



MINISTRY OF EDUCATION AND CULTURE
UNIVERSITAS NEGERI SURABAYA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF PHYSICS

Ketintang Campus, Jalan Ketintang, C3 Building, Surabaya 60231
 Website: <https://pendidikan-fisika.fmipa.unesa.ac.id/>, email: s1-pfis@unesa.ac.id

Undergraduate Programme of Physics Education

Module Handbook

Module Name :	<i>Kajian UN, TIMSS, dan PISA</i> Study of UN, TIMSS, and PISA
Module level :	Bachelor degree/Undergraduate Programme
Course Code :	
Abbreviation, if applicable:	-
Courses included in the module, if applicable:	Not Applicable
Semester/Term	
Module coordinator(s)	Prof. Dr. Wasis, M.Si.
Lecturer(s):	Dr. Titin Sunarti, M.Si. Woro Setyarsih, S.Pd., M.Sc. Abu Zainuddin, M.Pd.
Language:	<i>Bahasa Indonesia</i>
Classification within the curriculum:	Compulsory / Elective
Teaching format/class hours per week during the semester:	2 contact hours of lectures (Indonesia credit semester or sks*)
Workload :	2 x 50 minutes lectures, 2 x 60 minutes structured activity, 2 x 60 minutes individual activity, 14 weeks per semester, 90 total hours per semester ~ 3.18 ECTS**
Credit Point:	2 sks (3.18 ECTS)
Requirements:	Evaluation of Learning Learning
Learning goals/competencies:	<ol style="list-style-type: none"> 1. Students are able to demonstrate knowledge of 21st century skills and the framework of educational assessment systems in the 21st century. 2. Students are able to review the development of the assessment system (UN, TIMSS, and PISA) and evaluate the assessment system which exists. 3. Students are able to demonstrate pedagogical knowledge in the field of assessment after knowing and exploring AKM (Minimum Competency Assessment). 4. Students are able to explore studies of the National Examination, TIMSS, and PISA as a form of research results by researchers in the field of assessment (using ICT) and report them. 5. Students are able to evaluate (study) the characteristics of assessment instruments in the UN, TIMSS, and PISA. 6. Students are able to design 21st century skills-based physics learning assessment instruments.



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	7. Students are able to compile UN, TIMSS, and PISA studies to increase their pedagogical knowledge as a provision to continue their studies to a higher level.										
Content	This course examines 21st Century Skills, Framework for the 21st Century Education Assessment System, assessment systems (UN, TIMSS, and PISA) and their development, characteristics of assessment instruments (UN, TIMSS, and PISA), and develops assessment instruments based on characteristics 21st century skills. The learning method is carried out through repository discussions, assignments, and project assignments for developing 21st century skills-based physics learning assessment instruments.										
Attribute Soft skill:	Scientific report, public speaking, and team work										
Study/exam achievements:	<p>Students are considered to complete the course and pass if they obtain at least 40% of maximum final grade. The final grade (NA) is calculated based on the following ratio:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Assessment Components</th> <th style="text-align: left;">Percentage of contribution</th> </tr> </thead> <tbody> <tr> <td>Participation</td> <td style="text-align: center;">20%</td> </tr> <tr> <td>Assignment</td> <td style="text-align: center;">30%</td> </tr> <tr> <td>Mid-semester test</td> <td style="text-align: center;">20%</td> </tr> <tr> <td>Final semester test</td> <td style="text-align: center;">30%</td> </tr> </tbody> </table>	Assessment Components	Percentage of contribution	Participation	20%	Assignment	30%	Mid-semester test	20%	Final semester test	30%
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Final semester test	30%										
Learning Methods :	Student-centered approach, lecture and discussion, and presentations (structured activities)										
Form of Media:	<i>Power Point</i> slides, e-book file, and multimedia.										
Literature (primary references):	<ol style="list-style-type: none"> 1. Care, E., Griffin, P. and Wilson M. 2018. Assessment and Teaching of 21st Century Skills: Research and Applications. Switzerland: Springer International Publishing. 2. Griffin, P. and Care, E. 2015. Assessment and Teaching of 21st Century Skills: Methods and Approach. Switzerland: Springer Int. pubs. 3. Griffin, P., McGaw, B., and Care, E. 2012. Assessment and Teaching of 21st Century Skills. Switzerland: Springer International Publishing. 4. Directorate of High School Development-Dirjen Dikdasmen. 2017. Guidelines for Assessment by Educators and Education Units for Senior High Schools. Jakarta: Ministry of Education and Culture. 5. Nizam. 2015. Assessment for 21st Century Learning: Learning from Various Assessment Results. PPT Head of Center for Educational Assessment, Research and Development Agency, Ministry of Education and Culture of the Republic of Indonesia. 										



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	<ol style="list-style-type: none">6. National Research Council of the National Academies. 2011. Assessing 21st Century Skills: Summary of a Workshop. Washington DC: The National Academies Press.7. Assessment and Learning Center. 2020. National Assessment: Question and Answer Sheet. Jakarta: Ministry of Education and Culture.8. Assessment and Learning Center. 2020. AKM and Its Implications for Learning. Jakarta: Ministry of Education and Culture.9. 2016 National Examination Packages, 2017, 2018, and 2019.10. TIMSS & PIRLS International Study Center. 2020. TIMSS 2019 International Results in Mathematics and Science. United States: TIMSS & PIRLS International Study Center Boston College and International Association for Evaluation of Educational Achievement (IEA).11. OECD. 2018. PISA 2018 Draft Science Framework. OECD.12. OECD. PISA 2015 Released Field Trial Cognitive Items. OECD.
Notes:	<p>*1 sks in learning process = three periods consist of: (a) scheduled instruction in a classroom or laboratory (50 minutes); (b) structured activity (60 minutes); and (c) individual activity (60 minutes) according to the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 44 Year 2015 jo. the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 50 Year 2018.</p> <p>**1 sks = 1,59 ECTS according to Rector Decree Of Universitas Negeri Surabaya No. 598/Un38/Hk/Ak/2019</p>