

Commonwealth University

Applied Computer Science

Effective Fall 2023

Core Courses (28 credits) – All Tracks	Credits	Grade	Semester/Year
CMSC 120 – Objected-Oriented Programming with Java	4		
CMSC 125 – Fundamentals of Web Development	3		
CMSC 150 – Principles of Database Design	3		
DGFR 275 – Introduction to Networks	3		
CMSC 310 – Software Development Methods	3		
CMSC 320 – Computer Ethics, Social Impact & Security	3		
CMSC 485 – Senior Capstone	3		
STAT 141 – Introduction to statistics (GE)	3		
MATH 230 – Discrete Structures	3		

Web Development Track Requirements (33 credits)	Credits	Grade	Semester/Year
CMSC 115 – Python Programming	3		
CMSC 155 – Introduction to Java Script	3		
CMSC 225 – Advanced JavaScript	3		
CMSC 255 – Server-Side Programming	3		
CMSC 325 – Advanced SQL	3		
CMSC 355 – Web Application Development and Deployment	3		
CMSC 375 – Web Application Frameworks	3		
CMSC 395 – Web Services	3		
Elective – Any CMSC Course Numbered 200 or above	3		
Elective – Any DATA or CMSC Course Numbered 200 or above	3		
Elective – Any STAT, DATA, MATH, or CMSC Course Numbered 200 or above	3		

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Mobile Application Track Requirements (34 credits)	Credits	Grade	Semester/Year
CMSC 130 – Graphical User Interfaces in Java	4		
CMSC 230 – Advanced Java	4		
CMSC 245 – Game Programming	3		
CMSC 270 – Data Structures Using C++	4		
CMSC 345 – Mobile Device Application Development	3		
CMSC 410 – Graphics Programming	3		
DATA 410 – Machine Learning	3		
MATH 160 - Calculus 1	4		
Elective – Any CMSC or DATA course numbered 200 or above	3		
Elective – Any CMSC or DATA course numbers 200 or above	3		

Data Science Track Requirements (33 credits)	Credits	Grade	Semester/Year
DATA 110 – Introduction to Data Science	3		
CMSC 115 – Python Programming	3		
CMSC 215 – Advanced Python	3		
DATA 210 – Data Visualization	3		
DATA 310 – Databases for Big Data	3		
DATA 320 – Data Mining	3		
DATA 410 – Machine Learning	3		
DATA 420 – Advanced Data Science	3		
STAT 240 - Statistical Methods	3		
Elective - Any STAT, CMSC or DATA course numbers 200 or above	3		
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General Education

Category	Credits	Course Taken (Required classes are listed)	Semester/Grade
First Year Seminar (U)	3		
Writing (W) (3 credits)	3		
Oral Communication (O)	3	COMM 101 Public Speaking	
History (H)	3		
Quantitative (Q)	3	STAT 141 Introduction to Statistics	
Diversity (D)	3		
Global Perspective (G)	3		
Diversity (D) Foreign Languages (F) or Global Perspective (G) Course	3		
Ethical Reasoning (E)	3		
Critical Reasoning (R)	3		
Natural World (N)	3		
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Technology (T)	4	CMSC 120 – OOP Programming with Java	
Literature (L)	3		
Arts (A) or Creative (C)	3		
Total General Education Credits	46		

Note: Applied Computer Science students are required to take a class from each Ethical Reasoning (E) and Critical Reasoning (R) as part of their general education program.

Students need a minimum of 120 credits to graduate from Commonwealth University
