



**California State Polytechnic University, Pomona  
Degree Curriculum Sheet**

Plan (Major) **AEROSPACE ENGINEERING**  
Subplan/Option \_\_\_\_\_

Catalog Year **2009-2010**  
Minimum Units Required **198**

Name \_\_\_\_\_  
Student ID \_\_\_\_\_

Evaluator \_\_\_\_\_  
GWT Satisfied \_\_\_\_\_ Yes \_\_\_\_\_ No

| Required Core Courses   |              |           |
|---|--------------|-----------|
| Course  |              | Units     |
| <i>Students in this major are expected to maintain a GPA of 2.00 in all core courses.</i> |              |           |
| Introduction to Aeronautics   | ARO 101L     | 1         |
| Introduction to Astronautics  | ARO 102L     | 1         |
| Introduction to Aerospace Propulsion  | ARO 103L     | 1         |
| Fundamentals of Systems Engineering   | ARO 201L     | 1         |
| Fundamentals of Aeronautics   | ARO 202L     | 1         |
| Fundamentals of Astronautics  | ARO 203L     | 1         |
| Fluid Dynamics  | ARO 301      | 4         |
| Low-Speed Aerodynamics and Performance  | ARO 305      | 4         |
| Astronautics & Spacecraft Design  | ARO 309      | 3         |
| Gas Dynamics  | ARO 311      | 3         |
| Aircraft Jet Propulsion   | ARO 312      | 4         |
| Aerospace Feedback Control Systems/Lab  | ARO 322/322L | 3/1       |
| Aerospace Structural Mechanics I/Lab  | ARO 326/326L | 3/1       |
| Aerospace Structural Mechanics II   | ARO 327      | 3         |
| Aerospace Structures  | ARO 329      | 3         |
| Fluid Dynamics & Heat Transfer Lab  | ARO 351L     | 1         |
| Aerodynamics & Jet Propulsion Lab   | ARO 352L     | 1         |
| Aerospace Structures Lab  | ARO 357L     | 1         |
| Heat, Mass & Momentum Transfer  | ARO 401      | 4         |
| High-Speed Aerodynamics   | ARO 404      | 3         |
| Aircraft Stability & Control  | ARO 405      | 4         |
| Advanced Dynamics of Aerospace Systems  | ARO 406      | 4         |
| Experimental Techniques in Aerodynamics   | ARO 435L     | 1         |
| Senior Project  | ARO 461      | 2         |
| Senior Project  | ARO 462      | 2         |
| Aerosciences  | ARO 490L     | 1         |
| Aerospace Vehicle Design Lab I  | ARO 491L     | 2         |
| Aerospace Vehicle Design Lab II   | ARO 492L     | 2         |
| Aerospace Vehicle Design Lab III  | ARO 493L     | 2         |
| <b>Total Units</b>  |              | <b>68</b> |

| Elective Core Courses        |           |
|------------------------------|-----------|
| Course                       | Units     |
| Approved Technical Electives | 12        |
| <b>Total Units</b>           | <b>12</b> |

| Required Support Courses               |              |           |
|--|--------------|-----------|
| Course                                 |              | Units     |
| Elements of Electrical Engineering/Lab | ECE 231/231L | 3/1       |
| Analytical Geometry/Calculus 1 (B4)    | MAT 114      | 4         |
| Analytical Geometry/Calculus II        | MAT 115      | 4         |
| Analytical Geometry/Calculus III       | MAT 116      | 4         |
| Calculus of Several Variables I        | MAT 214      | 3         |
| Calculus of Several Variables II       | MAT 215      | 3         |
| Differential Equations                 | MAT 216      | 4         |
| Math Analysis of Engineering Problems  | MAT 318      | 3         |
| Materials Science and Engineering      | MTE 207      | 3         |
| General Physics (B1, B3)               | PHY 131/131L | 3/1       |
| General Physics/Lab                    | PHY 132/132L | 3/1       |
| General Physics/Lab                    | PHY 133/133L | 3/1       |
| Vector Statics                         | ME 214       | 3         |
| Vector Dynamics                        | ME 215       | 4         |
| CHE Thermodynamics I                   | CHE 302      | 4         |
| General Chemistry/Lab (B1, B3)         | CHM 121/131L | 3/1       |
| <b>Total Units</b>                     |              | <b>59</b> |

