

**Civil Engineering, B.S. - Geospatial Engineering Subplan/Option: 126 Units**  
2021-2022 Academic Year

|               | Fall   |   | Units | Spring  |   | Units | Comments  |
|---------------|--|---|-------|---|---|-------|---|
|               | Courses  | Requirements/Comments   |       | Courses   | Requirements/Comments   |       |   |
| <b>Year 1</b> | CE 1001 Civil Engineering [FSp]                          | Prereq: BSCE, BSCET, BSCEM or MSCE Major.<br>Coreq: CE 1001L or CE 127L; and College Level Math.              | 1     | CE 1011 Surveying Engineering [FSpSu]                   | Prereq: C- or better in CE 1001, CE 1101, CE 127, or ETC 130; and BSCE, BSCET, BSCEM, or MSCE Major.<br>Coreq: CE 1011L, CE 134L, or ETC 131L; and MAT 114, MAT 1140, MAT 130, or MAT 1300.   | 3     | [ ] = Term Typically Offered<br>F = Fall<br>Sp = Spring<br>Su = Summer<br>e = even years<br>o = odd years |
|               | CE 1001L Civil Engineering Laboratory [FSp]              | Prereq: BSCE, BSCET, BSCEM or MSCE Major.<br>Coreq: CE 1001 or CE 127; and College Level Math.                | 1     | CE 1011L Surveying Engineering Laboratory [FSpSu]       | Prereq: C- or better in CE 1001L, CE 1101L, CE 127L, or ETC 130L; and BSCE, BSCET, BSCEM, or MSCE Major.<br>Coreq: CE 1011, CE 134, or ETC 131; and MAT 114, MAT 1140, MAT 130, or MAT 1300.  | 1     |   |
|               | GE Area E: Lifelong Learning and Self-Development [FSp]  | Recommend EGR 1000/L  | 3     | CHM 1210 General Chemistry I (B1) [FSpSu]               | 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     |   |
|               | GE Area A2: Written Communication [FSp] (Success Marker) |   | 3     | CHM 1210L General Chemistry Laboratory I (B3) [FSpSu]   | 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,                            | 1     |   |
|               | MAT 1140 Calculus I (B4) [FSpSu] (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 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     |   |
|               | GE Area A1: Oral Communication [FSp]                     |   | 3     | 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.<br>Coreq: PHY 1510L.  | 3     |   |
|               | GE Area B2: Life Sciences [FSp]                          |   | 2     | PHY 1510L Newtonian Mechanics Laboratory (B3) [FSp]     | Coreq: PHY 1510.  | 1     |   |

|  |                    |           |                    |           |
|--|--------------------|-----------|--------------------|-----------|
|  |                    | 0         |                    | 0         |
|  | <b>Total Units</b> | <b>17</b> | <b>Total Units</b> | <b>16</b> |



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|               | Fall   |  | Units | Spring  |  | Units | Comments |
|---------------|--|--|-------|---|--|-------|----------|
|               | Courses  | Requirements/Comments  |       | Courses   | Requirements/Comments  |       |          |
| <b>Year 2</b> | CE 2011 Technical Communications [FSpSu]                                 | Prereq: GE Area A and BSCE, BSCET, BSCEM, or MSCE Major.   | 3     | IME 3011 App. of Stats in Engineering [FSp]                                 | Prereq: MAT 115, MAT 116, MAT 214, MAT 215, MAT 216, MAT 224, or MAT 1150. | 2     |          |
|               | CE 2041 Engineering Statics [FSpSu]                                      | 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     | CE 2051 Mechanics of Materials [FSpSu]                                      | Prereq: C- or better in ME 214, ETT 210, CE 2041, ARO 2041, or ETM 2101.   | 3     |          |
|               | MAT 2140 Calculus III [FSpSu]  | Prereq: MAT 116, MAT 214, MAT 1150, or MAT 1150C.  | 4     | 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 [FSp]             | 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     | GE Area D1: U.S. History American Ideals [FSp]                              |  | 3     |          |
|               | PHY 1520L Introductory Laboratory on Electromagnetism and Circuits [FSp] | Coreq: PHY 1520.   | 1     | GE Area C2: Literature, Modern Languages, Philosophy and Civilization [FSp] |  | 3     |          |
|               | GE Area E: Lifelong Learning and Self-Development [FSp]                  |  | 3     |   |  | 0     |          |
|               |  |  | 0     |   |  | 0     |          |
|               |  |  | 0     |   |  | 0     |          |
|               | <b>Semester Total Units</b>  | <b>17</b>  |       | <b>Semester Total Units</b>   | <b>14</b>  |       |          |

