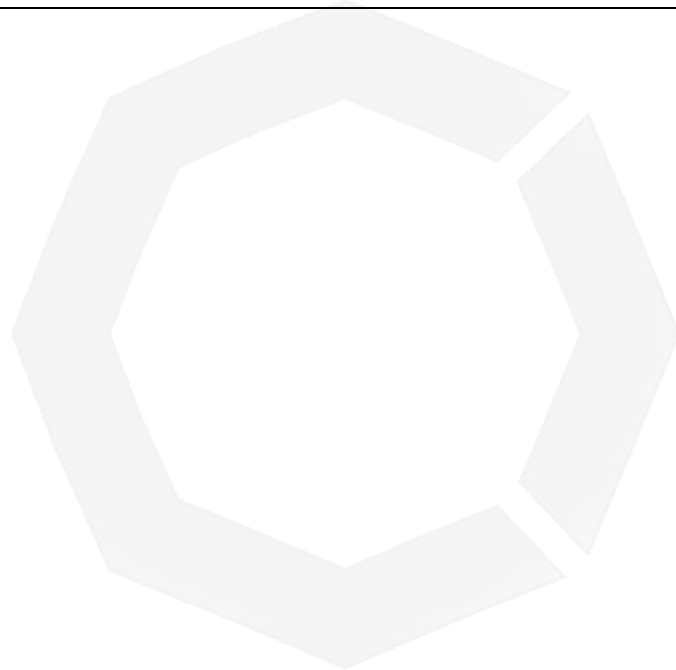


Industrial Engineering, B.S.: 127 units 2021-2022 Academic Year

| | Fall | | Units | Spring | | Units | Comments |
|---------------|--|---|-------|--|--|-------|---|
| | Courses | Requirements/Comments | | Courses | Requirements/Comments | | |
| Year 1 | IME 1130L Industrial and Manufacturing Engineering Computations Laboratory [FSp] | | 1 | PHY 1510 Introduction to Newtonian Mechanics (B1) [FSp] | Prereq: C- or better in MAT 114, MAT 1140, MAT 1140C, MAT 115, MAT 116 or MAT 1150. Coreq: PHY 1510L. | 3 | [] = Term Typically Offered F = Fall Sp = Spring Su = Summer e = even years o = odd years |
| | CHM 1210 General Chemistry I (B1) [FSp] | Prereq: SAT Math \geq 550; ACT Math \geq 23; C or better in MAT 12, 105, 106, 112, 114, 115, 116, 120, 125, 130, 191, 214, 216, 224, MAT 1050, MAT 1052, MAT 1060, MAT 1140, MAT 1150, MAT 1200, MAT 1250, MAT 1300, MAT 1310, MAT 1910, MAT 2140, MAT 2240, MAT 2250, STA 120, Coreq: CHM 1210L. | 3 | PHY 1510L Newtonian Mechanics Laboratory (B3) [FSp] | Coreq: PHY 1510. | 1 | |
| | CHM 1210L General Chemistry Laboratory I (B3) [FSp] | Prereq: SAT Math \geq 550; ACT Math \geq 23; C or better in MAT 12, 105, 106, 112, 114, 115, 116, 120, 125, 130, 191, 214, 216, 224, MAT 1050, MAT 1052, MAT 1060, MAT 1140, MAT 1150, MAT 1200, MAT 1250, MAT 1300, MAT 1310, MAT 1910, MAT 2140, MAT 2240, MAT 2250, STA 120, Coreq: CHM 1210. | 1 | MAT 1150 Calculus II (B4) [FSpSu] (Success Marker) | Prereq: MAT 1140, MAT 115B, MAT 1140C, AP Calc AB \geq 3, or AP Calc BC \geq 3. | 4 | |
| | MAT 1140 Calculus I (B4) [FSp] (Success Marker) | Prereq: C or better in MAT 1050 and MAT 1060, MAT 1070, or appropriate score on MDTP or ALEKS placement test. | 4 | MFE 1260 Engineering Graphics I [FSp] | Coreq: MFE 1260L. | 1 | |
| | EGR 1000 Engineering, Society, and You (E) [FSp] | | 2 | MFE 1260L Engineering Graphics I Laboratory [FSp] | Coreq: MFE 1260. | 1 | |
| | EGR 1000L Engineering, Society, and You Laboratory (E) [FSp] | | 1 | IME 2241 Industrial and Manufacturing Engineering Fundamentals [FSp] | Coreq: IME 2241L. | 2 | |

| | | | | | | |
|--|--|-----------|--|------------------|-----------|--|
| GE Area A2: Written Communication [FSp] (Success Marker) | | 3 | IME 2241L Industrial and Manufacturing Engineering Fundamentals Laboratory [FSp] | Coreq: IME 2241. | 1 | |
| | | 0 | GE Area A1: Oral Communication [FSP] | | 3 | |
| Total Units | | 15 | Total Units | | 16 | |



