

Electromechanical Systems Engineering Technology, B.S.: 124 units  
2020-2021 Academic Year

|               | Fall   |   | Units     | Spring  |   | Units     | Comments  |
|---------------|--|---|-----------|---|---|-----------|---|
|               | Courses  | Requirements/Comments   |           | Courses   | Requirements/Comments   |           |   |
| <b>Year 1</b> | EGR 1000 Engineering, Society, and You (E) [FSp]             |   | 2         | PHY 1210 Physics of Motion, Fluids, and Heat (B1) [FSp]             | Prereq: C- or better in MAT 106, MAT 1060, MAT 112, MAT 114, MAT 1140, MAT 1140C, MAT 115, MAT 116 or MAT 1150. Coreq: PHY 1210L. | 3         | [ ] = Term Typically Offered<br>F = Fall<br>Sp = Spring<br>Su = Summer<br>e = even years<br>o = odd years |
|               | EGR 1000L Engineering, Society, and You Laboratory (E) [FSp] |   | 1         | PHY 1210L Physics of Motion, Fluids, and Heat Laboratory (B3) [FSp] | Coreq: PHY 1210.  | 1         |   |
|               | MAT 1300 Technical 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         | MAT 1310 Technical Calculus II [FSp] (Success Marker)               | Prereq: MAT 116, MAT 1150, MAT 1300, or MAT 1300B.  | 4         |   |
|               | GE Area A2: Written Communication [FSp] (Success Marker)     |   | 3         | ETE 1151 C/C++ Programming [FSp]                                    | Prereq: ESET, ETT, or EMSET major; EGR 1000; EGR 1000L; and MAT 1060 or MAT 106. Coreq: ETE 1151L.                                | 3         |   |
|               | GE Area D1: U.S. History American Ideals [FSp]               |   | 3         | ETE 1151L C/C++ Programming Laboratory [FSp]                        | Prereq: ESET, ETT, or EMSET major; EGR 1000; EGR 1000L; and MAT 1060 or MAT 106. Coreq: ETE 1151.                                 | 1         |   |
|               | GE Area A1: Oral Communication [FSP]                         |   | 3         | MFE 1260 Engineering Graphics I [FSp]                               | Coreq: MFE 1260L.   | 1         |   |
|               |  |   | 0         | MFE 1260L Engineering Graphics I Laboratory [FSp]                   | Coreq: MFE 1260.  | 1         |   |
|               |  |   | 0         |   |   | 0         |   |
|               |  | <b>Total Units</b>  | <b>16</b> |   | <b>Total Units</b>  | <b>14</b> |   |

| Year 2  | Fall   |   | Units  | Spring   |   | Units | Comments |
|---|--|---|--|--|---|-------|----------|
|   | Courses  | Requirements/Comments   |  | Courses  | Requirements/Comments   |       |          |
|   | ETM 2101 Applied Statics [FSp]   | Prereq: ETT or EMSET major, PHY 1210 or PHY 121; and C- or better in MAT 1300 or MAT 130. | 3  | ETM 2111 Applied Dynamics [FSp]  | Prereq: ETT or EMSET major; C- or better in MAT 1300 or MAT 131; and C- or better in ETM 2101 or ETM 210. | 3     |          |
| CHM 1150 General Chemistry for Engineers [FSp]                              | Prereq: C or better MAT 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, STA120, STA 1200, SAT Math $\geq$ 550, or | 3   | ETM 2171 Material Science for Engineering Technology [F] | Prereq: EMSET major, CHM 1210 or CHM 121, and PHY 1210 or PHY 121.   | 3   |       |          |
| PHY 1220 Physics of Electromagnetism, Circuits, and Light [FSp]             | Prereq: C- or better in PHY 122, PHY 122B, PHY 1210, or PHY 1210B. Coreq: PHY 1220L.   | 3   | ETE 2011 Electrical Networks [Sp]                        | Prereq: ETT or EMSET major, MAT 1060 or MAT 106, PHY 1210 or PHY 123, and PHY 1210L or PHY 123L. (Not open to ECET or ESET major). Coreq: ETE 2011L. | 3   |       |          |
| PHY 1220L Electromagnetism, Circuits, and Light Laboratory [FSp]            | Coreq: PHY 1220.   | 1   | ETE 2011L Electrical Networks Laboratory [Sp]            | Prereq: ETT or EMSET major, MAT 1060 or MAT 106, PHY 1210 or PHY 123, and PHY 1210L or PHY 123L. (Not open to ECET or ESET major). Coreq: ETE 2011.  | 1   |       |          |
| GE Area C2: Literature, Modern Languages, Philosophy and Civilization [FSp] |  | 3   | GE Area C1: Visual and Performing Arts [FSp]             |  | 3   |       |          |
| GE Area D2: U.S. Constitution and California Government [FSp]               |  | 3   | GE Area B2: Life Sciences [FSp]                          |  | 2   |       |          |
| <b>Semester Total Units</b>   |  | <b>16</b>   | <b>Semester Total Units</b>                              |  | <b>15</b>   |       |          |

