 **INDIANA AEROSPACE UNIVERSITY**

IAU Town Center Basak, Kagudoy Rd., Lapu-Lapu City

**BACHELOR OF SCIENCE IN AEROSPACE ENGINEERING**

(Revised Curriculum per CHED Memo Order No. 93, S 2017)

Effective Academic Year 2018-2019

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **FIRST YEAR** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **1st Semester** | | | | | | | | | | | | **2nd Semester** | | | | | | | | | | | | | | | | | | | | | | |
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| **Subcodes** | **Descriptive Titles** | | | | **Lec** | **Lab** | | **Units** | **Pre Req** | | | **Subcodes** | | **Descriptive Titles** | | | | | | | | **Lec** | | | | | **Lab** | | | | **Units** | | **Pre Req** | |
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| **\_\_AE 100** | Intro to Aeronautical/ Aerospace Engineering | | | | 3 | 3 | | 4 | None | | | **\_\_AE 120** | | Theory of Flight | | | | | | | | 3 | | | | | 0 | | | | 3 | | AeE 100 | |
| **\_\_DRAW 100** | Engineering Drawing 1 | | | | 3 | 0 | | 3 | None | | | **\_\_CADD** | | Intro to CAD (2D and 3D Designs) | | | | | | | | 0 | | | | | 6 | | | | 2 | | DRAW 100 | |
| **\_\_CHEM 1A** | General Chemistry 1 (lec) | | | | 3 | 0 | | 3 | None | | | **\_\_CALC 1** | | Calculus 1 | | | | | | | | 3 | | | | | 0 | | | | 3 | | None | |
| **\_\_CHEM 1B** | General Chemistry 1 (lab) | | | | 0 | 3 | | 1 | None | | | **\_\_CHEM 2A** | | General Chemistry 2 (lec) | | | | | | | | 3 | | | | | 0 | | | | 3 | | CHEM 1A | |
| **\_\_Theology1** | The Commandments & Morals | | | | 1 | 0 | | 1 | None | | | **\_\_CHEM 2B** | | General Chemistry 2 (lab) | | | | | | | | 0 | | | | | 3 | | | | 1 | | CHEM 1B | |
| **\_\_PATHFIT1** | Physical Activities Towards Health and Fitness | | | | 2 | 0 | | 2 | None | | | **\_\_Theology2** | | The Creed | | | | | | | | 1 | | | | | 0 | | | | 1 | | **Theology1** | |
| **\_\_NSTP 1** | Civic Welfare Training Service 1 | | | | 3 | 0 | | 3 | None | | | **\_\_PATHFIT2** | | Exercise Based - Fitness Activities | | | | | | | | 2 | | | | | 0 | | | | 2 | | PATHFIT1 | |
| **\_\_GE 1** | Contemporary World | | | | 3 | 0 | | 3 | None | | | **\_\_NSTP 2** | | Civic Welfare Training Service 2 | | | | | | | | 3 | | | | | 0 | | | | 3 | | NSTP 1 | |
| **\_\_GE 2** | Understanding the Self | | | | 3 | 0 | | 3 | None | | | **\_\_GE 5** | | Mathematics in the Modern World | | | | | | | | 3 | | | | | 0 | | | | 3 | | None | |
| **\_\_GE 3** | Readings in Philippine Literature | | | | 3 | 0 | | 3 | None | | | **\_\_GE 6** | | Science, Technology & Society | | | | | | | | 3 | | | | | 0 | | | | 3 | | None | |
| **\_\_GE 4** | Purposive Communication | | | | 3 | 0 | | 3 | None | | | **\_\_GE 7** | | Ethics | | | | | | | | 3 | | | | | 0 | | | | 3 | | None | |
|  |  | | | | **27** | **6** | | **29** |  | | | **\_\_GE 8** | | Environmental Science | | | | | | | | 3 | | | | | 0 | | | | 3 | | None | |
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| **SUMMER** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| **Subcodes** | **Descriptive Titles** | | | | **Lec** | **Lab** | | **Units** | **Pre Req** | | |  | |  | | | | | | | |  | | | | |  | | | |  | |  | |
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| **\_\_ENGL** | English for Professions | | | | 3 | 0 | | 3 | None | | |  | |  | | | | | | | |  | | | | |  | | | |  | |  | |
| **\_\_GE 9** | The Entrepreneurial Mind | | | | 3 | 0 | | 3 | None | | |  | |  | | | | | | | |  | | | | |  | | | |  | |  | |
