



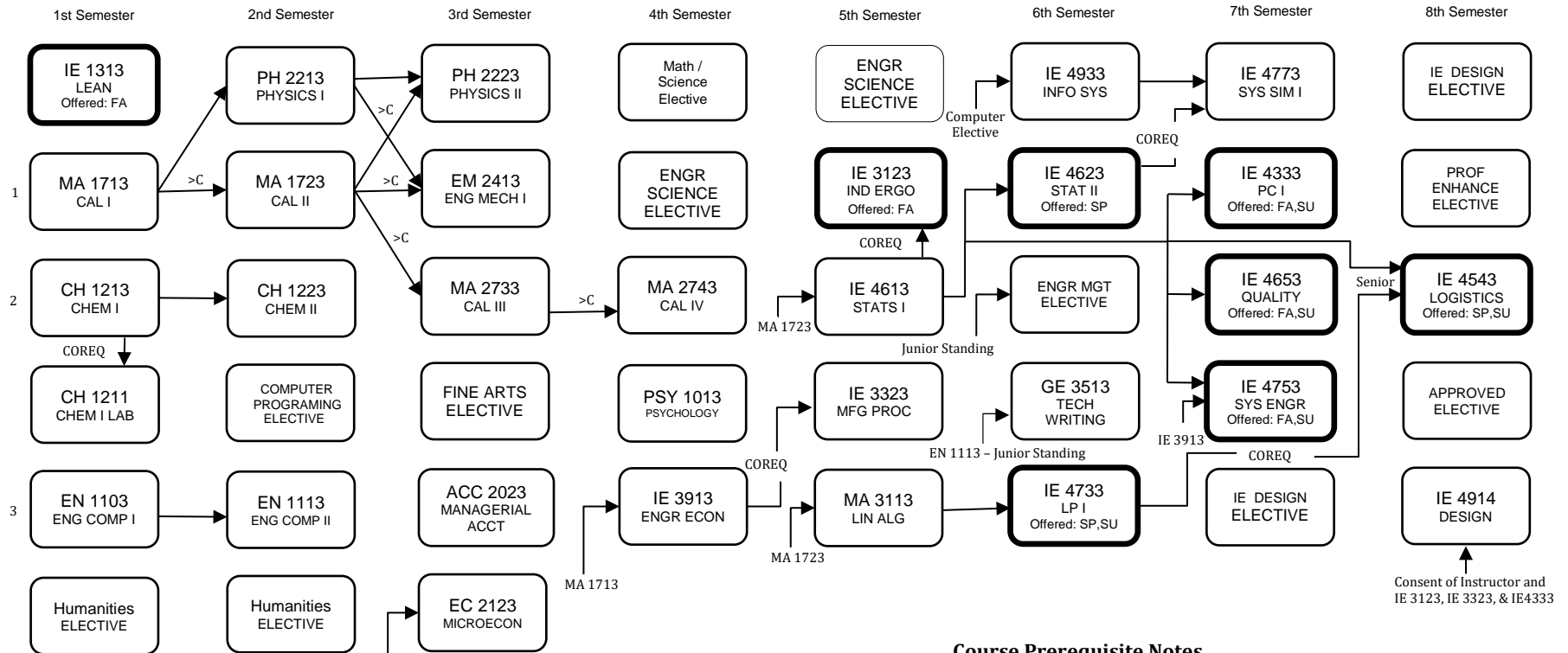
Name:

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INDUSTRIAL & SYSTEMS ENGINEERING

*click upper right corner to mark completed

INDUSTRIAL ENGINEERING CURRICULUM FLOW SHEET



Macro Econ is not required for ISE students. Sophomore Standing is required.

- Course Prerequisite Notes**
1. MA 1713: ACT Math subscore of 26, or grades of C or better in 1323⁴ Trig or 1453⁵ Precalculus.
 2. CH 1213: ACT Math subscore of 24 or grades of C or better in MA 1313 Algebra.
 3. EN 1103: A score of 17 or above in the English section of the ACT or EN 0103.
 4. MA 1323 Trigonometry: ACT Math subscore of 24 or grades of C or better in MA 1313.
 5. MA 1453 Precalculus: Math ACT of 24 or C or better in MA 1323 or a score of at least 70 on the Precalculus Qualifying Exam.

