 **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** |
|  |  |  |  |  |  |  |  |  |  |  |  |
| **\_\_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 |
|  |  |  |  |  |  |  |  | **27** | **9** | **30** |  |
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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 |  |  |  |  |  |  |
|  |  | **9** | **0** | **9** |  |  |  |  |  |  |  |
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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 |
|  |  |  |  |  |  |  |  | **25** | **9** | **28** |  |
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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 |  |  |  |  |  |  |
|  |  | **9** | **0** | **9** |  |  |  |  |  |  |  |
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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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