| General Education Requirements                              |           | IGE (G.E. Alternative)   |    |
|---|-----------|--|----|
| Area  | Units     |  |    |
| <b>Area A Communication &amp; Critical Thinking</b>         | <b>12</b> | IGE 120  | 4  |
| 1 Oral Communication  |           | IGE 121  | 4  |
| 2 Written Communication                                     |           | IGE 122  | 4  |
| 3 Critical Thinking   |           | IGE 220  | 4  |
| <b>Area B Mathematics &amp; Natural Sciences</b>            | <b>16</b> | IGE 221  | 4  |
| <i>Select at least one lab course from sub-area 1 or 2.</i> |           | IGE 222  | 4  |
| 1 Physical Science  |           | IGE 223  | 4  |
| 2 Biological Science  |           | IGE 224  | 4  |
| 3 Laboratory Activity                                       |           | Area A2  | 4  |
| 4 Math/Quantitative Reasoning                               |           | Area A3  | 4  |
| 5 Science & Technology Synthesis                            |           | Area B   | 16 |
| <b>Area C Humanities</b>                                    | <b>16</b> | Area C1, C2  |    |
| 1 Visual and Performing Arts                                |           | or C3  | 4  |
| 2 Philosophy and Civilization                               |           | Area C4  | 4  |
| 3 Literature and Foreign Language                           |           | Area D4  | 4  |
| 4 Humanities Synthesis                                      |           |  |    |
| <b>Area D Social Sciences</b>                               | <b>20</b> | See University Catalog for information on how IGE meets G.E. requirements. |    |
| 1 U.S. History, Constitution, American Ideals               |           |  |    |
| 2 History, Economics and Political Science                  |           |  |    |
| 3 Sociology, Anthropology, Ethnic & Gender Studies          |           |  |    |
| 4 Social Science Synthesis                                  |           |  |    |
| <b>Area E Lifelong Understanding &amp; Self Development</b> | <b>4</b>  |  |    |
| <b>Total Units</b>  | <b>68</b> |  |    |

| American Institutions   | Units |
|---|-------|
| Courses that satisfy this requirement may also satisfy G.E. Area D1 | 8     |

| American Cultural Perspectives Requirement   | Units |
|--|-------|
| Refer to catalog for list of courses that satisfy this requirement. Course may also satisfy major, minor, GE, or unrestricted elective requirements. | 4     |

The following required support courses should be taken to satisfy the indicated GE Requirements to achieve the minimum units to degree listed at the top of this sheet.

| Course                         | GE Area             |
|--------------------------------|---------------------|
| General Chemistry/Lab          | CHM 121/121L B1, B3 |
| and General Physics/Lab        | PHY 131/131L B1, B3 |
| Analytical Geometry/Calculus 1 | MAT 114 B4          |

The remaining GE requirements may be satisfied by any course approved for that area.

**Aerospace Engineering Department**  
**Aerospace Engineering Major**  
**Curriculum Year: 2009-2010**

*Your department has developed this road plan, taking into account prerequisites and schedule restrictions.  
You should pay attention to these concerns when deviating from this plan.*

| Year 1                      | Fall                          | Units              | Winter                          | Units              | Spring                               | Units     | Comment   |
|-----------------------------|-------------------------------|--------------------|---------------------------------|--------------------|--------------------------------------|-----------|---|
|                             | <b>ARO 101L</b><br>Major Core | 1                  | <b>ARO 102L</b><br>Major Core   | 1                  | <b>ARO 103L</b><br>Major Core        | 1         | <i>Students in this major are expected to maintain a GPA of at least 2.00 in all core courses.<br/><br/> CHM 121/L, MAT 114, and PHY 131L satisfy both major and general education requirements</i> |
|                             | <b>MAT 114</b><br>GE Area B1  | 4                  | <b>MAT 115</b><br>Major Support | 4                  | <b>MAT 116</b><br>Major Support      | 4         |   |
|                             | GE Area C4                    | 4                  | ENG 104<br>GE Area A2           | 4                  | <b>ME 214</b><br>Major Support       | 3         |   |
|                             | GE Area E                     | 4                  | GE Area A1                      | 4                  | GE Area C2                           | 4         |   |
|                             | CHM 121/L<br>GE Area B1, B3   | 4                  | <b>PHY 131</b><br>Major Support | 3                  | <b>PHY 132/132L</b><br>Major Support | 4         |   |
|                             |                               |                    | <b>PHY 131L</b><br>GE Area B3   | 1                  |                                      |           |   |
|                             |                               |                    |                                 |                    |                                      |           |   |
| <b>Total Units</b>          | <b>17</b>                     | <b>Total Units</b> | <b>17</b>                       | <b>Total Units</b> | <b>16</b>                            |           |   |
| <b>Total Units for Year</b> |                               |                    |                                 |                    |                                      | <b>50</b> |   |

