

# BS in Engineering Mathematics

2020-2021 Catalog

## Freshman Year

## Sophomore Year

## Junior Year

## Senior Year

Semester 1

Semester 2

Semester 1

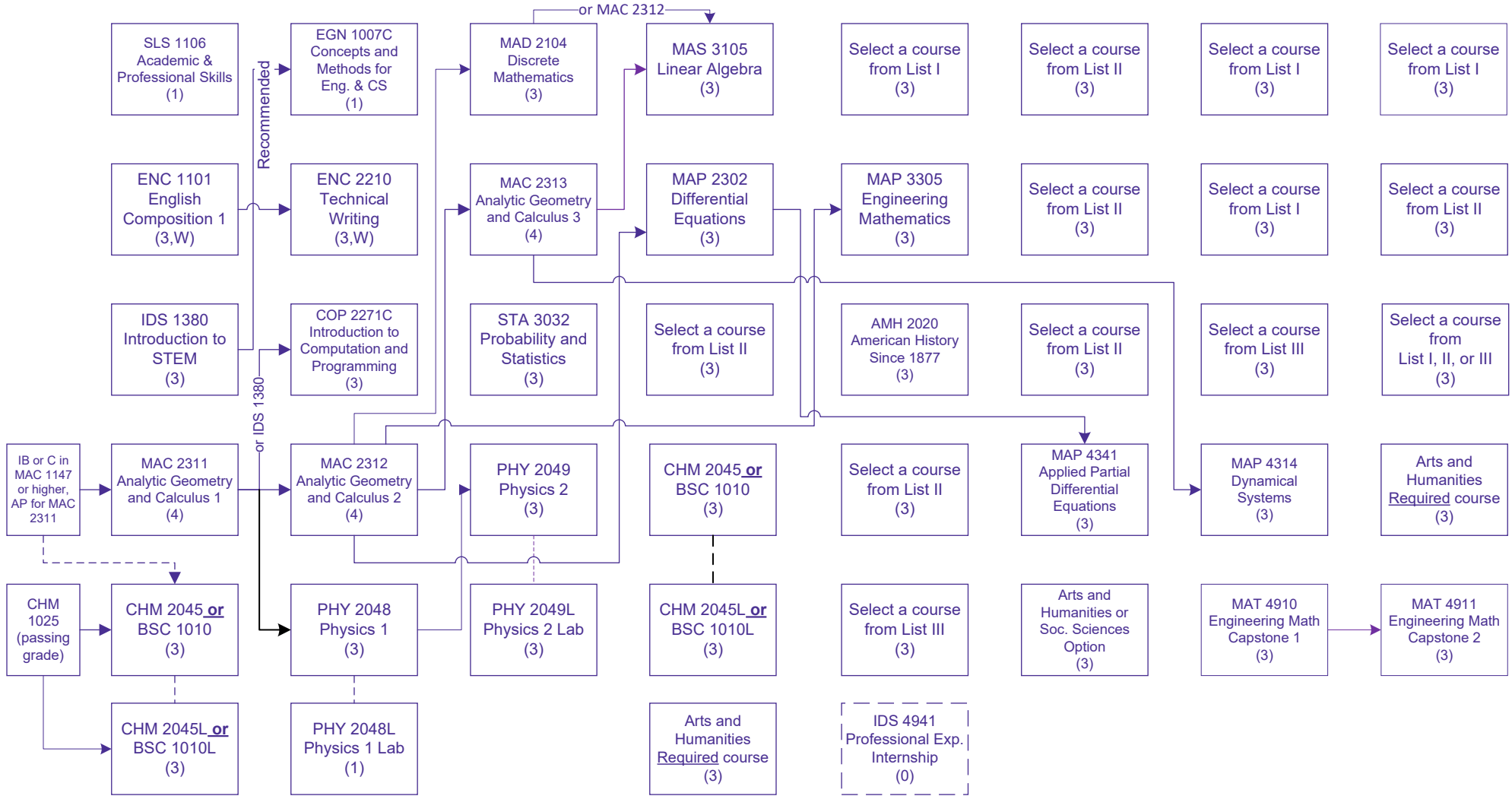
Semester 2

Semester 1

Semester 2

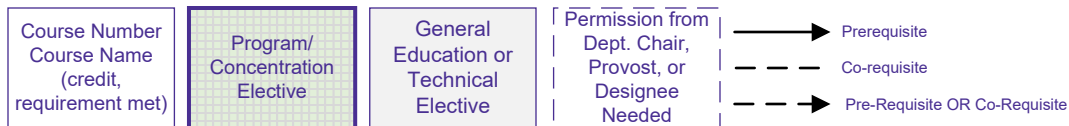
Semester 1

Semester 2



It is recommended that COP 2271C should get taken during the freshman year, semester one and IDS 1380 should get taken during the freshman year, semester two

### Legend:



Advanced Mathematics Course Lists

List I

- MAS 4301 Abstract Algebra (MAS 3105)
- IMTG 4302 Topology (MAS 3105 and MAD 2104)
- IMTG 4303 Topology II (MTG 4302)
- MAP 4413 Fourier Analysis (MAP 2302, MAS 3105)
- MAA 4102 Advanced Calculus (MAS 3105 and MAD 2104)
- MTG 4254 Differential Geometry (MAS 3105, MAP 2302)
- MAA 4402 Complex Variable (MAC 2313)
- MAS 4203 Number Theory (MAC 2313 and MAD 2104)

List II

- MAP 4305 Engineering Mathematics 2 (MAP 3305 and MAS 3105)
- MAP 4341 Applied Partial Differential Equations (MAP 2302 and MAS 3105)
- MAP 3253 Mathematical Scientific Computation (MAP 2302, COP 2271C)
- MAP 4202 Optimization Theory (MAS 3105, MAP 2302)
- MAD 3105 Discrete Mathematics 2 (MAD 2104)
- MAD 3401 Numerical Analysis (MAS 3105 or MAS 3114)
- MAP 4102 Probability and Stochastic Processes (MAP 2302, MAS 3105)
- STA 3162C Applied Statistics (STA 2032)

List III

- MAP 4930 Special Topics (Permission of Chair and Instructor)
- ISC 4930 Special Topics (Permission of Chair and Instructor)
- ISC 4420 Introduction to Bioinformatics (BSC 1010, COP 2271C)
- COP 3337C Object Oriented Programming. (COP 2271C)
- MAP 4484 Mathematical Modeling Biology (Mathematical Biology I) (MAP 2302)
- MAP 4494 Mathematical Biology 2 (MAP 4484)
- BME 4422 The Biophysics of Neural Computation (MAP 4484)

General Education & Technical/Science Electives

Arts & Humanities

Select 3 to 6 credits from the following courses:

Required, one from the following:

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

Optional, one (1) from the following OR one more from Arts & Humanities required or Social Sciences:

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

Social Sciences

Select 3 to 6 credits from the following courses. Three credits must come from a History course.

Required, one from the following:

- AMH 2020 American History Since 1877 (3-W-Civic Literacy)
- ECO 2013 Principles of Macroeconomics (3-W)
- PSY 2012 General Psychology (3-W)

Optional, one (1) from the following OR one more from Social Science required or Arts and Humanities:

- AMH 2010 American History to 1877 (3-W)
- AMH 2930 Special Topics (1 to 3-W)
- ECO 2023 Principles of Microeconomics (3-W)

**Total Program Credits: 120**

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**Legend:** Course name (credits-requirement met, pre-requisites/co-requisites)