

BS in Data Science

Freshman Year

Sophomore Year

Junior Year

Senior Year

Semester 1

Semester 2

Semester 1

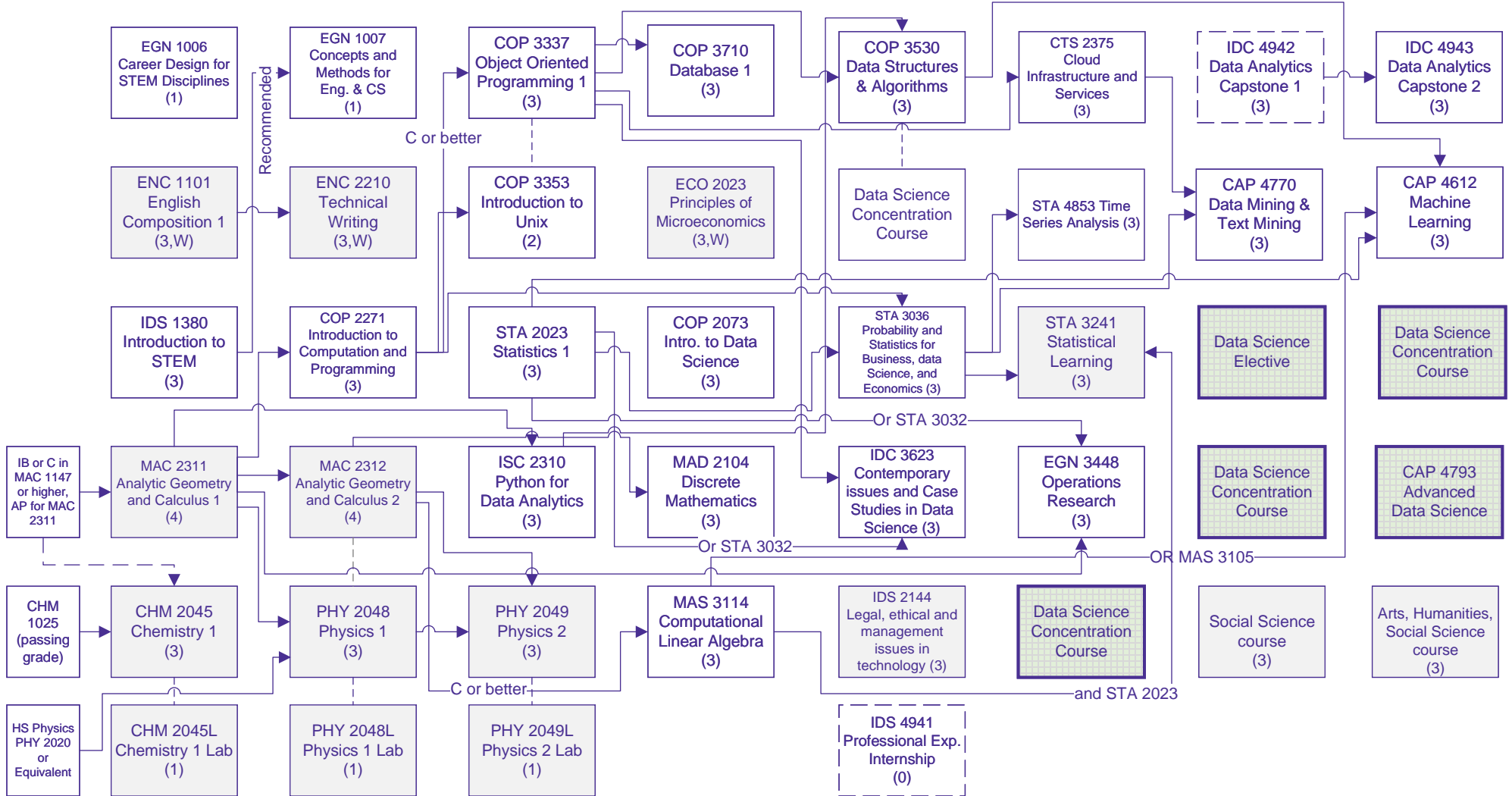
Semester 2

Semester 1

Semester 2

Semester 1

Semester 2



Legend:

Course Number Course Name (credit, requirement met)	Program/ Concentration Elective	General Education or Technical Elective	Permission from Dept. Chair, Provost, or Designee Needed	→ Prerequisite
				- - - Co-requisite
				- - -> Pre-Requisite OR Co-Requisite



BS in Data Science

Program/Concentration Electives and General Education

2022-2023 Catalog

Program/Concentration Electives

Advanced Topics

- Choose 12 credits from Data Science Concentrations or Data Science elective courses.

