriented Programming II *(3)*
CSC 195	Intro to Discrete Structures *(3)*
CSC 308	Mobile App Dev for iOS *(3)*
CSC 310	Data Structure *(3)*
CSC 313	Database Systems *(3)*
CSC 338	Fundamentals of Cybersecurity *(3)*
CSC 340	Ethics & Software Engineering *(3)*
CSC 499	Computer Science Career Preparation *(1)*
ARTIFICIAL INTELLIGENCE IN DATA SCIENCE CONCENTRATION REQUIREMENTS *(22)*	
CSC 311	Algorithms I *(3)*
CSC 320	Intro. To Algorithms *(3)*
CSC 545	Theory of Database Systems *(3)*
CSC 546	Artificial Intelligence *(3)*
CSC 581	Machine Learning *(3)*
CSC 582	Big Data *(3)*
CSC 583	Data Visualization *(3)*
PLUS ONE (1) HOUR selected from the following:	
CSC 494	Innovative Problem Solving *(1-3)*
† CSC 495	Independent Work *(1-3)*
CSC 496	Senior Seminar *(1)*
ARTIFICIAL INTELLIGENCE IN DATA SCIENCE CONCENTRATION SUPPORTING COURSE REQUIREMENTS *(33-34)*	
ᴳ*MAT 234	Calculus I *(4)*
MAT 244	Calculus II *(4)*
STA 270	Applied Statistics *(4)*
*STA 340	Applied Regression Analysis *(3)*
*STA 375	Sampling Methods *(3)*
*STA 380	Nonparametric Statistics *(3)*
*STA 575	Statistical Methods Using SAS *(3)*
*STA 580	R and Introductory Data Mining *(3)*
*STA 585	Experimental Design *(3)*
§ PLUS ONE (1) SEQUENCE selected from the following:	
*AEM 202 *and*	Introduction to Quality *(3)*
* AEM 332 *or*	Process Control and Auditing *(3)*
*AEM 336 *or*	Reliability and Sampling *(3)*
*AEM 506	Six Sigma Quality *(3)*
OR	
BIO 315 *and*	Genetics *(4)*
*BIO 533	Bioinformatics: Principles and Apps. *(3) (spring only)*
OR	
ECO 230 *and*	Principles of Microeconomics *(3)*
ECO 231	Principles of Macroeconomics *(3)*
OR	
RMI 370 *and*	Principles of Risk and Insurance *(3)*
*RMI 372 *or*	Fund. of Property – Liability Insurance *(3)*
*RMI 374 *or*	Fund. of Life and Health Insurances *(3)*
RMI 378	Risk Management *(3)*
OR	
*STA 520 *and*	Mathematical Statistics I *(3) (fall only)*
*STA 521	Mathematical Statistics II *(3)*
OR	
CSC 332 *and*	Digital Storage Device Forensics *(3)*
*CSC 542 *or*	Internet Forensics *(3)*
*CSC 547 *or*	Network Forensics *(3)*
* CSC 548	Personal Electronic Device Forensics *(3)*
OR	
*GEO 353 *and*	Geographic Information Systems *(3)*
*GEO 453	Advanced GIS *(3) (spring only)*
OR	
2 courses from:	
HLS 401 *or*	Intelligence Process *(3)*
HLS 402 *or*	Counterintelligence *(3)*
HLS 403	Intelligence Analysis *(3)*
FREE ELECTIVES *(0)*	

ᴳ *Denotes that 3 credit hours from this course are/can be applied to fulfill a Gen. Ed. requirement.*