International University Liaison Indonesia

IULI

STUDY PROGRAM

# AVIATION ENGINEERING

## COURSE OUTLINE

Aviation Engineering is a young, interdisciplinary field of engineering. The word is derived from the words aviation and electronics and includes all electronic systems that are used in an aircraft. The area includes all technologies used for navigation, communication, security and early warning radar including weather radar, data recording and transfer.

Recent developments concern the automated management of these multi-systems. The value added part of electronic devices for the operation and increase safety in the air has developed in importance in recent years. There is an increasing demand for engineers, working within electrical engineering/electronic training and the fundamentals of aviation technology. The course is offered as an international program together with the University of Applied Sciences, Osnabrueck, Germany.

## FIELDS OF ACTIVITIES

Graduates in the engineering sciences interdisciplinary areas / Avionics have excellent prospects of well-paid, interesting and varied work. Depending on personal disposition and inclination a wide variety of career paths are open in the research and development of aerospace, the development departments and testing departments of the aviation industry, the airlines maintenance companies, the medium sized equipment industry as well as in licensing and air traffic control authorities. Furthermore, many aspects of avionics are transferable to the automotive industry.

Photo: International University Liaison Indonesia

**CURRICULUM 2017-2018**

Date/ Rev : 08 AUGUST 2017/ Rev. 08
Program : Bachelor
Valid : Batch 2017-2018

# STUDY PROGRAM : AVIATION ENGINEERING

| SUBJECT | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **University Compulsory Subjects** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **Total** |
| English | 2 | 2 | 2 | 2 | 1 | 1 | | | 10 |
| Computer Network & IT Security | 2 | | | | | | | | 2 |
| Applied Statistics | | 2 | | | | | | | 2 |
| Research Methodology | | 2 | | | | | | | 2 |
| Environment Sciences | | | 2 | | | | | | 2 |
| Civics | | | | 2 | | | | | 2 |
| Ethics and Religious Philosophy | | | | | 2 | | | | 2 |
| Innovation & Product Development | | | | | 2 | | | | 2 |
| E-Commerce | | | | | | 2 | | | 2 |
| Indonesian Language & Culture | | | | | | 2 | | | 2 |
| Pancasila | | | | | | 2 | | | 2 |
| Oral Final Study Examination (OFSE) | | | | | | 0 | | | 0 |
| Research Semester | | | | | | | 6 | | 6 |
| Internship / Project | | | | | | | | 3 | 3 |
| Thesis / Thesis Defense | | | | | | | | 6 | 6 |
| Total | 4 | 6 | 4 | 4 | 5 | 7 | 6 | 9 | **45** |

| **Engineering Faculty Compulsory Subjects** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **Total** |
|---|---|---|---|---|---|---|---|---|---|
| Introduction to Engineering | 1 | | | | | | | | 1 |
| Chemistry | 2 | | | | | | | | 2 |
| Material Science | 2 | | | | | | | | 2 |
| Mathematics 1, 2 | 3 | 3 | | | | | | | 6 |
| Physics & Laboratory 1, 2 | 3 | 3 | | | | | | | 6 |
| Algorithm, Programming 1, 2 | 3 | 3 | | | | | | | 6 |
| Electrical Engineering & Laboratory 1, 2 | 3 | 3 | | | | | | | 6 |
| Engineering Drawing / CAD 1* | 3 | | | | | | | | 3 |
| Statics and Mechanics of Materials * | | 4 | | | | | | | 4 |
| Manufacturing Process * | | | 2 | | | | | | 2 |
| Applied Mathematics | | | 3 | | | | | | 3 |
| Metrology and Quality Control | | | 2 | | | | | | 2 |
| Computer Aided Design - CAD 2 ** | | | 3 | | | | | | 3 |
| Engineering Economy *** | | | | | 2 | | | | 2 |
| System Design 1, 2 *** | | | | | 3 | 3 | | | 6 |
| Engineering Management *** | | | | | | 2 | | | 2 |
| **Total (Exclude: */** COS, ** ELE, *** INE)** | **20** | **16** | **10** | **0** | **5** | **5** | **0** | **0** | **56** |

| **Aviation Engineering Compulsory Subjects** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **Total** |
|---|---|---|---|---|---|---|---|---|---|
| Operation Research | | | 3 | | | | | | 3 |
| Machine Elements | | | 3 | | | | | | 3 |
| Basic Aviation Engineering Practical Training | | | 2 | | | | | | 2 |
| Thermo-Fluid Science 1,2 | | | 2 | 2 | | | | | 4 |
| Kinematics & Dynamics | | | | 3 | | | | | 3 |
| Flight Dynamics | | | | 2 | | | | | 2 |
| Aircraft Propulsion | | | | 3 | | | | | 3 |
| Aviation Airworthiness, Safety & Regulations | | | | 2 | | | | | 2 |
| Aerodynamics 1,2 | | | | 2 | 2 | | | | 4 |
| Pneumatics and Hydraulics | | | | | | 3 | | | 3 |
| Aircraft Performance | | | | | 2 | | | | 2 |
| Aircraft Systems and Components 1,2 | | | | | 2 | 2 | | | 4 |
| Flight Control 1,2 | | | | | 2 | 2 | | | 4 |
| Human Factors in Aviation | | | | | | 2 | | | 2 |
| Elective Subjects | | | | 4 | 4 | 2 | | | 10 |
| **Total** | **0** | **0** | **10** | **18** | **12** | **11** | **0** | **0** | **51** |
| **Total 1, 2, 3** | **24** | **22** | **24** | **22** | **22** | **23** | **6** | **9** | **152** |

| Extra Curricular | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| German Language | 2 | 2 | 2 | 2 | 2 | 2 | | | 12 |
| **Total** | **2** | **2** | **2** | **2** | **2** | **2** | **0** | **0** | **12** |

Subject to change
The actual implementation follows the internal arrangements & policy of the Department & Faculty

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