



NEW/CHANGE PROGRAM REQUEST

Undergraduate Programs

**FLORIDA
ATLANTIC
UNIVERSITY**

Department N/A
College Wilkes Honors College

UUPC Approval 2-23-26
UFS Approval _____
Banner _____
Catalog _____

Program Name

Data Science and Analytics

New Program*
 Change Program*

Effective Date
(TERM & YEAR)

Fall 2026

Please explain the requested change(s) and offer rationale below or on an attachment.

Group B: Update the course options to allow students to choose either a Python-based introductory sequence or a C++-based sequence, aligning these options with Department of Computer Science requirements.

Group C: Remove CEN 4400, as this course is no longer offered. Add the following courses: CAI 4223, CAI 4304, CAI 4802, CAP 4773, CDA 3203, CDA 4102, CEN 4010, COP 4331, COP 4610, COP 4655, COP 4808, COT 4400.

Group E: Add BSC 4892 Honors AI Applications in Biology and MAC 2312 Honors Calculus II.

Group F: Change the credit requirement from a fixed 3 credits to a flexible range of 3–12 credits. This change allows students pursuing a 4+1 combined bachelor's/master's degree to count required prerequisite courses toward this program. Students must complete a minimum of one additional course (3 credits) and may complete up to three additional courses selected from Groups C, D, or E.

The minimum total number of required credits remains 46, while the maximum possible total is now 61 credits.

**All new programs and changes to existing programs must be accompanied by a catalog entry showing the new or proposed changes.*

Faculty Contact/Email/Phone

Dr. Terje Hill / terjehill@fau.edu

Consult and list departments that may be affected by the change(s) and attach documentation
Department of EECS

Approved by

Department Chair

Terje Hill

Date

2/13/2026

College Curriculum Chair

Terje Hill

2-13-2026

College Dean

Julie

2/13/26

UUPC Chair

Korey Sarge

2-23-26

Undergraduate Studies Dean

Dan Meeroff

2-23-26

UFS President

Provost

Email this form and attachments to mjenning@fau.edu seven business days before the UUPC meeting.

CONCENTRATION IN DATA SCIENCE AND ANALYTICS

Students must earn a "C" or better in each course taken to fulfill a concentration requirement.

The following requirements for this concentration will apply to students entering in Fall 2024 or later. For students entering before Fall 2024, [click here to see the old requirements](#).

Program Overview

Data science is a broad, interdisciplinary field, and data scientists may have particular expertise in *statistics*, in *programming*, or in understanding of problems and data structures in particular areas of study. Students concentrating in Data Science and Analytics at the Wilkes Honors College should manifest *proficiency* in all three areas, together with *fluency* or *leadership* in at least one of these.

~~In the Data Science and Analytics concentration, students will be expected to attain fluency in computational skills, and proficiency in both statistical knowledge and domain expertise.~~ This track was developed in collaboration with faculty from the College of Engineering and Computer Science (COECS).

Advisory Board:

[Dr. Andia Chaves-Fonnegra](#) | [Dr. Erik Duboué](#) | [Dr. Yaouen Fily](#) | [Dr. Jason Hedetniemi](#) |
[Dr. Terje Hill](#) | [Dr. Kevin Lanning](#) | [Dr. Warren McGovern](#) | [Prof. Annina Ruest](#)

Courses indicated with a * are taken in the COECS and are typically available online.

A. DATA LITERACY AND QUANTITATIVE REASONING (13 CREDITS)

Course	Title	Prerequisites	Credit
STA 2023	Honors Introduction to Statistics		3
COP 3076	Honors Introduction to Data Science	STA 2023	3
MAC 2311	Honors Calculus with Analytic Geometry 1	MAC 1147/ placement	4
MAD 2104	Honors Discrete Mathematics	MAC 1105/ permission	3

Recommended:

MAC 2312 Honors Calculus w/ Analytic Geometry II (Prerequisite MAC 2311): 4 credits

B. FOUNDATIONS OF COMPUTER PROGRAMMING (9-12 CREDITS)

Course	Title	Prerequisites	Credit
COP 3035C or COP 2000	Introduction to Programming in Python or Honors Foundations of Programming		3
CEN 3062C	Introduction to Software Design	COP 3035C	3

One of the options (a) or (b) below:

(a) COP 3410C	Data Structures and Algorithm Analysis with Python	(COP 3035C and MAD 2104)	3
(b) COP 3275C	Systems Programming with C++	COP 3035C	3
and	and		
COP 3530C	Data Structures and Algorithm Analysis	COP 3275C and MAD 2104	3

- Add a note here clarifying which 4+1 pathways require three-course sequence and which require four-course sequence from Group B-

