**Engineering Transfer Certificate: Mechanical, Aerospace, Manufacturing Track**

**MATH Description Units**

MATH 103 Calculus with Analytic Geometry 5

MATH 104 Calculus with Analytic Geometry 5

MATH 105 Calculus with Analytic Geometry 5

MATH 108 Ordinary Differential Equations 5

**PHYSICS**

PHYSICS 101 Engineering Physics 5

PHYSICS 102 Engineering Physics 5

PHYSICS 103 Engineering Physics 5

**CHEMISTRY**

CHEMISTRY 101 General Chemistry 5

**ENGINEERING**

ENGR 100 Introduction to Engineering 3

ENGR 101 Engineering Drafting and Basic Design 3

ENGR 111 SolidWorks Applications 3

ENGR 140 Materials Science and Engineering 3

ENGR 152 Engineering Mechanics – Statics 3

ENGR 156 Programming and Problem Solving in MATLAB 3

ENGR 230 Dynamics5 3

ENGR 240 Electrical Engineering Fundamentals 4

ENGR 241 Strength of Materials5 3

**GENERAL EDUCATION**

ENGLISH 101 Freshman English 3

ENGLISH 104 Critical Thinking and Argumentation4 3

SPCH 101 Public Speaking 3

POL S 101 Introduction to Government 3

HISTORY 117 or 118 United States History6 3

**Total Units 83**

NOTES

1. Engineering students should to consult multiple sources, such as academic counselors, engineering faculty, university advisors, and student peers, to plan their transfer programs.
2. Allows transfer to CSU and complete BSME in two years.
3. Students transferring to a UC campus should also take MATH 107 Linear Algebra and CHEM 102
4. ENGL 102, 102H, and 104H may be substituted
5. Articulates to CSULA
6. May substitute ECON 111, HIST 111, 116, 117, 118 or 151

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**Mechanical Engineering Suggested Study Plan**

**Transfer Certificate in Mechanical, Aerospace, or Manufacturing Engineering**

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|  |
| **Sample 6-Semester Plan** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|   | **Fall Semester** | **Spring Semester** |
|   | **Course** | **Description** | **Units** | **No** | **Description** | **Units** |
|  |  |  |  | ENGL 104 | Critical Thinking and Argumentation | 3 |
| **Year 1** | MATH 103 | Calculus with Analytic Geometry I | 5 | ENGR 100 | Introduction to Engineering | 3 |
| ENGLISH 101 | Freshman English | 3 | MATH 104 | Calculus with Analytic Geometry II | 5 |
| CHEM 101 | General Chemistry | 5 | ENGR 156 | Programming and Problem Solving in MATLAB | 3 |
| **Total Units** |  | **13** | **Total Units** |  | **14** |
|  |
| **Year 2** | ENGR 101 orENGR 122  | Engineering Drafting and Basic Design orEngineering Graphics | 3 | ENGR 152 | Engineering Mechanics - Statics | 3 |
| MATH 105 | Calculus with Analytic Geometry III | 5 | MATH 108 | Differential Equations | 5 |
| PHYSICS 101 | Engineering Physics | 5 | PHYSICS 102 | Engineering Physics | 5 |
|  |  |  | POL S 101 | Introduction to Government | 3 |
| **Total Units** |  | **13** | **Total Units** |  | **16** |
|  |
| **Year 3** | ENGR 241  | Strength of Materials | 3 | ENGR 230  | Dynamics | 3 |
| PHY 103 | Engineering Physics  | 5 | ENGR 140 | Materials Science and Engineering | 3 |
| HIST 117 or 118 | History of the United States | 3 | SPCH 101 | Public Speaking | 3 |
| ENGR 111 | SolidWorks Applications | 3 | ENGR 240 | Electrical Engineering Fundamentals | 4 |
| **Total Units** |  | **14** | **Total Units**  |  | **13** |
| **Total Units for Transfer** | **83** |   |