# MODULE HANDBOOK DESCRIPTION

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| Module designation | *Smart IoT Device* | |
| Code | *FBD0007* | |
| Semester(s) in which the module is taught | *6 / third year* | |
| Person responsible for the module | *A.S.Rachman, ST., MT.* | |
| Language | *Indonesian* | |
| Relation to curriculum | *Elective Course for Computer Engineering* | |
| Teaching methods | *lectures, small group discussion, project & case base method.* | |
| Workload (incl. contact hours, self-study hours) | Contact minutes every week, each week of the 16 weeks/semester:<br>• Lectures: 3 x 50 minutes<br>• Exercises and Assignments: 3 x 60 minutes<br>• Self-study: 3 x 60 minutes.<br>Total study hours = 8 hours 30 minutes/week. | |
| Credit points | *2 SKS (~3.2 ECTS)* | |
| Required and recommended prerequisites for joining the module | - | |
| Module objectives/intended learning outcomes | *1. Students are able to study and understand about Naive Bayes classifier examples by hand.* | *PLO3 (M)* |
| | *2. Students are able to analyse about how to implement Naive Bayes classifier from scratch in Python and C.*<br>*3. Students are able to learn about how to build an AIoT system based on Naive Bayes classifier and Arduino.* | *PLO4 (H)* |
| | *4. Students are able to design with the AI mainstream development frameworks in the industry.* | *PLO8 (L)* |

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| Content | 1. *Artificial Intelligence and IoT Introduction.*<br>2. *Implement Naive Bayes classifier from scratch in Python and C.*<br>3. *Implement Naive Bayes classifier on microcontrollers.*<br>4. *Build an AIoT system based on Naive Bayes classifier and Arduino.* |
| Examination forms | - *Case based*<br>- *Project based* |
| Study and examination requirements | *The final grade in the module is composed of:*<br>*a. Case I assessment: 20%*<br>*b. Case II assessment: 20%*<br>*c. Project based: 60%*<br>*Students must have a final grade of 65% or higher to pass* |
| Reading list | 1. *Erwin Setiawan. 2020. Hands-On IoT: Wi-Fi and Embedded Web Development*<br>2. *Erwin Setiawan, 2018. Hands-On ESP8266: Mastering Basic Peripherals*<br>3. *Neil Storey, 2017. Electronics: A Systems Approach, 6th edition. Pearson New International Edition.*<br>4. *John Birds, 2021. Electrical and Electronic Principles and Technology, Third Edition 7th Edition, Routledge.* |