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| Year 2 | Fall | | Units | Spring | | Units | Comments |
|---|---|-----------------------|---|---|--|-------|----------|
| | Courses | Requirements/Comments | | Courses | Requirements/Comments | | |
| | MFE 2010 Manufacturing Systems and Processes [FSpSu] | Coreq: MFE 2010L. | 2 | MTE 2070 Materials Science and Engineering [FSpSu] | Prereq: CHM 1210, CHM 1150, CHM 121, or CHM 115; PHY 131 or PHY 1510; PHY 131L or PHY 1510L; and MAT 116 or MAT 1150. | 2 | |
| MFE 2010L Manufacturing Systems and Processes Laboratory [FSp] | Coreq: MFE 2010. | 1 | CE 2051 Mechanics of Materials [FSpSu] | Prereq: C- or better in ME 214, ETT 210, CE 2041, ARO 2041, or ETM 2101. | 3 | | |
| ARO 2041 Engineering Statics [FSp] | Prereq: C- or better in MAT 1150, MAT 115, or MAT 130; C or better in PHY 1510 or PHY 131; and C of better in PHY 1510L or PHY 131L. | 3 | MAT 2240 Elementary Linear Algebra and Differential Equations [FSpSu] | Prereq: MAT 116, MAT 1150, or MAT 1150C. | 3 | | |
| PHY 1520 Introduction to Electromagnetism and Circuits [FSpSu] | Prereq: C- or better in MAT 115 or MAT 1150; and C- or better in PHY 132, PHY 132B, PHY 1510B or PHY 1510. Coreq: PHY 1520L. | 3 | IME 3140 Engineering Probability and Statistics [FSp] | Prereq: MAT 115 or MAT 1150. | 3 | | |
| PHY 1520L Introductory Laboratory on Electromagnetism and Circuits [FSpSu] | Coreq: PHY 1520. | 1 | IE 2250 Fundamentals of Human Factors Engineering [FSp] | Coreq: IE 2250L. | 2 | | |
| MAT 2140 Calculus III [FSp] | Prereq: MAT 116, MAT 214, MAT 1150, or MAT 1150C. | 4 | IE 2250L Fundamentals of Human Factors Engineering Laboratory [FSp] | Coreq: IE 2250. | 1 | | |
| IME 2390 Industrial Costs and Controls [FSp] | | 2 | GE Area F: Ethnic Studies [FSp] | | 3 | | |
| | | 0 | | | 0 | | |
| Semester Total Units | | 16 | Semester Total Units | | 17 | | |