Big Data Analytics

- COP 3729 – Database 2
- CAP 4786 – Topics in Big Data Analytics

Select 2 courses from the following:

- CAP 3774 – Data Warehousing
- CAP 4613 – Applied Deep Learning
- CAP 4410 – Computer Vision

Health Systems Engineering

- HIM 3490 – Introduction to Health Systems Engineering
- HIM 3514 – Health Systems Modeling and Optimization

Select 2 courses from the following:

- HIM 4016 – Policy Issues in Health Informatics
- HIM 4644 – Implementation of EHR/EMR and Clinical Support Methods
- EGN 3466 – Discrete Event Stimulation
- ECO 4422 – Econometrics: Casual Inference, Panel and Survey Data

Intelligent Mobility & Autonomous Systems

- ESI 4513 – Intelligent Mobility

Select 2 courses from the following:

- ESI 3005 – Introduction to Networks and a Connected World
- ESI 4011 – Data Analytics for Smart City & Transportation
- COP 4421 – Autonomous Systems Programming
- CAP 4613 – Applied Deep Learning

May select 1 from the following

- MAN 4593 – National Transportation Management
- MAN 4594 – Reverse Logistics
- AVM 3012 – Air Transportation and Operations
- CAP 4410 – Computer Vision
- CEN 4721 – Human Computer Interaction

Quantitative Economic & Econometrics

- ECO 4400 - Game Theory and Strategic Decisions (3, MAC 2311, STA 2023)
- ECO 4422 - Econometrics: Causal Inference, Panel and Survey Data (3, STA 3036)
- ECP 3004 - Contemporary Economic Issues (3, ECO 2023 or ECO 2013, STA 2023, MAC 2311)
- ECP 4044 - Economic Analysis for Technologists (3, ECO 2023, MAC 2311, STA 2023)

Data Science Program Electives

- COP 4520 - Introduction to Parallel and Distributed Computing (3, (EEL 4768C or CDA 3100), COP 3530)
- ENT 2112 - Entrepreneurial Opportunity Analysis (3)
- EGS 3625 – Engineering and Technology Project Management
- ECP 4031 – Benefit Cost Analysis
- **Any course part of DSBA concentration courses**
- CAP 4630 - Artificial Intelligence (3, (STA 2023 or STA 3032), (COP 3530 or COP 4415), COP 4531)
- CNT 4403 - Data Security (3, (COP 3530 or COP 4415), COP 4531)
- CEN 4010 - Software Engineering (3, COP 3530, COP 4415, COP 4513)

Arts, Humanities, and Social Sciences

Arts & Humanities

Required one (1) from the following:

- ARH 2000 Art Appreciation (3-W)
- HUM 2020 Introduction to Humanities (3-W, ENC 1101)
- PHI 2010 Introduction to Philosophy (3-W)
- MUL2010 Music Appreciation (3)

Optional one of the following or more from Arts & Humanities required or Social Sciences:

- IDS 2144 - Legal, Ethical, and Management Issues in Technology (3-W); Already in plan of study
- HUM 2022 Explorations in the Humanities (3-W)

Social Sciences

Required one (1) from the following:

- AMH 2010 American History Since 1877 (3-W-Civic Literacy)
- PSY 2012 General Psychology (3-W)
- ECO 2013 Principles of Macroeconomics (3-W)

Required one (1) from the following:

- AMH 2020 American History to 1877 (3-W)
- AMH 2930 Special Topics (1 to 3-W)
- ECO 2023 Principles of Microeconomics (3-W); Already in plan of study

Total Program Credits: 120