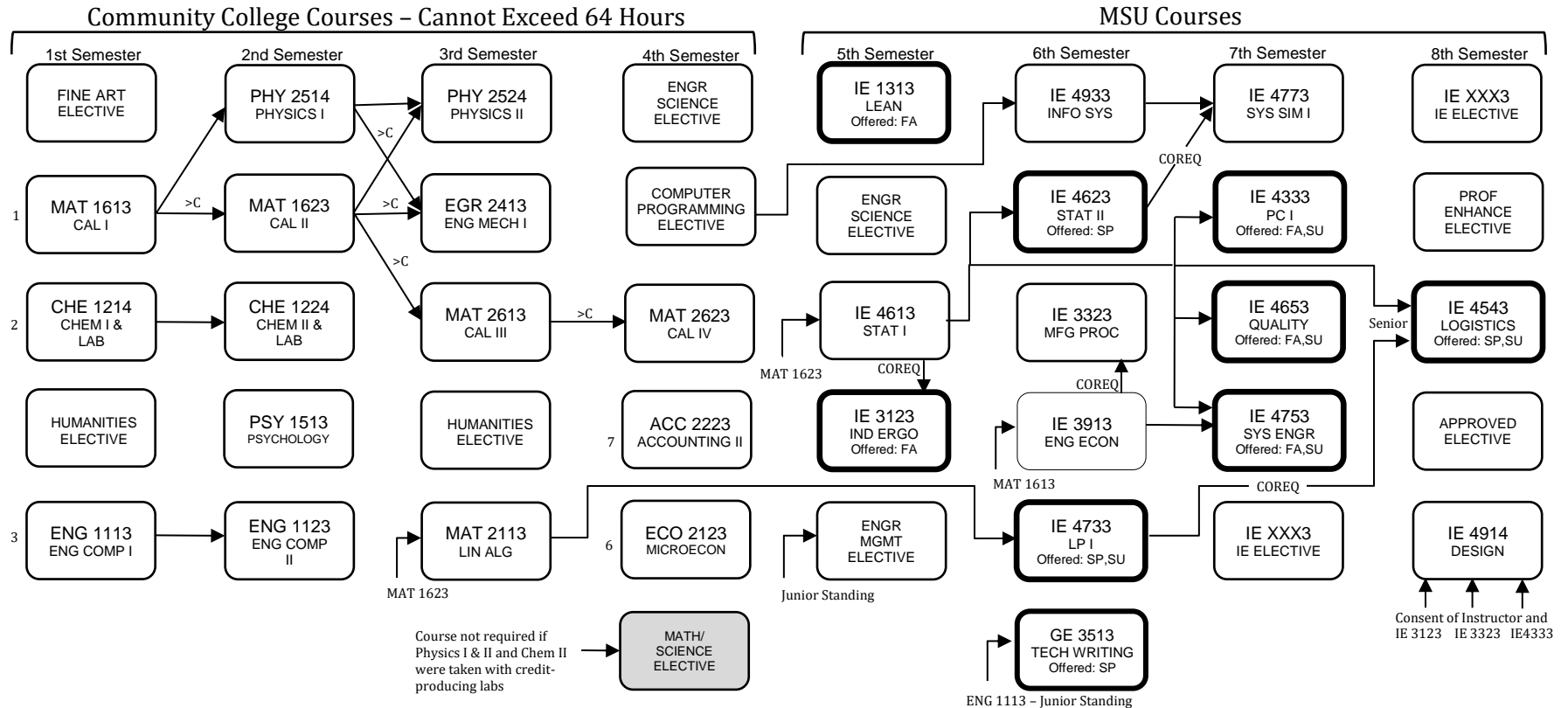




## INDUSTRIAL ENGINEERING CURRICULUM FLOW SHEET – STARTING FALL 2020



### Course Prerequisite Notes

- MAT 1613: ACT Math subscore of 26, or grades of C or better in 1323<sup>4</sup> Trig or 1343<sup>5</sup> Precalculus.
- CHE 1214: ACT Math subscore of 24 or grades of C or better in MAT 1313 Algebra.
- ENG 1113: A score of 17 or above in the English section of the ACT or EN 0103.
- MAT 1323 Trigonometry: ACT Math subscore of 24 or grades of C or better in MAT 1313.
- MAT 1343 Precalculus: Math ACT of 24 or C or better in MAT 1323 or a score of at least 70 on the Precalculus Qualifying Exam.
- Macro Econ is not required for ISE students. Sophomore standing is required
- Prerequisite (ACC 2213) override needed to enter ACCT II without first taking ACCT I. Contact Community College Business Department Chair to request override

