COLLEGE OF ARTS AND SCIENCES

BACHELOR OF SCIENCE IN APPLIED AND COMPUTATIONAL MATHEMATICS
SCIENTIFIC COMPUTATION CONCENTRATION

ADMITTED IN 2023-2024 ACADEMIC YEAR

YEAR / TERM	MAJOR COURSES					GENERAL EDUCATION		TOTAL CREDITS
YEAR 1 — FALL	MATH 170 **4** CALCULUS I Pre-Req: Requires Placement or MATH 136 or MATH 141		CSCI 125 **3** COMPUTER PROGRAMMING I Co-Req: MATH 136, MATH 141 or higher		GENERAL ELECTIVE **3**	FCWR 101/111 **3** FOUNDATIONS OF COLLEGE COMPOSITION Pre-Req: Requires Placement	DATA 101 **3** MAKING SENSE OF A DATA-ORIENTED SOCIETY	16
YEAR 1 — SPRING	MATH 180 **4** CALCULUS II Pre-Req: MATH 170		CSCI 185 **3** COMPUTER PROGRAMMING II Pre-Req: CSCI 125	PHYS 170 **4** GENERAL PHYSICS I Co-Req: MATH 170	GENERAL ELECTIVE **3**	FCWR 151/161 **3** FOUNDATIONS OF RESEARCH WRITING Pre-Req: FCWR 101/111		17
YEAR 2 — FALL	MATH 260 **4** CALCULUS III Pre-Req: MATH 180	MATH 220 **3** PROBABILITY & STATISTICS Pre-Req: MATH 180		PHYS 180 **4** GENERAL PHYSICS II Pre-Req: PHYS 170; Co-Req: MATH 180	GENERAL ELECTIVE **3**			14
YEAR 2 — SPRING	MATH 350 **3** ADVANCED CALCULUS Pre-Req: MATH 260	MATH 310 **3** LINEAR ALGEBRA Pre-Req: MATH 180	MATH 330 **4** COMPUTATIONAL ANALYSIS Pre-Req: MATH 260	CSCI 235 **3** ELEMENTS OF DISCRETE STRUCTURES Pre-Req: CSCI 185 and MATH 170		FCWR 3XX **3** PROFESSIONAL COMMUNICATION CHOICE Pre-Req: FCWR 151/161		16
YEAR 3 — FALL	MATH 320 **3** DIFFERENTIAL EQUATIONS Pre-Req: MATH 260	MATH 410 **3** NUMERICAL LINEAR ALGEBRA Pre-Req: MATH 310		CSCI 312 **3** THEORY OF COMPUTATIONS Pre-Req: CSCI 235	COMPUTER SCIENCE ELECTIVE **3**	ICXX 3XX * **3** SEMINAR CHOICE (ICBS, ICLT, ICPH, or ICSS**) Pre-Req: FCWR 101/111 and FCWR 151/161		15
YEAR 3 — SPRING	MATH 455 **3** NUMERICAL ANALYSIS Pre-Req: MATH 320			SCIENCE ELECTIVE **4**	GENERAL ELECTIVE **3**	ICXX 3XX * **3** SEMINAR CHOICE (ICBS, ICLT, ICPH, or ICSS**) Pre-Req: FCWR 101/111 and FCWR 151/161		13
YEAR 4 — FALL	MATH 440 **3** NUMERICAL OPTIMIZATION Pre-Req: MATH 410	MATH ELECTIVE **3**	MATH ELECTIVE **3**		GENERAL ELECTIVE **3**	ICXX 3XX * **3** SEMINAR CHOICE (ICBS, ICLT, ICPH, or ICSS**) Pre-Req: FCWR 101/111 and FCWR 151/161		15
YEAR 4 — SPRING	MATH 490 **5** MATHEMATICAL MODELING CAPSTONE Pre-Req: MATH 450 or MATH 455			CSCI 335 **3** DESIGN AND ANALYSIS OF ALGORITHMS Pre-Req: CSCI 260	GENERAL ELECTIVE **3**	ICXX 3XX * **3** SEMINAR CHOICE (ICBS, ICLT, ICPH, or ICSS**) Pre-Req: FCWR 101/111 and FCWR 151/161		14
CREDITS								**120**

Of the four required ICXX seminar courses (ICBS, ICLT, ICPH, ICSS), at least three must be in different subject areas.

** IENG 400 (Technology and Global Issues) may be substituted for an ICSS choice.

(Rev. 3/23)

Course names, numbers and/or pre-requisites are subject to change.

Grades for all MATH courses must be a C or higher.
The combined GPA for all mathematics courses must be a 2.7 or higher.