



# UNIVERSITAS NEGERI YOGYAKARTA

FACULTY OF MATHEMATICS AND NATURAL SCIENCES  
DEPARTMENT OF MATHEMATICS EDUCATION

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## Bachelor of Education in Mathematics

## MODULE HANDBOOK

|   |   |
|---|---|
| Module name:  | Study of International Mathematics Education  |
| Module level, if applicable:                                | Undergraduate   |
| Code:   | PMA6220   |
| Sub-heading, if applicable:                                 | -   |
| Classes, if applicable:                                     | -   |
| Semester:   | 7 <sup>th</sup>   |
| Module coordinator:   | Wahyu Setyaningrum, M.Ed., Ph.D.  |
| Lecturer(s):  | Wahyu Setyaningrum, M.Ed., Ph.D.  |
| Language:   | Bahasa Indonesia  |
| Classification within the curriculum:                       | Elective Course   |
| Teaching format / class hours per week during the semester: | 100 minutes lectures and 120 minutes structured activities per week.  |
| Workload:   | Total workload is 90,67 hours per semester which consists of 100 minutes lectures, 120 minutes structured activities, and 120 minutes self study per week for 16 weeks. |
| Credit points:  | 2   |
| Prerequisites course(s):                                    | -   |
| Course outcomes:  | After taking this course the students have ability to:<br>CO1. Demonstrate collaborative attitude and independence to do individual or group assignments                |

|                          | <p>CO2. Communicate ideas in solving mathematical problems in writing or verbally</p> <p>CO3. Explaining the comparison of the education systems, the learning curriculum, the learning strategies, and the evaluation systems in several countries</p> <p>CO4. Explaining the study's result of the international survey pertaining to the students' mathematical abilities in several countries</p> <p>CO5. Providing a solution / idea / thought on the mathematics education's problem in Indonesia by reviewing the existence of the data/information/cases in the international world</p>   |  |                      |                                 |                      |        |   |     |              |             |     |   |             |  |              |                                 |   |     |                        |             |    |       |  |  |  |      |
|--------------------------|---|--|----------------------|---------------------------------|----------------------|--------|---|-----|--------------|-------------|-----|---|-------------|--|--------------|---------------------------------|---|-----|------------------------|-------------|----|-------|--|--|--|------|
| Content:                 | This course elaborates the education systems, the learning curriculum, the learning strategies, and the evaluation systems in several countries, either the developed and and the developing countries. This subject also discusses and analyzes the international surveys' result on the students' mathematical abilities such as TIMSS and PISA in several countries.   |  |                      |                                 |                      |        |   |     |              |             |     |   |             |  |              |                                 |   |     |                        |             |    |       |  |  |  |      |
| Study/exam achievements: | <p>The final mark will be weight as follow:</p> <table border="1"> <thead> <tr> <th>No</th> <th>CO</th> <th>Assessment Object</th> <th>Assessment Technique</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CO2</td> <td>Presentation</td> <td>Observation</td> <td>10%</td> </tr> <tr> <td>2</td> <td>CO3 and CO4</td> <td>a. Individual assessment<br/>b. Group assessment<br/>c. Quiz<br/>d. Mid exam<br/>e. Final exam</td> <td>Written test</td> <td>10%<br/>10%<br/>20%<br/>20%<br/>25%</td> </tr> <tr> <td>3</td> <td>CO5</td> <td>Media for demostration</td> <td>Observation</td> <td>5%</td> </tr> <tr> <td colspan="4" style="text-align: right;">Total</td> <td>100%</td> </tr> </tbody> </table> | No   | CO                   | Assessment Object               | Assessment Technique | Weight | 1 | CO2 | Presentation | Observation | 10% | 2 | CO3 and CO4 | a. Individual assessment<br>b. Group assessment<br>c. Quiz<br>d. Mid exam<br>e. Final exam | Written test | 10%<br>10%<br>20%<br>20%<br>25% | 3 | CO5 | Media for demostration | Observation | 5% | Total |  |  |  | 100% |
| No                       | CO  | Assessment Object  | Assessment Technique | Weight                          |                      |        |   |     |              |             |     |   |             |  |              |                                 |   |     |                        |             |    |       |  |  |  |      |
| 1                        | CO2   | Presentation   | Observation          | 10%                             |                      |        |   |     |              |             |     |   |             |  |              |                                 |   |     |                        |             |    |       |  |  |  |      |
| 2                        | CO3 and CO4   | a. Individual assessment<br>b. Group assessment<br>c. Quiz<br>d. Mid exam<br>e. Final exam | Written test         | 10%<br>10%<br>20%<br>20%<br>25% |                      |        |   |     |              |             |     |   |             |  |              |                                 |   |     |                        |             |    |       |  |  |  |      |
| 3                        | CO5   | Media for demostration   | Observation          | 5%                              |                      |        |   |     |              |             |     |   |             |  |              |                                 |   |     |                        |             |    |       |  |  |  |      |
| Total                    |   |  |                      | 100%                            |                      |        |   |     |              |             |     |   |             |  |              |                                 |   |     |                        |             |    |       |  |  |  |      |
| Forms of media:          | Board, LCD Projector, Laptop/Computer, Internet Website   |  |                      |                                 |                      |        |   |     |              |             |     |   |             |  |              |                                 |   |     |                        |             |    |       |  |  |  |      |
| Literature:              | <ol style="list-style-type: none"> <li>Li, Y and Lappan G. 2013. Mathematics Curriculum in School Education. Dordrecht: Springer Science &amp; Bussiness Media.</li> <li>Mullis, Ina VS. et all. 2012. TIMSS 2011 Encyclopedia: Education Policy and Curriculum in Mathematics and Science. Volume 1: A – K. Boston: TIMSS and PIRLS International Study Center.</li> <li>Mullis, Ina VS. et all. 2012. TIMSS 2011 Encyclopedia: Education Policy and Curriculum in Mathematics and Science. Volume 2: L – Z and Benchmarking Participants. Boston: TIMSS and PIRLS International Study Center.</li> </ol>  |  |                      |                                 |                      |        |   |     |              |             |     |   |             |  |              |                                 |   |     |                        |             |    |       |  |  |  |      |

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|  | <p>4. OECD. 2014. PISA 2012 RESULTS IN FOCUS: What 15-Years-Old Know and What They Can Do With What They Know. Paris: OECD Office.</p> <p>5. OECD. 2016. PISA 2015 RESULTS IN FOCUS. Paris: OECD Office.</p> <p>6. UNESCO. 2014. Education Systems in ASEAN + 6 Countries: A Comparative Analysis of Selected Educational Issues. Bangkok: UNESCO Bangkok Office.</p> <p>7. <a href="http://timssandpirls.bc.edu/timss2015/encyclopedia/download-center/">http://timssandpirls.bc.edu/timss2015/encyclopedia/download-center/</a>.</p> |
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### PLO and CO mapping

|     | PLO1 | PLO2 | PLO3 | PLO4 | PLO5 | PLO6 | PLO7 | PLO8 | PLO9 | PLO10 | PLO11 | PLO12 |
|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| CO1 |      | ✓    |      |      |      |      |      |      |      |       |       |       |
| CO2 |      |      | ✓    |      |      |      |      |      |      |       |       |       |
| CO3 |      |      |      |      | ✓    |      |      |      |      |       |       |       |
| CO4 |      |      |      |      | ✓    |      |      |      |      |       |       |       |
| CO5 |      |      |      |      |      |      | ✓    |      |      |       |       |       |