



UNIVERSITAS GADJAH MADA

Faculty of Mathematics and Natural Sciences

Department of Computer Science and Electronics

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MODULE HANDBOOK

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|---|---|
| Module name | Computer Systems and Network Research Trends |
| Module level, if applicable | Undergraduate |
| Code, if applicable | MII-2605 |
| Courses, if applicable | NA |
| Semester(s) in which the module is taught | Fall (Odd) |
| Person responsible for the module | Dr. Mardhani Riasetiawan, MT |
| Lecturer(s) | Dr. Mardhani Riasetiawan, MT |
| Language | Bahasa Indonesia & English |
| Relation to curriculum | 1. Undergraduate degree program, compulsory, 4th semester. 2. International undergraduate program, compulsory, 4th semester. |
| Teaching methods | 1. Undergraduate degree program: lectures, < 60 students, 2. International undergraduate program: lectures, < 30 students. |
| Workload (incl. contact hours, self-study hours) | 1. Lectures: 3 x 50 = 100 minutes per week. 2. Exercises and Assignments: 3 x 50 = 100 minutes per week. 3. Private study: 1 x 50 = 50 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. |
| Required and recommended prerequisites for joining the module | NA |
| Learning outcomes and their corresponding PLOs | After completing this module, a student is expected to: CO1. Able to explain and identify research landscapes and the latest developments in the field of computer systems and networks CO2. Able to explain and understand the research process in the field of computer systems and networks CO3. Able to identify tools and support that can be used in computer systems and network research CO4. Able to come up with ideas, innovations and research products on computer systems and networks CO5. Able to present and present ideas and innovations, as well as communicate professionally and respond to feedback in the innovation development process |

| | <table border="1"> <thead> <tr> <th colspan="2">PLO</th> <th>CO1</th> <th>CO2</th> <th>CO3</th> <th>CO4</th> <th>CO5</th> </tr> </thead> <tbody> <tr> <td rowspan="5">Program Learning Outcome (PLO)</td> <td>PLO1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PLO2</td> <td>√</td> <td>√</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PLO3</td> <td></td> <td>√</td> <td>√</td> <td></td> <td></td> </tr> <tr> <td>PLO4</td> <td></td> <td></td> <td>√</td> <td>√</td> <td></td> </tr> <tr> <td>PLO5</td> <td></td> <td></td> <td></td> <td>√</td> <td>√</td> </tr> </tbody> </table> | PLO | | CO1 | CO2 | CO3 | CO4 | CO5 | Program Learning Outcome (PLO) | PLO1 | | | | | | PLO2 | √ | √ | | | | PLO3 | | √ | √ | | | PLO4 | | | √ | √ | | PLO5 | | | | √ | √ | | | | | | | | | | | | | | | | | | |
|--|---|------|------------|-----|-----|-----|-----|-----|--------------------------------|-------------|---|--|--|--|--|--------------|----|---|---|--|--|-------------|-------------|----|---|---|---|-------------|--|--------|---|---|--|-------------|---|--|--------------|----|---|--|---|---|--|------------|----|--|--|--|---|---|-------|-----|--|--|--|--|--|
| PLO | | CO1 | CO2 | CO3 | CO4 | CO5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Program Learning Outcome (PLO) | PLO1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | PLO2 | √ | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | PLO3 | | √ | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | PLO4 | | | √ | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | PLO5 | | | | √ | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Content | <ol style="list-style-type: none"> Discusses research and development themes in the fields of: computer systems, networks, smart environments, cybersecurity In particular, it will discuss the areas: (a) Early warning system with environmental case studies in Indonesia. (b) Big data processing. (c) big data analysis. (d) The carrying capacity of the intelligence environment. (e) Internet and cyber security measures. (f) Smart nation on e-government and social informatics issues | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Study and examination requirements and examination forms | <p>The evaluation is done in 2 forms, namely:</p> <ol style="list-style-type: none"> Trial, either midterm or semester test, Two tasks, including individual or Two group assignments to be completed within a certain timeframe, and <p>Assessment is done using benchmark assessment, with the aim of measuring the level of student understanding related to the target and class rank.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Media employed | e-learning Platform (ELOK), LCD, blackboard, and websites. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Assessments and evaluation | <table border="1"> <thead> <tr> <th>Type</th> <th>Percentage</th> <th>CO1</th> <th>CO2</th> <th>CO3</th> <th>CO4</th> <th>CO5</th> </tr> </thead> <tbody> <tr> <td>Task 1</td> <td>10</td> <td>√</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Group Task 1</td> <td>10</td> <td></td> <td>√</td> <td></td> <td></td> <td></td> </tr> <tr> <td>MidSem Test</td> <td>30</td> <td></td> <td>√</td> <td>√</td> <td></td> <td></td> </tr> <tr> <td>Task 2</td> <td>5</td> <td></td> <td></td> <td></td> <td>√</td> <td></td> </tr> <tr> <td>Group Task 2</td> <td>10</td> <td></td> <td></td> <td>√</td> <td>√</td> <td></td> </tr> <tr> <td>Final Test</td> <td>30</td> <td></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> <td></td> </tr> </tbody> </table> | Type | Percentage | CO1 | CO2 | CO3 | CO4 | CO5 | Task 1 | 10 | √ | | | | | Group Task 1 | 10 | | √ | | | | MidSem Test | 30 | | √ | √ | | | Task 2 | 5 | | | | √ | | Group Task 2 | 10 | | | √ | √ | | Final Test | 30 | | | | √ | √ | Total | 100 | | | | | |
| Type | Percentage | CO1 | CO2 | CO3 | CO4 | CO5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Task 1 | 10 | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Group Task 1 | 10 | | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MidSem Test | 30 | | √ | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Task 2 | 5 | | | | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Group Task 2 | 10 | | | √ | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Final Test | 30 | | | | √ | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reading list | Website : skj.mipa.ugm.ac.id | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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