EFFECTIVE DATE August 1, 2020

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

EN 1103 ENGLISH COMPOSITION I
EN 1113 ENGLISH COMPOSITION II

FINE ARTS (3 HOURS)

___3 FINE ARTS ELECTIVE
(ANY GEN. ED. COURSE approved course*)
AAS 1013 African American Music
ARC 1013 Architectural Appreciation
ART 1013 Art History I
ART 1023 Art History II
ART 1113 Art Appreciation
CO 1503 Introduction to Theatre
HON 3173 Honors Seminar in Fine Arts
ID 3643 History of Interiors
LA 1803 Landscape Appreciation
MU 1103 African American Music
MU 1113 History and Appreciation of Music
MU 1123 Hist and Apprec of Am Music
MU 1133 The History of Rock and Roll
MU 1163 Introduction to Music in Film
MU 3013 Survey of Western Music History I
MU 3023 Survey of Western Music History II
PE 1323 History and Appreciation of Dance
PSS 2343 Floral Design
TKI 2413 Hist and Apprec of the Arts/crafts

Fine Arts Selection:

NATURAL SCIENCES (13 HOURS)

CH 1213 CHEMISTRY I
CH 1211 INVESTIGATIONS IN CHEMISTRY I
CH 1223 CHEMISTRY II
PH 2213 PHYSICS I
PH 2223 PHYSICS II

MATHEMATICS (15 HRS)

MA 1713 CALCULUS I
MA 1723 CALCULUS II
MA 2733 CALCULUS III
MA 2743 CALCULUS IV
MA 3113 LINEAR ALGEBRA

SOCIAL SCIENCES (6 HOURS)

EC 2123 PRINCIPLES OF MICROECONOMICS
PSY 1013 GENERAL PSYCHOLOGY

HUMANITIES (6 HOURS)

___3 HUMANITIES ELECTIVE
___3 HUMANITIES ELECTIVE
(ANY GEN. ED. COURSE approved course*)
AAS 1063 Intro to African American Studies
AAS 2363 Intro to African American Literature
AAS 3013 African American History to 1865
AAS 3023 African American History since 1865
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 1003 History of Science in Six Ideas
HI 1013 History of Technology in Six Objects
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).

Humanities Selection (1):

Humanities Selection (2):

MAJOR CORE:

MATH/SCIENCE ELECTIVE (3 HOURS)

___3 MATH/SCIENCE ELECTIVE
APPROVED MATH/SCIENCE ELECTIVES:

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*
PH 2233 *Physics III*
CH 2313 *Analytical Chemistry*
BIO 1134 *Biology I*
GG 4153 *Engineering Geology*
GG 4233 *Applied Geophysics*

Math/Science Selection:

ENGINEERING TOPICS (12 HOURS)

EM 2413 ENGINEERING MECHANICS I
___3 ENGINEERING SCIENCE ELECTIVE
___3 ENGINEERING SCIENCE ELECTIVE

APPROVED ENGINEERING SCIENCE ELECTIVES:

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

Eng. Science Selection (1):

Eng. Science Selection (2):

___3 COMPTR PROGRAMMING ELECTIVE

APPROVED COMPUTER SCIENCE ELECTIVES:

CSE 1233 *Computer Programming w/ C*
CSE 1284 *Intro to Computer Programming*

Comp. Programming Selection:

INDUSTRIAL ENGINEERING TOPICS (52 HRS)

IE 1313 LEAN WORKS SYSTEMS
IE 3123 INDUSTRIAL ERGONOMICS
IE 3323 MANUFACTURING PROCESSES
IE 3913 ENGINEERING ECONOMY I
IE 4333 PRODUCTION CONTROL SYSTEMS I
IE ___3 ENGINEERING MGMT ELECTIVE

APPROVED ENGINEERING MGMT ELECTIVES:

IE 4513 *ENGINEERING ADMIN.*
IE 4533 *PROJECT MANAGEMENT*

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 ENG & ANALYSIS
IE 4773 SYSTEMS SIMULATION I
IE 4914 INDUSTRIAL SYSTEMS DESIGN
IE 4933 INFORMATION SYSTEMS IN IE
IE ___3 IE DESIGN ELECTIVE
IE ___3 IE DESIGN ELECTIVE

Engineering Mgmt Selection:

OTHER (12 HOURS)

GE 3513 TECHNICAL WRITING
ACC 2023 MANAGERIAL ACCOUNTING
___3 PROF. ENRICHMENT ELECTIVE
Professional Enrichment Elective appropriately titled, the purpose of this elective is to aid students in the enrichment of their undergraduate program in a professional manner. The intent is to help students achieve objectives such as earning a minor or a certificate, preparing for the F.E. Exam, participating in the Study Abroad Program, or additional study in technical, primarily upper-division areas of study.

___3 APPROVED ELECTIVE

Students may choose nearly any course or combination of courses totaling three credit hours or more offered at MSU for the Approved Elective. The only exception is that students may not choose remedial courses (courses which are prerequisite to required or previously completed courses), LSK courses, and physical education courses outside of varsity sports. Examples of course that would benefit

EFFECTIVE DATE August 1, 2020

* General Education Courses listed from 2018 Undergraduate Bulletin