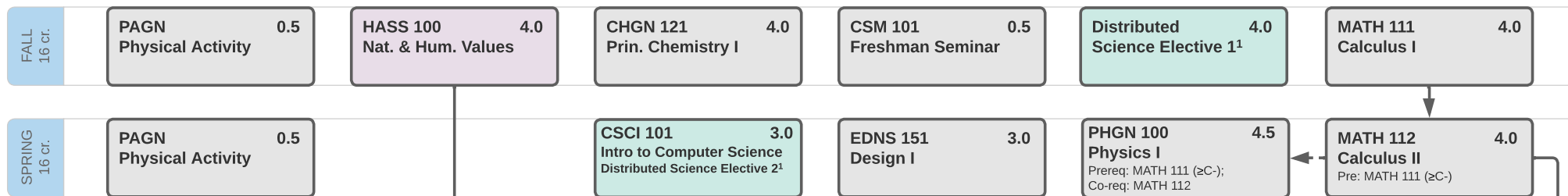
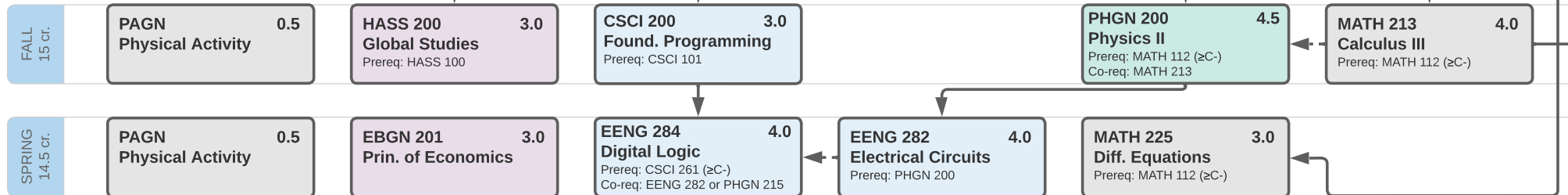


Department of Electrical Engineering - 2022-2023 Undergraduate Curriculum Flowchart

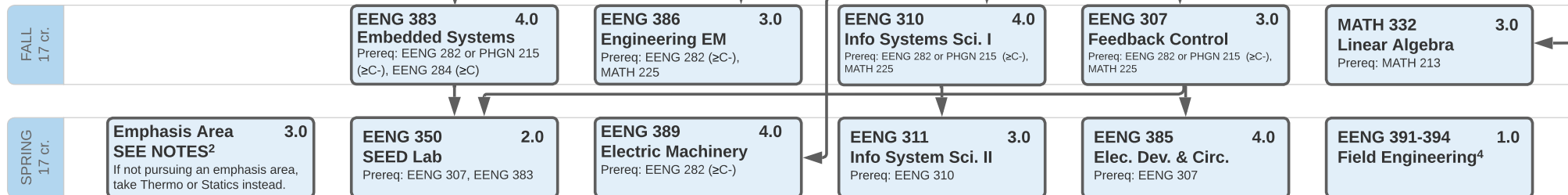
FIRST YEAR



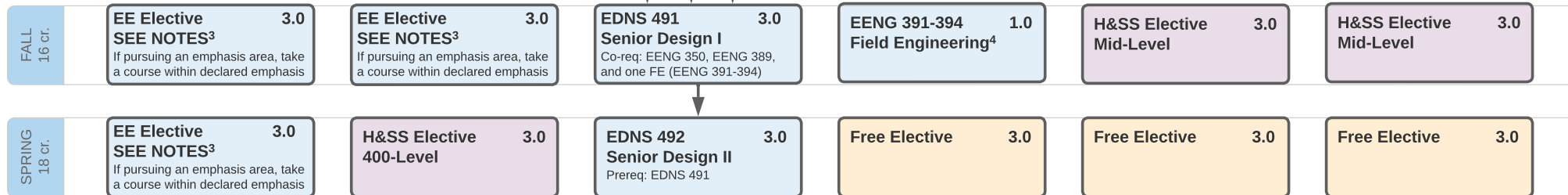
SOPHOMORE



JUNIOR



SENIOR



¹**Distributed Science:** Choose two courses from the following: CSCI 101, GEGN 101, CBEN 110, CHGN 122, or CHGN 125. May not use both CHGN 122 and CHGN 125.

