MANUFACTURING CONCENTRATION

IME 327  Test Design and Analysis in Manufacturing Engineering 4
ME 418  Implementation of Mechanical Controls 4
or ME 419  Advanced Control Systems
ME 428  Senior Design Project I 2
ME 429  Senior Design Project II 2
ME 430  Senior Design Project III 2
Take all of the courses in one of the following emphasis areas: 8

Mechanical Manufacturing Emphasis Area
IME 330  Fundamentals of Manufacturing Engineering
IME 450  Manufacturing Process and Tool Engineering

Electronics Manufacturing Emphasis Area
IME/MATE 458  Microelectronics and Electronics Packaging
MATE 430 & MATE 435  Micro/Nano Fabrication and Microfabrication Laboratory

Design and Manufacturing Elective
Select from the following: 3-5
IME 330  Fundamentals of Manufacturing Engineering 2
IME 335  Computer-Aided Manufacturing I
IME 356  Manufacturing Automation
IME 416  Automation of Industrial Systems
IME 418  Product-Process Design
IME 428  Engineering Metrology
IME 430  Quality Engineering
IME 432  Additive Manufacturing
IME 457  Advanced Electronic Manufacturing
IME/MATE 458  Microelectronics and Electronics Packaging 2
IME 527  Design of Experiments
IME 543  Applied Human Factors
MATE 430 & MATE 435  Micro/Nano Fabrication and Microfabrication Laboratory 2
MATE 440 & MATE 445  Welding Metallurgy and Joining of Advanced Materials and Joining of Advanced Materials Laboratory
ME 305  Introduction to Mechatronics
ME 412  Composite Materials Analysis and Design

Total units 25-27

2 If a course is taken to meet a Emphasis Area requirement, it cannot be double-counted as a Design and Manufacturing Elective.

1 ENGR 459, ENGR 460 and ENGR 461 (6) may substitute for ME 428, ME 429 and ME 430 (6).