|        | Fall   |   | Units     | Spring  |  | Units     | Comments |
|--------|--|---|-----------|---|--|-----------|----------|
|        | Courses  | Requirements/Comments   |           | Courses   | Requirements/Comments  |           |          |
| Year 3 | CE 2030 Civil Engineering Materials [FSpSu]              | Prereq: C- or better in ME 218, ETT 220, or CE 2051; CHM 121 or CHM 1210; and BSCE, BSCET, BSCEM, or MSCE Major.<br>Coreq: CE 221L or CE 2030L. | 2         | CE 3211 Water Resources Engineering [FSpSu]                   | Prereq: CE 2061, ME 311, or ETT 310; and BSCE, BSCET, BSCEM, or MSCE Major.  | 3         |          |
|        | CE 2061 Fluid Mechanics [FSpSu]                          | Prereq: C- or better in ME 214, ETT 210, CE 2041, ARO 2041, or ETM 2101.  | 3         | GSC 3210 Engineering Geology I (B5) [FSpSu]                   | Prereq: Upper Division standing; and Lower division GE requirements in Areas A and B.<br>Coreq: GSC 3210L.           | 2         |          |
|        | CE 3301 Engineering Geomatics [FSpSu]                    | Prereq: C- or better in CE 134L or CE 1011L; CE 134 or CE 1011; and BSCE, BSCET, BSCEM, or MSCE Major.  | 3         | GSC 3210L Engineering Geology I Laboratory (B5) [FSpSu]       | Prereq: Upper Division standing; and Lower division GE requirements in Areas A and B.<br>Coreq: GSC 3210.            | 1         |          |
|        | CE 2070 Computer Programming and Numerical Methods [FSp] | Prereq: C- or better in MAT 224, MAT 2240, or MAT 216.  | 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         |          |
|        | CE 4350 Photogrammetry [F]                               | Prereq: C- or better in CE 134 or CE 1011; C- or better in CE 134L or CE 1011L; and BSCE, BSCET, BSCEM, or MSCE Major.<br>Coreq: CE 4350L .     | 2         | Option Electives [FSp]  | Select from Curriculum Sheet   | 4         |          |
|        | CE 4350L Photogrammetry Laboratory [F]                   | Prereq: C- or better in CE 134 or CE 1011; C- or better in CE 134L or CE 1011L; and BSCE, BSCET, BSCEM, or MSCE Major.<br>Coreq: CE 4350.       | 1         | GE Area D2: U.S. Constitution and California Government [FSp] |  | 3         |          |
|        | CE 2030L Civil Engineering Materials Laboratory [FSpSu]  | Prereq: C- or better in ME 218, ETT 220, or CE 2051; CHM 121L or CHM 1210L .<br>Coreq: CE 221 or CE 2030.                                       | 1         |   |  | 0         |          |
|        |  |   | 0         |   |  | 0         |          |
|        | <b>Semester Total Units</b>                              |   | <b>15</b> | <b>Semester Total Units</b>                                   |  | <b>16</b> |          |

|        | Fall   |  | Units | Spring   |   | Units | Comments |
|--------|--|--|-------|--|---|-------|----------|
|        | Courses  | Requirements/Comments  |       | Courses  | Requirements/Comments   |       |          |
| Year 4 | EGR 4810 Project Design Principles and Applications (B5) [FSp]               | Prereq: Lower division GE requirements in Areas A and B.   | 1     | EGR 4820 Project Design Principles and Applications (B5) [SpSu]            | Prereq: Lower division GE requirements in Areas A and B.  | 1     |          |
|        | CE 4321 Subdivision Engineering and Land Survey Descriptions [F]             | Prereq: C- or better in CE 134 or CE 1011; C- or better in CE 134L or CE 1011L; and BSCE, BSCET, BSCEM, or MSCE Major. Coreq: CE 4321L, and CE 3211 or CE 332. | 3     | EGR 4830 Project Design Principles and Applications (B5) [SpSu]            | Prereq: Lower division GE requirements in Areas A and B.  | 1     |          |
|        | CE 4321L Subdivision Engineering and Land Survey Descriptions Laboratory [F] | Prereq: C- or better in CE 134 or CE 1011; C- or better in CE 134L or CE 1011L; and BSCE, BSCET, BSCEM, or MSCE Major. Coreq: CE 4321, and CE 3211 or CE 332.  | 1     | CE 4301 Digital Mapping [Sp]   | Prereq: C- or better in CE 134 or CE 1011; C- or better in CE 134L or CE 1011L; and BSCE, BSCET, BSCEM, or MSCE Major. Coreq: CE 4301L. | 2     |          |
|        | CE 4331 GIS Applications in Engineering and Remote Sensing [F]               | Prereq: C- or better in CE 134 or CE 1011; C- or better in CE 134L or CE 1011L; and BSCE, BSCET, BSCEM, or MSCE Major. Coreq: CE 4331L.                        | 2     | CE 4301L Digital Mapping Laboratory [Sp]                                   | Prereq: C- or better in CE 134 or CE 1011; C- or better in CE 134L or CE 1011L; and BSCE, BSCET, BSCEM, or MSCE Major. Coreq: CE 4301.  | 1     |          |
|        | CE 4331L GIS Applications in Engineering and Remote Sensing Laboratory [F]   | Prereq: C- or better in CE 134 or CE 1011; C- or better in CE 134L or CE 1011L; and BSCE, BSCET, BSCEM, or MSCE Major. Coreq: CE 4331.                         | 1     | Option Required [FSp]  | CE 4341/L Satellite Surveying in Engineering/ Laboratory  | 3     |          |
|        | EGR 3321 CA Boundary Law and Public Lands (D4) [F]                           | Prereq: Lower division GE requirements in Areas A and D, and sub-area B4. Coreq: EGR 3321A.  | 3     | Option Electives [FSp]   | Select from Curriculum Sheet  | 2     |          |
|        | EGR 3321A CA Boundary Law and Public Lands Activity [F]                      | Prereq: Completion of all GE Area A, D1, D2, and D3 requirements. Coreq: EGR 3321.   | 1     | IME 4020 Ethical Concepts in Technology and Applied Science (B5, C3) [FSp] | 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: Visual and Performing Arts [FSp]                                 |  | 3     | Option Required [FSp]  | Select from Curriculum Sheet  | 3     |          |
|        | <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>126</b> |  |



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