C. DATA, SOFTWARE, AND INTELLIGENT SYSTEMS (6 CREDITS, CHOOSE TWO COURSES)

Course	Title	Prerequisites	Credits
CAI 4223	Introduction to Large Language Models	CAP 4770 and (COP 3410C or COP 3530C)	3
CAI 4304	Introduction to Natural Language Processing	COP 3410C or COP 3530C	3
CAI 4802	Artificial Intelligence for Cybersecurity	CAP 4773 and (COP 3410C or COP 3530C)	3
CAP 4613	Introduction to Deep Learning	COP 3410C or COP 3530C	3
CAP 4630	Introduction to Artificial Intelligence	COP 3410C or COP 3530C	3

Course	Title	Prerequisites	Credits
CAP 4770	Introduction to Data Mining and Machine Learning	(COP 3410C or COP 3530C) and STA 2023	3
CAP 4773	Introduction to Data Science and Analytics	COP 3035C and STA 2023	3
CDA 3203	Computer Logic Design		3
CDA 4102	Computer Architecture	CDA 3203 and COP 3275C	3
CEN 4400	Introduction to Computer Systems Performance Evaluation	COP 3014 and STA 2023	3
CEN 4010	Principles of Software Engineering	COP 3410C or COP 3530C	3
COP 3540	Introduction to Database Structures	COP 3410C or COP 3530	3
COP 3275C	Systems Programming with C++	COP 3035C and CEN 3062C	3
COP 3834	Introduction to Web Programming	COP 3410C or CEN 3062C	3
COP 4045	Python Programming	COP 3410C or COP 3530C	3
COP 4331	Object-Oriented Design and Programming	COP 3410C or COP 3530C	3
COP 4610	Computer Operating Systems	CDA 4102 and COP 3530C	3
COP 4655	Mobile App Project	COP 3410C or COP 3530C	3
COP 4703	Advanced Database Systems	COP 3540	3
COP 4808	Full-Stack Web Development	COP 3834	3
COT 4400	Design and Analysis of Algorithms	COP 3410C or COP 3530C	3

D. ETHICS AND TECHNOLOGY STUDIES (3-4 CREDITS, CHOOSE ONE COURSE)

Course	Title	Credits
ANT 4930	Honors Digital Ethnography	3

Course	Title	Credits
ART 4640	Honors Game Studies	4
PHI 2642	Honors Ethics of Social Diversity	3
PHI 3633	Honors Biomedical Ethics	3
PHI 3653	Honors Ethics in Business, Government and Society	3
PHI 3682	Honors Environmental Philosophy	3
PHI 3692	Honors Artificial Intelligence Ethics	3
PHI 4930	Honors Philosophy of Video Games	3
POS 3626	Honors Privacy	3
SYD 4792	Honors Race, Gender, Class, Sexuality and Science	3
SYP 4803	Honors Gender and Technology	3

E. ELECTIVES (6-8 CREDITS, CHOOSE TWO COURSES)

Course	Title	Credits
ART 3657C	Honors Introduction to Programming for Visual Arts	4
ART 4645C	Honors Electronics and Electronic Objects for Art	4
ART 4653C	Honors 3D Computer Game Development	4
ART 4658C	Honors 2D Computer Game Development	4
BSC 3452C	Honors Experimental Design and Data Analysis	3
BSC 4892	Honors AI Applications in Biology	3
CHM 3121/L	Honors Quantitative Analysis/Lab	4
ECO 4412	Honors Econometrics: Applied regression Analysis	3
EXP 3604	Honors Cognition	3
EXP 4631	Honors Thinking and Decision Making	3
GIS 3044C	Honors Geographic Information Systems	3

IDS 3930/QMB 3302	Honors Excel/Data Management and Analysis with Excel	3
IDS 3932	Honors Empirical Analysis of Investments/Financial Markets	3
IDS 3932	Honors Beginner's Programming for Biologists	3
ISS 4304	Honors Computational Social Science	3
MAC 2312	Honors Calculus with Analytic Geometry 2	4
MAC 2313	Honors Calculus with Analytic Geometry 3	4
MAP 2302	Honors Differential Equations	3
MAS 2103	Honors Matrix Theory	3
MAT 4930	Honors Introduction to Computational Science	3
PHY 4523	Honors Statistical Physics	3
PSY 3213/L	Honors Research Methods in Psychology/Lab	4
STA 3164	Honors Intermediate Statistics (or any upper-level course with STA prefix)	3

F. ADDITIONAL COURSES (3-12 CREDITS)

Select **one to three** additional courses from Groups C, D, or E.

G. HONORS THESIS (6 CREDITS)

IDS 4970 Honors Thesis (taken twice for a total of 6 credits)

Total credits: 46-61 credits

Students are reminded that they need 42 upper-level (3000 or 4000-level) credits to graduate.