|                             | Fall   |   | Units     | Spring  |   | Units     | Comments  |
|-----------------------------|--|---|-----------|---|---|-----------|---|
|                             | Courses  | Requirements/Comments   |           | Courses   | Requirements/Comments   |           |   |
| Year 3                      | ETM 3061 Applied Thermodynamics I [Sp]                           | Prereq: ETT or EMSET major, C- or better in ETM 2101 or ETT 210, and C- or better in MAT 1300 or MAT 131.   | 3         | GE Area D3: Social Sciences: Principles, Methodologies, Value Systems, and Ethics [FSp] |   | 3         | <i>Graduation Writing Test must be taken before completion of 75 units.</i> |
|                             | ETE 3211 Electronic Systems [FSu]                                | Prereq: ETT or EMSET major; MAT 1300 or MAT 130; and C- or better in ETE 2011 or ETT 201, and ETE 2011L or ETT 201L. (Not open to ECET or ESET major).<br>Coreq: ETE 3211L. | 3         | ETM 3101 Applied Fluid Mechanics I [F]  | Prereq: ETT or EMSET major, C- or better in ETM 2101 or ETT 210, and C- or better in MAT 1300 or MAT 131.   | 3         |   |
|                             | ETE 3211L Electronic Systems Laboratory [FSu]                    | Prereq: ETT or EMSET major; MAT 1300 or MAT 130; and C- or better in ETE 2011 or ETT 201, and ETE 2011L or ETT 201L. (Not open to ECET or ESET major).<br>Coreq: ETE 3211.  | 1         | ETM 3151 Machine Elements [F]   | Prereq: ETT or EMSET major, C- or better in ETM 2111 or ETT 211, C- or better in ETM 2201/ETM 2201L or ETT 220/ETT 220L, and C- or better in MFE 1260/MFE 1260L or MFE 126/MFE 126L.<br>Coreq: ETM 3151L. | 3         |   |
|                             | ETM 2201 Strength of Materials [Sp]                              | Prereq: ETT or EMSET major, C- or better in MAT 1300 or MAT 130, C- or better in ETM 2101 or ETT 210, and C- or better in ETM 2171 or ETT 217.<br>Coreq: ETM 2201L.         | 3         | ETM 3151L Machine Elements Laboratory [F]   | Prereq: ETT or EMSET major, C- or better in ETM 2111 or ETT 211, C- or better in ETM 2201/ETM 2201L or ETT 220/ETT 220L, and C- or better in MFE 1260/MFE 1260L or MFE 126/MFE 126L.<br>Coreq: ETM 3151.  | 1         |   |
|                             | ETM 2201L Strength of Materials Laboratory [Sp]                  | Prereq: ETT or EMSET major, C- or better in MAT 1300 or MAT 130, C- or better in ETM 2101 or ETT 210, and C- or better in ETM 2171 or ETT 217.<br>Coreq: ETM 2201.          | 1         | ETM 3301 Instrumentation and Control [FSp]  | Prereq: ETT or EMSET major, C- or better in ETE 3211 or ETT 321, and C- or better in MAT 1310 or MAT 132.<br>Coreq: ETM 3301L.  | 3         |   |
|                             | MFE 2010 Manufacturing Systems and Processes [FSpSu]             | Coreq: MFE 2010L.   | 2         | ETM 3301L Instrumentation and Control Laboratory [FSp]                                  | Prereq: ETT or EMSET major, C- or better in ETE 3211 or ETT 321, and C- or better in MAT 1310 or MAT 132.<br>Coreq: ETM 3301.   | 1         |   |
|                             | MFE 2010L Manufacturing Systems and Processes Laboratory [FSpSu] | Coreq: MFE 2010.  | 1         | EGR 4810 Project Design Principles and Applications (B5) [FSp]                          | Prereq: Lower division GE requirements in Areas A and B.  | 1         |   |
|                             | 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>Take the Graduation Writing Test</i>                          |   |           |   |   |           |   |
| <b>Semester Total Units</b> |  |   | <b>17</b> | <b>Semester Total Units</b>   |   | <b>15</b> |   |

