



**UNIVERSITAS NEGERI YOGYAKARTA**  
**FACULTY OF MATHEMATICS AND NATURAL SCIENCES**  
**DEPARTMENT OF SCIENCE EDUCATION**  
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**Bachelor of Education in Science**

**MODULE HANDBOOK**

Module name:	<b>Lab work of Applied Science</b>
Module level, if applicable:	Undergraduate
Code:	IPA6136
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	1
Module coordinator:	Ekosari Roektingroem, MP
Lecturer:	Ekosari Roektingroem, MP., Eko Widodo, MPd., & Putri Anjarsari, MPd.
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory 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 individual study per week for 16 weeks.
Credit points:	1 sks (1.5 ECTS)
Prerequisites course(s):	-
Targeted learning outcomes:	After taking this course the students have ability to: CO1. Show independence and responsible in carrying out individual tasks and group assignments CO2. show independent, systematic and measurable performance CO3. make decisions about solving problems related to uncovering phenomena and discoveries about the

	<p>concept of global project (liquid smoke, briquette, power plant waterwheels, bioethanol, biodiesel), basic project (voltaic element, battery, cork cutting tools, electric motor), and also applied science in primary and secondary level (seawater purification, saltwater circuit, water rocket, air freshener,vacuum cleaner, out door ice cream) in an activity with observation &amp; experiment methods, the results of which are analyzed and interpreted, both in writing and in writing.</p> <p>CO4. responsible for achieving the results of group work</p>															
Content:	<p>This course examines the concept application of science which are suitable with science concepts in primary and secondary level. It also examines daily issues in local, national, global level in the field of food and healthy, industry, energy, and the environment,so that students have an expertise in applied science and have more complete understanding through observation &amp; experiment activities. Students also able to communicate the results, project reports and scientific display that is displayed.</p>															
Study / exam achievements:	<p>The final mark will be weight as follow:</p> <table><tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr><tr><td>1</td><td>CO2, CO3 and CO4</td><td>a. performance b. pretest c. report d. post test</td><td>Presentation / written test</td><td>30% 15% 15% 25%</td></tr><tr><td colspan="4">Total</td><td>100%</td></tr></table>	No	CO	Assessment Object	Assessment Technique	Weight	1	CO2, CO3 and CO4	a. performance b. pretest c. report d. post test	Presentation / written test	30% 15% 15% 25%	Total				100%
No	CO	Assessment Object	Assessment Technique	Weight												
1	CO2, CO3 and CO4	a. performance b. pretest c. report d. post test	Presentation / written test	30% 15% 15% 25%												
Total				100%												
Forms of media:	Board, LCD Projector, Laptop/Computer															
Literature:	<p>A. Compulsory</p> <ol style="list-style-type: none"><li>Ekosari Roektingroem &amp; Joko Sudomo. 2012. Manual of Applied Science Practical. Prodi IPA. FMIPA. Univ.Negeri Yogyakarta.</li><li>Charles Wilbur Banks.1942. Applied science. J. Wiley &amp; Sons, inc. 212 p.</li><li>Janice Van Cleave. 1997. Guide to the Best Science Fair Projects. John Wiley &amp; Sons, Inc.</li></ol> <p>B. Addition</p> <ol style="list-style-type: none"><li>Ken Gadd. 2003. GCSE Applied Science Double Award. Cheltenham: Nelson Thornes Ltd.</li><li>L. M. Parsons – 2007. Everyday Science - Read Books, Oxford. 284 h.</li><li>Shar Levine, Leslie Johnstone - 1995 - Everyday Science: Fun and Easy Projects for Making Practical Things.101 h</li><li>The Silver Burdett. Science. Understanding your</li></ol>															

	environment. Teacher's Ed. Level 3. General learning Co. NYersey: Morristown. 222p.
	5. <a href="http://www.education.com/science-fair/applied-science/">http://www.education.com/science-fair/applied-science/</a>

### PLO and CO mapping

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