| | Fall | | Units | Spring | | Units | Comments |
|-----------------------------|---|---|-----------|---|---|-----------|----------|
| | Courses | Requirements/Comments | | Courses | Requirements/Comments | | |
| Year 3 | IE 3270 Systems Engineering [FSp] | Prereq: IME 224 or IME 2241; and MAT 116, MAT 214, MAT 215, MAT 224, or MAT 1150. Coreq: IE 3270L. | 2 | IE 4290 Discrete System Simulation [FSp] | Prereq: IME 113 or IME 1130L; and IME 312, IME 314, or IME 3140. Coreq: IE 4290L. | 2 | |
| | IE 3270L Systems Engineering Laboratory [FSp] | Prereq: IME 224 or IME 2241; and MAT 116 or MAT 1150. Coreq: IE 3270. | 1 | IE 4290L Discrete System Simulation Laboratory [FSp] | Prereq: IME 113 or IME 1130L; and IME 312, IME 314, or IME 3140. Coreq: IE 4290. | 1 | |
| | CHE 2301 Process and Automation [FSp] | Prereq: C- or better in PHY 133 or PHY 1520, MAT 214 or MAT 2140, and CHE 201, CHE 2011, IME 113L, or IME 1130L. Coreq: CHE 2301L. | 2 | Major Electives [FSp] | Select from Curriculum Sheet | 2 | |
| | CHE 2301L Process and Automation Laboratory [FSp] | Prereq: MAT 215 or MAT 2140; CHE 201, CHE 2011, IME 113L, or IME 1130L; and C- or better in PHY 133 or PHY 1520. Coreq: CHE 2301 | 1 | IME 4030 Fiscal Implications in Technical Decision Making (B5, D4) [FSpSu] | Prereq: Lower division GE requirements in Area A, at least two sub-areas in Area B, and at least two sub-areas in Area D. | 3 | |
| | IME 3261 Production Planning and Control [FSpSu] | Prereq: IME 224, or IME 2241; and IME 312, IME 314, or IME 3140; and IME 113 or IME 1130L. | 3 | GE Area B2: Life Sciences [FSp] | | 2 | |
| | Major Electives [FSp] | Select from Curriculum Sheet | 2 | GE Area C2: Literature, Modern Languages, Philosophy and Civilization [FSp] | | 3 | |
| | GE Area D1: U.S. History American Ideals [FSp] | | 3 | GE Area C1: Visual and Performing Arts [FSp] | | 3 | |
| | GE Area D2: U.S. Constitution and California Government [FSp] | | 3 | | | 0 | |
| Semester Total Units | | | 17 | Semester Total Units | | 16 | |

| Year 4 | Fall | | Units | Spring | | Units | Comments |
|---|--|---|--|---|---|-------|----------|
| | Courses | Requirements/Comments | | Courses | Requirements/Comments | | |
| | IME 3311 Facilities Planning, Layout and Design [FSp] | Prereq: IME 326 or IME 3261; and MFE 126 or MFE 1260. | 3 | IE 4360 Operations Planning and Control [Sp] | Prereq: IE 327 or IE 3270; IE 416 or IE 4160; IME 326 or IME 3261; and IE 225 or IE 2250. Coreq: IE 4360L. | 2 | |
| IE 4160 Operations Research I [FSp] | Prereq: MAT 224 or MAT 2240. | 3 | IE 4360L Operations Planning and Control Laboratory [Sp] | Prereq: IE 327 or IE 3270; IE 416 or IE 4160; IME 326 or IME 3261; and IE 225 or IE 2250. Coreq: IE 4360. | 1 | | |
| MFE 4501 Introduction to Computer Integrated Manufacturing and Automation [FSp] | Prereq: ECE 231 or CHE 2301; MFE 201, MFE 2010, MFE 230, or MFE 2211; and MAT 224 or MAT 2240. Coreq: MFE 4501L. | 2 | Major Electives | Select from Curriculum Sheet | 3 | | |
| MFE 4501L Introduction to Computer Integrated Manufacturing and Automation Laboratory [FSp] | Coreq: MFE 4501. | 1 | IE 4170 Operations Research II [FSp] | Prereq: IME 312, IME 314, or IME 3140. | 3 | | |
| IME 4150 Statistical Quality Control [FSp] | Prereq: IME 312, IME 314, or IME 3140. Coreq: IME 4150L . | 2 | EGR 4820 Project Design Principles and Applications (B5) [SpSu] | Prereq: Lower division GE requirements in Areas A and B. | 1 | | |
| IME 4150L Statistical Quality Control Laboratory [FSp] | Prereq: IME 312, IME 314, or IME 3140. | 1 | EGR 4830 Project Design Principles and Applications (B5) [SpSu] | Prereq: Lower division GE requirements in Areas A and B. | 1 | | |
| EGR 4810 Project Design Principles and Applications (B5) [FSp] | Prereq: Lower division GE requirements in Areas A and B. | 1 | IME 4020 Ethical Concepts in Technology and Applied Science (B5, C3) [FSpSu] | Prereq: Lower division GE requirements in Area A, at least two sub-areas in Area B, and at least two sub-areas in Area C. | 3 | | |
| GE Area C1 or GE Area C2 [FSp] | Select either C1: Visual and Performing Arts or C2: Literature, Modern Languages, Philosophy and Civilization course | 3 | | | 0 | | |
| <i>File an application to graduate</i> | | | | | | | |

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|--|-----------------------------|-----------|-----------------------------|------------|--|
| | Semester Total Units | 16 | Semester Total Units | 14 | |
| | | | Total Units | 127 | |



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