| **\_\_GE 10** | Great Books | | | | 3 | 0 | | 3 | None | | |  | |  | | | | | | | |  | | | | |  | | | |  | |  | |
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| **SECOND YEAR** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **1st Semester** | | | | | | | | | | | | **2nd Semester** | | | | | | | | | | | | | | | | | | | | | | |
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| **Subcodes** | **Descriptive Titles** | | | | **Lec** | **Lab** | | **Units** | **Pre Req** | | | **Subcodes** | | **Descriptive Titles** | | | | | | | | **Lec** | | | | | **Lab** | | | | **Units** | | **Pre Req** | |
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| **\_\_AE 210** | Computational Methods in Aeronautical Engineering | | | | 3 | 3 | | 4 | CALC 1 | | | **\_\_AE 220** | | Elementary Electrical Eng’g. (AC/DC) | | | | | | | | 2 | | | | | 3 | | | | 3 | | PHYS 210 | |
| **\_\_AE 211** | Engineering Data Analysis | | | | 3 | 0 | | 3 | GE 5 | | | **\_\_AE 221** | | Basic Electronics | | | | | | | | 3 | | | | | 0 | | | | 3 | | PHYS 210 | |
| **\_\_AE 212** | Human Factors & Aviation Safety | | | | 3 | 0 | | 3 | None | | | **\_\_AE 222** | | A/C Materials Construction & Repairs | | | | | | | | 2 | | | | | 3 | | | | 3 | | None | |
| **\_\_AE 213** | A/C & Spacecraft Systems & Instruments | | | | 3 | 3 | | 4 | None | | | **\_\_AE 223** | | Thermodynamics | | | | | | | | 3 | | | | | 0 | | | | 3 | | PHYS 210 | |
| **\_\_CALC 2** | Calculus 2 | | | | 3 | 0 | | 3 | CALC 1 | | | **\_\_AE 224** | | Civil Aviation Regulation | | | | | | | | 3 | | | | | 0 | | | | 3 | | None | |
| **\_\_PHYS 210A** | Mechanics & Heat (lec) | | | | 3 | 0 | | 3 | CALC 1 | | | **\_\_AE 225** | | A/C Avionics & Autopilot Systems | | | | | | | | 3 | | | | | 0 | | | | 3 | | AE 100 | |
| **\_\_PHYS 210B** | Mechanics & Heat (lab) | | | | 0 | 3 | | 1 | CALC 1 | | | **\_\_AE 226** | | Differential Equations | | | | | | | | 3 | | | | | 0 | | | | 3 | | CALC 2 | |
| **\_\_COMP 1** | Basic Computer Programming | | | | 3 | 0 | | 3 | None | | | **\_\_PHYS 220A** | | Sound, Light, Electricity & Magnetism (lec) | | | | | | | | 3 | | | | | 0 | | | | 3 | | PHYS 210A | |
| **\_\_Theology3** | The Sacraments | | | | 1 | 0 | | 1 | **Theology2** | | | **\_\_PHYS 220B** | | Sound, Light, Electricity & Magnetism (lab) | | | | | | | | 0 | | | | | 3 | | | | 1 | | PHYS 210B | |
| **\_\_PATHFIT3** | Sports and Management Program | | | | 2 | 0 | | 2 | PATHFIT2 | | | **\_\_Theology4** | | Bible Study | | | | | | | | 1 | | | | | 0 | | | | 1 | | **Theology3** | |
|  |  | | | | **24** | **9** | | **27** |  | | | **\_\_PATHFIT4** | | Sports Officiating and Coaching | | | | | | | | 2 | | | | | 0 | | | | 2 | | PATHFIT3 | |
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| **Subcodes** | **Descriptive Titles** | | | | **Lec** | **Lab** | | **Units** | **Pre Req** | | |  | | |  | | | | | | | |  | | |  | | |  | | | |  | |
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| **\_\_AE 310** | Engineering Economy | | | | 3 | 0 | | 3 | None | | |  | | |  | | | | | | | |  | | |  | | |  | | | |  | |
| **\_\_GE 11** | Art Appreciation | | | | 3 | 0 | | 3 | None | | |  | | |  | | | | | | | |  | | |  | | |  | | | |  | |
| **\_\_GE 12** | Life & Works of Rizal | | | | 3 | 0 | | 3 | N0ne | | |  | | |  | | | | | | | |  | | |  | | |  | | | |  | |
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| **THIRD YEAR** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **1st Semester** | | | | | | | | | | | | **2nd Semester** | | | | | | | | | | | | | | | | | | | | | | |
