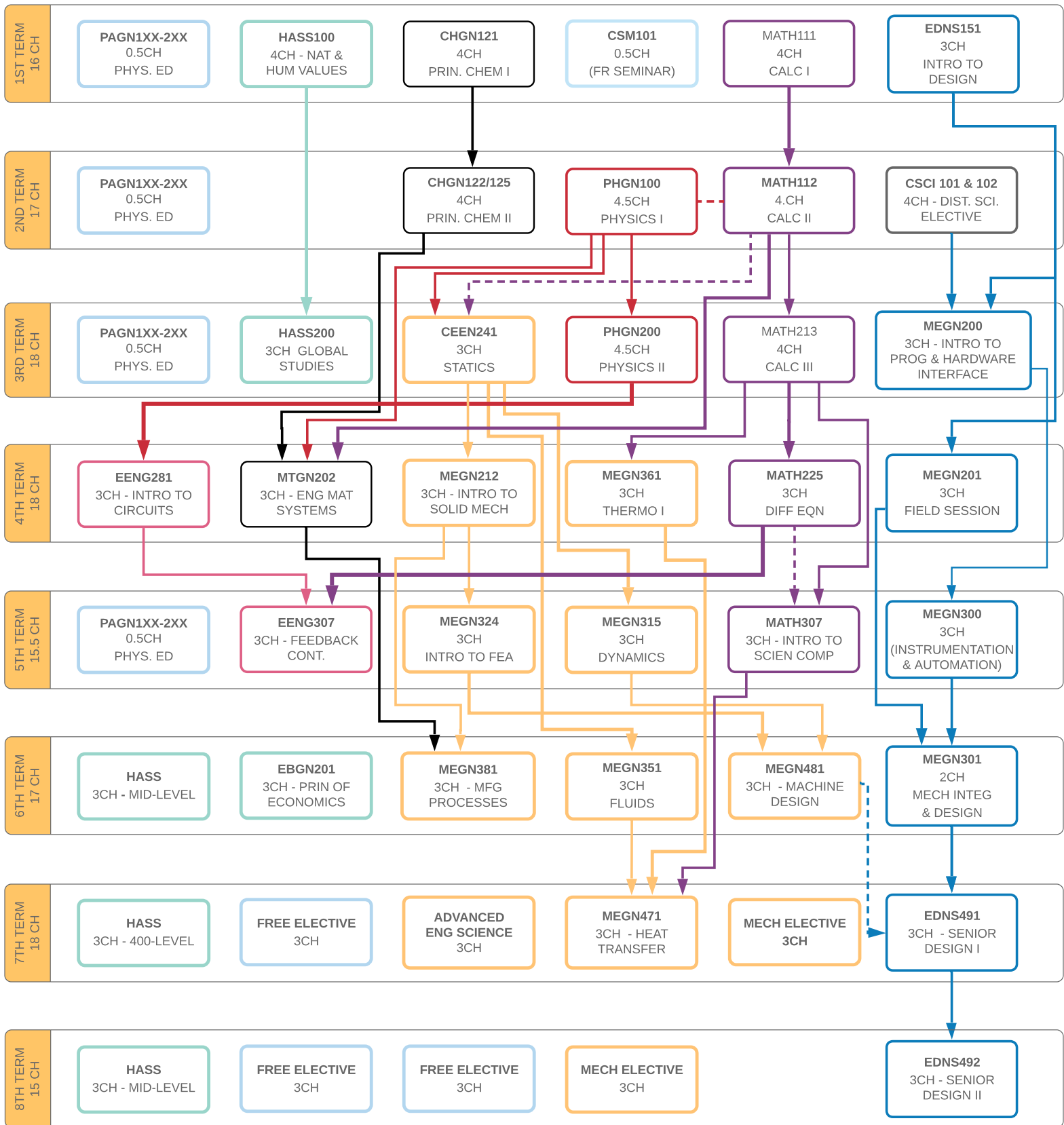


Mechanical Engineering Flow Chart

2019-2020



Total Credit Hours = 134.5

Solid line = prerequisite, dashed line = co-requisite

MECHANICAL ENGINEERING ELECTIVES (ADVANCED ENGINEERING SCIENCE & TECHNICAL)

ME ADVANCED ENGINEERING SCIENCE ELECTIVES

MEGN 412	ADVANCED MECHANICS OF MATERIALS
MEGN 416	ENGINEERING VIBRATIONS
MEGN 451	FLUID MECHANICS II
MEGN 461	THERMODYNAMICS II