Arrows indicate  
course pre- or  
co-requisites

**To take a required IE course, students must have a grade of C or better in each prerequisite IE course.**

## REQUIRED HOURS:

### **MATHEMATICS (15 HRS)**

MAT 1613 CALCULUS I  
MAT 1623 CALCULUS II  
MAT 2613 CALCULUS III  
MAT 2623 CALCULUS IV  
MAT 2113 LINEAR ALGEBRA

### **CHEMISTRY (8 HOURS)**

CHE 1214 CHEMISTRY I AND LAB  
CHE 1224 CHEMISTRY II AND LAB

### **PHYSICS (8 HOURS)**

PHY 2514 PHYSICS I-A  
PHY 2524 PHYSICS II-A

### **MATH/SCIENCE ELECTIVE (3 HOURS)**

\_\_\_\_3 MATH/SCIENCE ELECTIVE\*

### **FINE ARTS (3 HOURS)**

\_\_\_\_3 FINE ARTS ELECTIVE\*

### **HUMANITIES (6 HOURS)**

\_\_\_\_3 HUMANITIES ELECTIVE\*  
\_\_\_\_3 HUMANITIES ELECTIVE\*

### **COMMUNICATION (12 HOURS)**

ENG 1113 ENGLISH COMPOSITION I  
ENG 1123 ENGLISH COMPOSITION II  
GRA 1143 GRAPHIC COMMUNICATION  
GE 3513 TECHNICAL WRITING

### **OTHER (3 HOURS)**

ACC 2023 MANAGERIAL ACCOUNTING

### **INDUSTRIAL ENGINEERING (58 HRS)**

IE 1313 LEAN  
IE 3123 INDUSTRIAL ERGONOMICS  
IE 3323 MANUFACTURING PROCESSES  
IE 3913 ENGINEERING ECONOMY I  
IE 4333 PRODUCTION CONTROL SYSTEMS I  
IE 4543 LOGISTICS ENGINEERING  
IE 4613 ENGINEERING STATISTICS I  
IE 4623 ENGINEERING STATISTICS II  
IE 4653 QUALITY ENGINEERING  
IE 4733 LINEAR PROGRAMMING I  
IE 4753 SYSTEMS ENGINEERING & ANALYSIS  
IE 4773 SYSTEMS SIMULATION I  
IE 4914 DESIGN OF INDUSTRIAL SYSTEMS  
IE 4933 INFORMATION SYSTEMS FOR IE  
IE \_\_\_\_3 IE ELECTIVE\*  
IE \_\_\_\_3 IE ELECTIVE\*  
IE \_\_\_\_3 ENGINEERING MANAGEMENT ELECTIVE\*  
IE \_\_\_\_3 PROFESSIONAL ENHANCEMENT ELECTIVE\*  
IE \_\_\_\_3 APPROVED ELECTIVE\*

### **OTHER ENGINEERING (12 HOURS)**

EGR 2433 ENGINEERING MECHANICS I  
\_\_\_\_3 ENGINEERING SCIENCE ELECTIVE\*  
\_\_\_\_3 ENGINEERING SCIENCE ELECTIVE\*  
\_\_\_\_3 COMPUTER PROGRAMMING ELECTIVE\*

### **SOCIAL SCIENCES (6 HOURS)**

ECO 2123 PRINCIPLES OF MICROECONOMICS  
PSY 1013 GENERAL PSYCHOLOGY

\*Listed in Columns 3 and 4

## ELECTIVE CHOICES: Unless stated otherwise, course numbers correspond to MSU catalog

### **MATH/SCIENCE ELECTIVE**

PH 2233 Physics III  
MAT 2913 Differential Equations (Comm. College)  
MA 3253 Differential Equations I  
MA 3053 Foundation of Math I  
MA 4143 Graph Theory  
MA 4313 Numerical Analysis I  
MA 4533 Probabilistic Random Process  
ST 4213 Nonparametric Methods  
CH 2313 Analytical Chemistry  
BIO 1134 Biology I  
GG 4153 Engineering Geology  
GG 4233 Applied Geophysics

