UNIVERSITAS GADJAH MADA
Faculty of Mathematics and Natural Sciences
Department of Computer Science and Electronics
Sekip Utara Bulaksumur Yogyakarta 55281 Telp: +62 274 546194 Email: dep-ilkc.mipa@ugm.ac.id Website: http://dcse.fmipa.ugm.ac.id

Bachelor in Electronics and Instrumentation
Telp : +62 274 546194
Email : kaprodi-s1-elins.mipa@ugm.ac.id
Website : http://dcse.ugm.ac.id/

MODULE HANDBOOK

Module name	**Intellectual Property Protection Technology**
Module level	Undergraduate
Code	MII-2317
Courses (if applicable)	Intellectual Property Protection Technology
Semester	Fall (Odd)
Contact person	Jazi Eko Istiyanto
Lecturer	Jazi Eko Istiyanto Nia Gella Augoestien
Language	Bahasa Indonesia & English
Relation to curriculum	1. Undergraduate degree program, compulsory, 3th semester. 2. International undergraduate program, compulsory, 3th semester.
Type of teaching, contact hours	1. Undergraduate degree program: lectures, < 60 students, 2. International undergraduate program: lectures, < 30 students.
Workload	1. Lectures: 3 x 50 = 100 minutes (1 hours 10 menit) per week. 2. Exercises and Assignments: 3 x 50 = 100 minutes per week. 3. Private study: 3 x 50 = 100 minutes per week.
Credit points	3 credit points (sks).
Requirements according to the Examination regulations	A student must have attended at least 75% of the lectures to sit in the exams.
Recommended prerequisites	-
Learning outcomes (course outcomes) and their corresponding PLOs	After completing this module, a student is expected to: CO1 Students are able to understand the basic knowledge of the device electronics hardware (IC, ASIC, FPGA and PCB), as well as SoC design (System On Chip) and PCBs. CO2 Able to understand the concept and working of various types hardware attacks and protection methods hardware. CO3 Students are able to analyze various types of attack cases on hardware. CO4 Students are able to formulate solutions to case problems hardware attack using those methods proper hardware protection.

PLO	CO1	CO2	CO3	CO4

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<tr><td></td><td>
<table>
<tr><td rowspan="5">Program Learning Outcome (PLO)</td><td>PLO1</td><td></td><td></td><td></td><td></td></tr>
<tr><td>PLO2</td><td>√</td><td></td><td></td><td></td></tr>
<tr><td>PLO3</td><td></td><td>√</td><td></td><td></td></tr>
<tr><td>PLO4</td><td></td><td></td><td>√</td><td>√</td></tr>
<tr><td>PLO5</td><td></td><td></td><td></td><td>√</td></tr>
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</td></tr>
<tr><td>Contents</td><td>1. Introduction
2. System on Chip
3. PCB
4. Security
5. SCA
6. Attacking</td></tr>
<tr><td>Study and examination requirements and forms of examination</td><td>The evaluation is done in 3 forms, namely:
1. Trial, either midterm or semester test,
2. Four tasks, individual assignments to be completed within a certain timeframe, and
3. Two quizzes, held on face-to-face, once before midterm exam and once after midterm exam, with a short answer form.

Assessment is done using benchmark assessment, with the aim of measuring the level of student understanding related to the target and class rank.</td></tr>
<tr><td>Media employed</td><td>LCD, blackboard, and websites.</td></tr>
<tr><td>Assessments and Evaluation</td><td>
<table>
<tr><th>Type</th><th>Percentage</th><th>CO1</th><th>CO2</th><th>CO3</th><th>CO4</th></tr>
<tr><td>Quiz</td><td>5 %</td><td></td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>Individual Task</td><td>20 %</td><td>√</td><td>√</td><td>√</td><td></td></tr>
<tr><td>Project Task</td><td>15 %</td><td></td><td></td><td>√</td><td>√</td></tr>
<tr><td>Midterm Exam</td><td>30 %</td><td>√</td><td>√</td><td>√</td><td></td></tr>
<tr><td>Final Exam</td><td>30 %</td><td></td><td></td><td>√</td><td>√</td></tr>
<tr><td>Total</td><td>100%</td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Reading List</td><td>
[1] Bhunia, S., & Tehranipoor, M. H. 2019. Hardware security : a hands-on learning approach. Elsevier.
[2] Harry Veendrick. 2019. Bits on Chips. Springer International Publishing.
[3] National Research Council. 2000. The Digital Dilemma: Intellectual Property in the Information Age. Washington, DC: The National Academies Press. https://doi.org/10.17226/960176096-4I. R. Sinclair, Sensor and Transducers, Newnes, 2001
[4] National Research Council. 1993. Global Dimensions of Intellectual Property Rights in Science and Technology. Washington, DC: The National Academies Press. https://doi.org/10.17226/2054
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