| Year 2                      | Fall                                 | Units              | Winter                            | Units              | Spring                            | Units     | Comment  |
|-----------------------------|--------------------------------------|--------------------|-----------------------------------|--------------------|-----------------------------------|-----------|--|
|                             | <b>ARO 201L</b><br>Major Core        | 1                  | <b>ARO 202L</b><br>Major Core     | 1                  | <b>ARO 203L</b><br>Major Core     | 1         | <i>One course must be completed in each of the GE areas A2-3, B1-3, C1-3, D3, and E.</i> |
|                             | <b>MAT 214</b><br>Major Support      | 3                  | <b>ECE 231/L</b><br>Major Support | 4                  | <b>ARO 326/326L</b><br>Major Core | 4         |  |
|                             | <b>ME 215</b><br>Major Support       | 4                  | <b>MAT 215</b><br>Major Support   | 3                  | <b>MAT 318</b><br>Major Support   | 3         |  |
|                             | <b>PHY 133/133L</b><br>Major Support | 4                  | <b>MAT 216</b><br>Major Support   | 4                  | <b>HST 202</b><br>GE Area D1      | 4         |  |
|                             | GE Area A3                           | 4                  | <b>PLS 201</b><br>GE Area D1      | 4                  | GE Area B2                        | 3         |  |
|                             |                                      |                    |                                   |                    | <b>MTE 207</b><br>Major Support   | 3         |  |
|                             |                                      |                    |                                   |                    |                                   |           |  |
| <b>Total Units</b>          | <b>16</b>                            | <b>Total Units</b> | <b>16</b>                         | <b>Total Units</b> | <b>18</b>                         |           |  |
| <b>Total Units for Year</b> |                                      |                    |                                   |                    |                                   | <b>50</b> |  |

| Year 3 | Fall                                    | Units     | Winter                       | Units     | Spring                        | Units                       | Comment |           |
|--------|---|-----------|------------------------------|-----------|-------------------------------|-----------------------------|---------|-----------|
|        | <b>ARO 322/322L</b><br>Major Core       | 4         | <b>ARO 305</b><br>Major Core | 4         | <b>ARO 312</b><br>Major Core  | 4                           |         |           |
|        | <b>ARO 301</b><br>Major Core            | 4         | <b>ARO 311</b><br>Major Core | 3         | <b>ARO 404</b><br>Major Core  | 3                           |         |           |
|        | <b>CHE 302</b><br>Major Support         | 4         | <b>ARO 309</b><br>Major Core | 3         | <b>ARO 401</b><br>Major Core  | 4                           |         |           |
|        | <b>ARO 327</b><br>Major Core            | 3         | <b>ARO 329</b><br>Major Core | 3         | <b>ARO 405</b><br>Major Core  | 4                           |         |           |
|        |   |           | GE Area B5                   | 2         | <b>ARO 351L</b><br>Major Core | 1                           |         |           |
|        |   |           | ARO 357L<br>Major Core       | 1         | GE Area B5                    | 2                           |         |           |
|        | <i>Take the Graduation Writing Test</i> |           | ARO 435L<br>Major Core       | 1         |                               |                             |         |           |
|        | <b>Total Units</b>                      | <b>15</b> | <b>Total Units</b>           | <b>17</b> | <b>Total Units</b>            | <b>18</b>                   |         |           |
|        |   |           |                              |           |                               | <b>Total Units for Year</b> |         | <b>50</b> |

| Year 4 | Fall                                   | Units     | Winter                                 | Units     | Spring                                 | Units                                     | Comment   |  |
|--------|--|-----------|--|-----------|--|---|---|--|
|        | <b>GE Area D2</b>                      | 4         | <b>ARO 462</b><br>Major Core           | 2         | <b>ARO 493L</b><br>Major Core          | 2   | <i>All GE Area A courses and all lower division GE courses in a GE area must be completed before taking the GE Synthesis course in that area.</i> |  |
|        | <b>Approved Elective</b><br>Major Core | 4         | <b>Approved Elective</b><br>Major Core | 4         | <b>Approved Elective</b><br>Major Core | 4   |   |  |
|        | <b>ARO 352L</b><br>Major Core          | 1         | <b>ARO 492L</b><br>Major Core          | 2         | <b>GE D4</b>                           | 4   |   |  |
|        | <b>ARO 491L</b><br>Major Core          | 2         | ARO 406<br>Major Core                  | 4         | <b>GE D3</b>                           | 4   |   |  |
|        |  |           | ARO 490L<br>Major Core                 | 1         |  |   |   |  |
|        | <b>ARO 461</b><br>Major Core           | 2         | GE Area C1                             | 4         |  |   |   |  |
|        | <b>GE Area C3</b>                      | 4         |  |           |  |   |   |  |
|        | <i>Request a graduation check</i>      |           |  |           |  | <i>File an application for graduation</i> |   |  |
|        | <b>Total Units</b>                     | <b>17</b> | <b>Total Units</b>                     | <b>17</b> | <b>Total Units</b>                     | <b>14</b>                                 |   |  |
|        |  |           |  |           | <b>Total Units for Year</b>            | <b>48</b>                                 |   |  |

|                                    |            |  |
|------------------------------------|------------|--|
| <b>Total Units on Plan</b>         | <b>198</b> |  |
| <b>Major Core Units</b>            | <b>80</b>  |  |
| <b>Major Support Units</b>         | <b>50</b>  |  |
| <b>General Education Units</b>     | <b>68</b>  |  |
| <b>Unrestricted Elective Units</b> | <b>0</b>   |  |