### **HUMANITIES ELECTIVES**

AAS 1063 Introduction to African American Studies  
ARC 2313 History of Architecture I  
ARC 3313 History of Architecture II  
ARC 3323 History of Architecture III  
EN 2203 Introduction to Literature  
EN 2213 English Literature  
EN 2223 English Literature  
EN 2243 American Literature  
EN 2253 American Literature  
EN 2273 World Literature  
EN 2283 World Literature  
FL\*\*\*1113 Language I  
FL\*\*\*1123 Language II  
FL\*\*\*2133 Language III  
FL\*\*\*2143 Language IV  
HI 1063 Early U.S. History  
HI 1073 Modern U.S. History  
HI 1163 World History before 1500  
HI 1173 World History since 1500  
HI 1213 Early Western World  
HI 1223 Modern Western World  
HI 1313 East Asian Civilizations to 1300  
HI 1323 East Asian Civilizations since 1300  
HI 4683 Europe: The First World War to Hitler  
HON 1163 The Quest Begins  
HON 3183 Honors Seminar in the Humanities  
PHI 1103 Introduction to Philosophy  
PHI 1113 Introduction to Logic  
PHI 1123 Introduction to Ethics  
PHI 3023 History of Western Philosophy: Part I  
PHI 3033 History of Western Philosophy: Part II  
PHI 3153 Aesthetics  
REL 1103 Introduction to Religion  
REL 3213 World Religions: Part I  
REL 3223 World Religions: Part II

\*\*\* French (FLF), German (FLG), Greek (FLH), Japanese (FLJ), Latin (FLL), Russian (FLR), and Spanish (FLS)

### **PROFESSIONAL ENRICHMENT ELECTIVE**

Any class that aids in the enrichment of their undergraduate program. A class that counts toward a minor or certificate, an F.E. prep class, etc.

### **IE ELECTIVES**

Any three-hour non-required industrial engineering course.

### **FINE ARTS ELECTIVE**

ARC 1013 Architectural Appreciation  
ART 1013 Art History I  
ART 1023 Art History II  
ART 1113 Art Appreciation  
BCS 1013 Architectural Appreciation  
CO 1503 Introduction to Theatre  
HON 3173 Honors Seminar in Fine Arts  
ID 3643 History of Interiors  
LA 1803 Landscape Appreciation  
MU 1113 History and Appreciation of Music  
MU 1133 The History of Rock and Roll  
MU 2213 History and Literature of Music I  
MU 2323 History and Literature of Music II  
PE 1323 History and Appreciation of Dance  
PSS 2343 Floral Design  
TKI 2413 History and Appreciation of the Crafts

### **COMPUTER PROGRAMMING ELECTIVE**

CSC 2133 Advanced Computer Programming C (Comm. College)  
CSC 2134 Programming I with C+ (Comm. College)  
CSC 2134A Programming I with C++ (Comm. College)  
CSE 1233 Computer Programming with C  
CSE 1284 Intro to Computer Programming

### **ENGINEERING SCIENCE ELECTIVES**

ABE 3413 Bioinstrumentation  
ABE 3513 GPS & GIS in Ag. & Eng.  
ABE 4613 Biomechanics  
CE 2803 Environmental Engineering  
CE 3113 Transportation Engineering  
CE 3603 Structural Mechanics  
CHE 2213 Chemical Engineering Analysis  
CHE 3113 Chemical Engineering Thermodynamics  
CHE 3413 Engineering Materials  
ECE 3413 Intro to Electronic Circuits  
ECE 4483 Intro. To Remote Sensing  
EGR 2433 Engineering Mechanics II (Com. College)  
EM 2433 Engineering Mechanics II  
EM 3213 Mechanics of Materials  
EM 3313 Fluid Mechanics  
ME 3513 Thermodynamics I  
ME 3403 Materials for ME Design  
ME 3113 Engineering Analysis

### **ENGINEERING MANAGEMENT ELECTIVE**

IE 4513 Engineering Administration  
IE 4533 Project Management

### **APPROVED ELECTIVE**

Almost any non-remedial, non-LSK, non-physical education (excluding varsity sports) course. To be discussed with advisor.