|               | Fall   |   | Units | Spring   |   | Units      | Comments  |
|---------------|--|---|-------|--|---|------------|-----------|
|               | Courses  | Requirements/Comments   |       | Courses  | Requirements/Comments   |            |           |
| <b>Year 4</b> | EGR 4820 Project Design Principles and Applications (B5) [SpSu]              | Prereq: Lower division GE requirements in Areas A and B.  | 1     | Major Electives  | Select from Curriculum Sheet  | 3          |           |
|               | ETM 3341 Heating Ventilation and Air Conditioning I [F]                      | Prereq: ETT or EMSET major, and C- or better in ETM 3061 or ETM 306.  | 3     | EGR 4830 Project Design Principles and Applications (B5) [SpSu]              | Prereq: Lower division GE requirements in Areas A and B.  | 1          |           |
|               | ETE 4751 Introduction to Robotics Control and Application [FSp]              | Prereq: ECET or ESET major; ETE 3501, ETE 350, ETM 3301, or ETM 330; ETE 3501L, ETE 350L, ETM 3301L, or ETM 330L; and C- or better in ETM 2111, ETM 2121, or ETT 211. Coreq: ETE 4751L. | 3     | 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          |           |
|               | ETE 4751L Introduction to Robotics Control and Applications Laboratory [FSp] | Prereq: ECET or ESET major; ETE 3501, ETE 350, ETM 3301, or ETM 330; ETE 3501L, ETE 350L, ETM 3301L, or ETM 330L; and C- or better in ETM 2111, ETM 2121, or ETT 211. Coreq: ETE 4751.  | 1     | GE Area D4: Social Science Synthesis [FSp]                                   |   | 3          |           |
|               | ETM 3141L Thermal Fluids Laboratory [FSp]                                    | Prereq: ETT or EMSET major, C- or better in ETM 3101 or ETT 310, and C- or better in ETM 3061 or ETM 306.   | 1     | Major Electives  | Select from Curriculum Sheet  | 3          |           |
|               | Major Electives  | Select from Curriculum Sheet  | 3     | ETM 3121 Applied Fluid Mechanics II [Sp]                                     | Prereq: ETT or EMSET major, C- or better in ETM 2111 or ETT 211, and C- or better in ETM 3101 or ETT 310.                 | 3          |           |
|               | ETM 3081 Applied Heat Transfer [Sp]  | Prereq: ETT or EMSET major, and C- or better in ETM 3101 or ETT 310.  | 3     |  |   | 0          |           |
|               |  |   | 0     |  |   | 0          |           |
|               | <i>File an application to graduate</i>                                       |   |       |  |   |            |           |
|               | <b>Semester Total Units</b>  |   |       | <b>15</b>  | <b>Semester Total Units</b>   |            | <b>16</b> |
|               |  |   |       | <b>Total Units</b>   |   | <b>124</b> |           |



CalPoly  
Pomona