CSCI 101 is a prerequisite for CSCI 200. Students should take CSCI 101 as one of their distributed sciences if they have not yet taken CSCI 200.

²**Emphasis Area:** Students pursuing an emphasis area should take a course within their declared emphasis area. Students NOT pursuing an emphasis area must instead take a Thermodynamics or Statics course.

Options for Thermo/Statics: MEGN361, CEEN241, CHGN209, CBEN210, or GEGN330

³**EE Elective:** Students pursuing an emphasis area should take a course within their declared emphasis area. Students that do not have an emphasis area can select any EE elective; see second page of document.

⁴**Field Engineering:** All EE majors must complete 2 Field Engineering (FE) courses. Choose from EENG 391, 392, 393, and 394. One must be completed before or at the same time as Senior Design I.

Mines Core

Distributed Science

EE Core

H&SS Requirement

Free Elective

Total Credit Hours = 129.5

Solid line = prerequisite, dashed line = co-requisite

Electrical Engineering Electives

Organized by emphasis area.

No Emphasis Area: Complete 9 credits of Electrical Engineering Electives from any of the emphasis areas or the general list below and complete a Thermodynamics or Statics course (Thermodynamics or Statics course options: MEGN361, CEEN241, CHGN209, CBEN210, or GEGN330).

Emphasis Area: Complete 12 credits in one emphasis area and declare emphasis area with the Registrar. Students with an emphasis area should replace the Thermodynamics/Statics course requirement with an emphasis area course.

Information and Systems Sciences (ISS)

Course	Course Title	Credit Hours	Semester(s) Offered
EENG 411	Digital Signal Processing	3	Sp
EENG 413	Analog & Digital Comm. Systems	3	Check
EENG 415	Data Science for Elec. Eng.	3	Sp
EENG 417	Modern Control Design	3	Fa
EENG 427	Wireless Communications	3	Sp
EENG 437	Intro to Computer Vision	3	Fa
MEGN 441	Intro to Robotics	3	Fa, Sp

Power and Energy Systems (PES)

Course	Course Title	Credit Hours	Semester(s) Offered
EENG 390	Energy & Electricity	3	Check
EENG 470	Intro to High Power Electronics	3	Fa
EENG 475	Interconnection of Renewable Energy, Integ. Power Elec., Power Systems, and Power Quality	3	Sp
EENG 480	Power Systems Analysis		Fa
EENG 481	Analysis & Design of Adv. Energy Systems	3	Check
EENG 489	Comp. Methods in Energy Sys. & Power	3	Check

Integrated Ciruits and Electronics (ICE)

Course	Course Title	Credit Hours	Semester(s) Offered
EENG 411	Digital Signal Processing	3	Sp
EENG 421	Semiconductor Device Physics & Design	3	Fa
EENG 423	Intro to VLSI Design	3	Sp
PHGN 435	Interdisciplinary Microelectronics Processing Lab	3	Sp
CSCI 410	Elements of Computing Systems	3	Sp

Antennas and Wireless Communications (AWC)

Course	Course Title	Credit Hours	Semester(s) Offered
EENG 425	Intro to Antennas	3	Sp
EENG 427	Wireless Communications	3	Sp
EENG 428	Computational Electromagnetics	3	Fa
EENG 429	Active RF & Microwave Devices	3	Sp
EENG 430	Passive RF & Microwave Devices	3	Fa
EENG 486	Electromagnetic Fields & Waves	3	Check

Electrical Engineering - General

Course	Course Title	Credit Hours	Semester(s) Offered	Course	Course Title	Credit Hours	Semester(s) Offered
CEEN 405	Numerical Methods for Engineers	3	Check	MEGN 330	Intro to Biomechanical Engineering	3	Fa
CSCI 341	Computer Organization	3	Fa, Sp	PHGN 300/310	Physics III - Modern Physics I	3	Fa, Sp
CSCI 440	Parallel Computing for Scientists & Eng.	3	Sp	PHGN 320	Modern Physics II: Quantum Mech.	4	Sp
CSCI 442	Operating Systems	3	Fa, Sp	PHGN 440	Solid State Physics	3	Fa
MATH 335	Intro to Math Statistics	3	Fa, Sp	PHGN 441	Solid State Physics Applications & Phenomena	3	Check
MATH 455	Partial Differential Equations	3	Fa, Sp	PHGN 462	EM Waves & Optical Physics	3	Fa