

Name _____

ID# _____

REQUIRED COURSES

<u>Semester</u>	<u>Course</u>	<u>Title</u>
_____	CSCI 585	Database Systems (4, FaSpSm), OR
_____	ISE 510	Advanced Computational Design and Manufacturing (3)
_____	ISE 511L	Mechatronic Systems Engineering (3, Sp)
_____	ISE 517	Modern Enterprise Systems (3,), OR
_____	ISE 576	Industrial Ecology: Technology - Environment Interaction (3, Sp)
_____	ISE 525	Design of Experiments (3, Sp), OR
_____	AME 525	Engineering Analysis (3, FaSp)

ELECTIVE COURSES (17 units):

From the provided list of electives or with consent of Program Director, elective courses will be available to provide focused specialties for each student with the aid of the student’s advisor. A maximum of 6 units of electives may be taken from non-engineering departments such as School of Business. A large number of relevant engineering courses are available to students. Students may select a combination of the following elective courses to complete their plan of study. Courses below 500 level may not be acceptable for the students who have their B.S. degree in the respective discipline.

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Condition of Admission Prerequisite Course: (extra units added to the required 30 units of the program)

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***Master of Science in Manufacturing Engineering
Total 30 units***

APPROVED ELECTIVES IN SPECIALIZATION AREAS

Business & Entrepreneurship

- BAEP 551: Introduction to New Ventures
- BAEP 557: Technology Commercialization
- ISE 585: Strategic Management of Technology

Aerospace and Mechanical Engineering

- AME 408 Computer-Aided Design of Mechanical Systems
- AME 451 Linear Control Systems I
- AME 481 Aircraft Design
- AME 503 Advanced Mechanical Design
- AME 504L Mechatronic Systems Engineering
- AME 529 Aircraft Structures Analysis
- AME 541 Linear Control Systems II
- AME 544 Computer Control of Mechanical Systems
- AME 546 Design for Manufacturing and Assembly

Computer Science

- CSCI 455x Intro. to Programming Systems Design
- CSCI 551 Computer Networking
- CSCI 554 Real Time Computer Systems
- CSCI 559 Mathematical Pattern Recognition
- EE 560L Digital System Design
- CSCI 561 Foundations of Artificial Intelligence
- CSCI 574 Computer Vision
- CSCI 577ab Software Engineering
- CSCI 582 Geometric Modeling
- CSCI 583 Machine Learning Theory
- CSCI 585 Database Systems
- CS 598 Professional Writing and Communication for Computer Scientists

Electrical Engineering

- EE 454L Introduction to System-on-Chip
- EE 472 Intro. to Lasers and Laser Systems
- EE 479 Analog Integrated Circuit Design
- EE 482 Linear Control Systems
- EE 504L Solid-State Processing & IC Laboratory
- EE 536a Integrated Circuit Analysis & Design
- EE 536a Integrated Circuit Analysis & Design
- EE 537 Modern Solid-State Devices
- EE 543abL Digital Control Systems
- EE 544 Radio Frequency Systems and Hardware
- EE 545 Robotics
- EE 562 Random Processing in Engineering
- EE 569 Intro. to Digital Image Processing
- EE 577a VLSI System Design
- EE 577b VLSI System Design
- EE 584 Chaotic Systems
- EE 585 Linear System Theory
- EE 587 Nonlinear and Adaptive Control
- EE 588 Optimization for the Information and Data Sciences
- EE 593 Robust Multivariable Control
- EE 657 Parallel and Distributed Computing
- EE 680 Computer-Aided Design of Digital Systems I

Industrial & Systems Engineering

- ISE 410 Planning and Scheduling
- ISE 426 Statistical Quality Control
- ISE 435 Discrete Systems Simulation
- ISE 511L Mechatronic Systems Engineering
- ISE 513 Inventory Systems
- ISE 514 Advanced production Planning and Scheduling
- ISE 515 Engineering Project Management
- ISE 517 Modern Enterprise Systems
- ISE 527 Quality Management for Engineers
- ISE 528 Advanced Statistical Aspects of Engineering Reliability
- ISE 530 Optimization Methods for Analytics
- ISE 538 Performance Analysis Using Markov Models
- ISE 561 Economic Analysis of Engineering Projects
- ISE 580 Performance Analysis with Simulation

Materials Science

- MASC 472 Polymer Science and Engineering
- MASC 511 Materials Preparation
- MASC 560 Fatigue and Fracture
- MASC 583 Materials Selection
- MASC 584 Fracture Mechanics and Mechanisms