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| **Subcodes** | **Descriptive Titles** | | | | **Lec** | **Lab** | | **Units** | **Pre Req** | | | **Subcodes** | | | **Descriptive Titles** | | | | | | **Lec** | | | | | **Lab** | | | **Units** | | | | **Pre Req** | |
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| **\_\_AE 311** | Eng’g. Mechanics – Statics of Rigid Bodies | | | | 5 | 0 | | 5 | PHYS 220 | | | **\_\_AE 320** | | | Strength of Materials | | | | | | 3 | | | | | 0 | | | 3 | | | | AE 311 | |
| **\_\_AE 312** | Eng’g. Mechanics – Dynamics of Rigid Bodies | | | | 3 | 0 | | 3 | PHYS 220 | | | **\_\_AE 321** | | | Mechanics of Deformable Bodies | | | | | | 3 | | | | | 0 | | | 3 | | | | AE 312 | |
| **\_\_AE 313** | Powerplant 1(Reciprocating Engines) | | | | 3 | 6 | | 5 | AE 223 | | | **\_\_AE 322** | | | Powerplant 2 (Gas Turbine Engines) | | | | | | 2 | | | | | 3 | | | 3 | | | | AE 313 | |
| **\_\_AE 314** | Engineering Management | | | | 3 | 0 | | 3 | None | | | **\_\_AE 323** | | | Fundamentals of Aerodynamics | | | | | | 5 | | | | | 0 | | | 5 | | | | AE 223 | |
| **\_\_AE 315** | Strategic Operation, Supply Chain & Material Management | | | | 3 | 0 | | 3 | None | | | **\_\_AE 324** | | | Basic Helicopter and Propeller Design | | | | | | 2 | | | | | 3 | | | 3 | | | | DRAW 120 | |
| **\_\_AE 316** | Introduction to Space Sciences and Spacecraft Applications | | | | 3 | 3 | | 4 | PHYS 220 | | | **\_\_AE 325** | | | Environmental Engineering | | | | | | 3 | | | | | 0 | | | 3 | | | | None | |
| **\_\_AE 317** | Manufacturing with Advanced Composites | | | | 3 | 6 | | 5 | CHEM 120 | | | **\_\_AE 326** | | | Air Transport Economics and Management | | | | | | 3 | | | | | 0 | | | 3 | | | | AE 310 | |
| **\_\_RESEARCH** | Thesis Writing | | | | 3 | 0 | | 3 | None | | | **\_\_AE 327** | | | Rocket Propulsion | | | | | | 3 | | | | | 3 | | | 4 | | | | AE 316 | |
|  |  | | | | **26** | **15** | | **31** |  | | | **\_\_AE 328** | | | Fundamentals of Aerospace Medicine | | | | | | 3 | | | | | 0 | | | 3 | | | | None | |
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| **Subcodes** | **Descriptive Titles** | | | | **Lec** | **Lab** | | **Units** | **Pre Req** | | |  | |  | | | | | | | |  | | | | |  | | | |  | |  | |
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| **\_\_OJT** | Practicum | | | | 6 | 0 | | 6 | 4th Year Standing | | |  | |  | | | | | | | |  | | | | |  | | | |  | |  | |
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| **FOURTH YEAR** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **1st Semester** | | | | | | | | | | | | **2nd Semester** | | | | | | | | | | | | | | | | | | | | | | |
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| **Subcodes** | **Descriptive Titles** | | | | **Lec** | **Lab** | | **Units** | **Pre Req** | | | **Subcodes** | | **Descriptive Titles** | | | | | | | | **Lec** | | | | | **Lab** | | | | **Units** | **Pre Req** | | |
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| **\_\_AE 410** | Aircraft Design 1 | | | | 3 | 3 | | 4 | DRAW 120 | | | **\_\_AE 420** | | Aircraft Design 2 | | | | | | | | 3 | | | | | 3 | | | | 4 | AE 410 | | |
| **\_\_AE 411** | Aircraft Structures 1 | | | | 3 | 0 | | 3 | AE 320 | | | **\_\_AE 421** | | Aircraft Structures 2 | | | | | | | | 3 | | | | | 0 | | | | 3 | AE 411 | | |
| **\_\_AE 412** | Subsonic Aerodynamics | | | | 5 | 0 | | 5 | AE 323 | | | **\_\_AE 422** | | Supersonic Aerodynamics | | | | | | | | 5 | | | | | 0 | | | | 5 | AE 412 | | |