The remaining courses are considered ME Tech Electives

MECHANICAL ENGINEERING

MEGN 330	INTRODUCTION TO BIOMECHANICAL ENGINEERING
MEGN 425	ADVANCED CAE
MEGN 430	MUSCULOSKELETAL BIOMECHANICS
MEGN 435	MODELING AND SIMULATION OF HUMAN MOVEMENT
MEGN 436	COMPUTATIONAL BIOMECHANICS
MEGN 441	INTRODUCTION TO ROBOTICS
MEGN 466	INTRODUCTION TO INTERNAL COMBUSTION ENGINES
MEGN 469	FUEL CELL SCIENCE & TECHNOLOGY
MEGN 485	MANUFACTURING OPTIMIZATION W/NETWORK MODELS
MEGN 486	LINEAR OPTIMIZATION
MEGN 487	NONLINEAR OPTIMIZATION
MEGN 488	INTEGER OPTIMIZATION
MEGN 498	SPECIAL TOPICS IN MECHANICAL ENGINEERING
MEGN 4XX	ANY MECHANICAL ELECTIVE NOT LISTED HERE (NOT INCLUDING 499 & REQUIRED 400-LEVEL COURSES)
MEGN 5XX	ANY 500-LEVEL MEGN COURSE (NON-RESEARCH CREDIT)

ADDITIVE MANUFACTURING

AMFG 401	INTRO TO ADDITIVE MANUFACTURING
AMFG 498/598	DESIGN FOR ADDITIVE MANUFACTURING
AMFG 598	ADDITIVE MANUFACTURING OF SOLID MATERIALS
AMFG 598	DATA-DRIVEN MATERIALS MANUFACTURING

CIVIL ENGINEERING

CEEN 405	NUMERICAL METHODS FOR ENGINEERS
CEEN 406	FINITE ELEMENT METHODS FOR ENGINEERS

COMPUTER SCIENCE

CSCI 261	PROGRAMMING CONCEPTS
CSCI 306	SOFTWARE ENGINEERING
CSCI 341	COMPUTER ORGANIZATION
CSCI 442	OPERATING SYSTEMS
CSCI 470	INTRODUCTION TO MACHINE LEARNING
CSCI 437	INTRODUCTION TO COMPUTER VISION

CSCI 404	ARTIFICIAL INTELLIGENCE
CSCI 473	HUMAN-CENTERED ROBOTICS
CSCI 5XX	NON-PROJECT AND NON-RESEARCH CREDIT

ECONOMICS

EBGN 321	ENGINEERING ECONOMICS
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ELECTRICAL ENGINEERING

EENG 385	ELECTRONIC DEVICES AND CIRCUITS
EENG 386	FUNDAMENTALS OF ENGINEERING ELECTROMAGNETICS
EENG 389	FUNDAMENTALS OF ELECTRIC MACHINERY
EENG 390	ENERGY, ELECTRICITY, RENEWABLE ENG, & ELE. POWER GRID
EENG 417	MODERN CONTROL DESIGN
EENG 421	SEMICONDUCTOR DEVICE PHYSICS AND DESIGN
EENG 310	INFORMATION SYSTEMS SCIENCE
EENG 385	ELECTRONIC DEVICES AND CIRCUITS
EENG 421	SEMICONDUCTOR DEVICE PHYSICS AND DESIGN
EENG 5XX	NON-SEMINAR AND NON-RESEARCH CREDIT

ENGINEERING DESIGN & SOCIETY

EDNS 401	PROJECTS FOR PEOPLE
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MATHEMATICS

MATH 334	INTRODUCTION TO PROBABILITY
MATH 335	INTRODUCTION TO MATHEMATICAL STATISTICS
MATH 424	INTRO TO APPLIED STATISTICS
MATH 432	SPATIAL STATISTICS
MATH 5XX	NON-SEMINAR AND NON-RESEARCH CREDIT

METALLURGICAL AND MATERIALS ENGINEERING

MTGN 311	STRUCTURE OF MATERIALS
MTGN 445	MECHANICAL PROPERTIES OF MATERIALS
MTGN 450	STATISTICAL PROCESS CONTROL AND DESIGN OF EXPERIMENTS
MTGN 463	POLYMER ENGINEERING
MTGN 464	FORGING AND FORMING
MTGN 475	METALLURGY OF WELDING

NUCLEAR SCIENCE & ENGINEERING

NUGN 520	INTRODUCTION TO NUCLEAR REACTOR THERMAL-HYDRAULICS
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PHYSICS

PHGN 300	PHYSICS III-MODERN PHYSICS I
PHGN 350	INTERMEDIATE MECHANICS
PHGN 419	PRINCIPLES OF SOLAR ENERGY SYSTEMS

Required in ME Curriculum: 3CH ME Advanced Engineering Science & 6CH Mech Technical Electives from list above