| **\_\_AE 413** | Aeronautical/Astronautical Laboratory 1 | | | | 0 | 3 | | 1 | AE 222 | | | **\_\_AE 423** | | Aeronautical/Astronautical Laboratory 2 | | | | | | | | 0 | | | | | 3 | | | | 1 | AE 413 | | |
| **\_\_AE 414** | A/C Airworthiness Certification | | | | 3 | 0 | | 3 | AE 224 | | | **\_\_AE 424** | | A/C Prototype Design & Construction | | | | | | | | 2 | | | | | 3 | | | | 3 | AE 410 | | |
| **\_\_AE 415** | Aerodrome Engineering and Management | | | | 2 | 0 | | 2 | 4th year | | | **\_\_AE 425** | | A/C Structures Planning and Lay outing | | | | | | | | 2 | | | | | 3 | | | | 3 | AE 410 | | |
| **\_\_AE 416** | Airline Planning & Scheduling | | | | 2 | 0 | | 2 | None | | | **\_\_AE 426** | | Unmanned Aerial System Design | | | | | | | | 1 | | | | | 3 | | | | 2 | AE 410 | | |
| **\_\_AE 417** | Principles of Autonomy and Decision Making | | | | 2 | 3 | | 3 | AE 221 | | | **\_\_AE 427** | | A/C Production, Maintenance, Planning & Control | | | | | | | | 3 | | | | | 0 | | | | 3 | 4th year | | |
| **\_\_AE 418** | Celestial Mechanics | | | | 3 | 0 | | 3 | AE 327 | | | **\_\_AE 428** | | Reliability Engineering | | | | | | | | 3 | | | | | 0 | | | | 3 | 4th year | | |
| **\_\_AE 419** | A/C Accident Investigation | | | | 3 | 0 | | 3 | AE 224 | | | **\_\_AE 429** | | Spacecraft Dynamics and Controls | | | | | | | | 5 | | | | | 0 | | | | 5 | AE 418 | | |
| **\_\_ELECTIVE** | Technical Elective | | | | 3 | 0 | | 3 | 4th year | | |  | |  | | | | | | | | **27** | | | | | **15** | | | | **32** |  | | |
|  |  | | | | **27** | **12** | | **31** |  | | |  | |  | | | | | | | |  | | | | |  | | | |  |  | | |
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| **SUMMARY OF LAODS** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **YEAR LEVEL** | | **SEMESTER** | **NO. OF UNITS** | **TOTAL** | | |  | | |  | | |  | | | | |  | |  | | | | |  | | |  | | | | | |
| **FIRST YEAR** | | Summer | 0 | **59** | | |  | | |  | | |  | | | | |  | |  | | | | |  | | |  | | | | | |
| 1st | 29 |  | | |  | | |  | | | | |  | |  | | | | |  | | |  | | | | | |
| 2nd | 30 |  | | |  | | |  | | | | |  | |  | | | | |  | | |  | | | | | |
| **SECOND YEAR** | | Summer | 9 | **64** | | |  | | |  | | |  | | | | |  | |  | | | | |  | | |  | | | | | |
| 1st | 27 |  | | |  | | |  | | | | |  | |  | | | | |  | | |  | | | | | |
| 2nd | 28 |  | | |  | | |  | | | | |  | |  | | | | |  | | |  | | | | | |
| **THIRD YEAR** | | Summer | 9 | **70** | | |  | | |  | | |  | | | | |  | |  | | | | |  | | |  | | | | | |
| 1st | 31 |  | | |  | | |  | | | | |  | |  | | | | |  | | |  | | | | | |
| 2nd | 30 |  | | |  | | |  | | | | |  | |  | | | | |  | | |  | | | | | |
| **FOURTH YEAR** | | Summer | 6 | **69** | | |  | | |  | | |  | | | | |  | |  | | | | |  | | |  | | | | | |
| 1st | 31 |  | | |  | | |  | | | | |  | |  | | | | |  | | |  | | | | | |
| 2nd | 32 |  | | |  | | |  | | | | |  | |  | | | | |  | | |  | | | | | |
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| **TOTAL** | | | | **262** | | |  | | | |  | | | | |  |  | |  | | | | |  | | | | | |
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| **NOTES:**   1. Upon completion of the four-year course, the student is conferred the degree in Bachelor of Science in Aerospace Engineering (BSE) provided that he/she has undergone at least 420 hours of On-the-Job-Training. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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