



UNIVERSITAS NEGERI YOGYAKARTA

FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF MATHEMATICS EDUCATION

Jalan Colombo Nomor 1 Yogyakarta 55281

Telepon (0274)565411 Pesawat 217, (0274)565411(TU), fax (0274)548203

Laman :fmipa.uny.ac.id, E-mail :humas_fmipa@uny.ac.id

Bachelor of Education in Science

MODULE HANDBOOK

Module name:	Astronomy
Module level, if applicable:	Undergraduate
Code:	FIP6323
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	4 th (fourth)
Module coordinator:	Sabar Nurohman, M.Pd,
Lecturer(s):	Widodo Setiyo Wibowo, M.Pd, Eko Widodo, M.Pd., Didik Setyawarno, M.Pd.
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course
Teaching format / class hours per week during the semester:	150 minutes lectures and 180 minutes structured activities per week.
Workload:	Total workload is 136 hours per semester which consists of 150 minutes lectures and 180 minutes structured activities, and 180 minutes individual study per week for 16 weeks.
Credit points:	3 (5 ETCS)
Prerequisites course(s):	-
Targeted learning outcomes:	After accomplishing this course students are able to: CO1. show independency and responsibility in carrying out individual tasks and group assignments CO2. show independency, quality and measurable performance in observing astronomical phenomena CO3. understand principles of astronomy, basic concepts of celestial spheres, solar systems, stars radiation and spectroscopic, telescopes, the evolution of stars, galaxies and the universe
Content:	This course includes principles of astronomy, basic concepts of celestial spheres and phenomena observed in them, solar system, earth-moon system, and planet and satellite motion,

	<p>basic concepts of star radiation and star spectroscopy used to obtain information about physical properties of celestial bodies, nature of stars and evolution of stars, structure of galaxies and basic concepts in cosmology, and basic concepts of telescope optics and how to operate it in observation activities. It also carried out practical activities that are integrated into theories to develop competencies in mastering concepts through observation activities.</p>															
<p>Study/exam achievements:</p>	<p>Attitude assessment is carried out at each meeting by observation and / or self-assessment techniques using the assumption that basically every student has a good attitude. The student is given a value of very good or not good attitude if they show it significantly compared to other students in general. The result of attitude assessment is not a component of the final grades, but as one of the requirements to pass the course. Students will pass from this course if at least have a good attitude.</p> <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>CO1, CO2 and CO3</td> <td>a. Individual Assignment b. Group Assignment c. Mid d. Final Exam</td> <td>Presentation, Observation Report, Project, and written test</td> <td>20% 20% 30% 30%</td> </tr> <tr> <td colspan="4">Total</td> <td>100%</td> </tr> </tbody> </table>	No	CO	Assessment Object	Assessment Technique	Weight	1	CO1, CO2 and CO3	a. Individual Assignment b. Group Assignment c. Mid d. Final Exam	Presentation, Observation Report, Project, and written test	20% 20% 30% 30%	Total				100%
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Total				100%												
Forms of media:	Board, LCD Projector, Laptop/Computer, Telescope															
Literature:	<p>A. A E Roy & D Clarke. (nd). Astronomy Principles and Practice 4th edition. Bristol & Philadelphia: Institute of physics publishing.</p> <p>B. Chaisson and McMillan. (2014). <i>Astronomy Today 8ed.</i> Pearson.</p> <p>C. I Nyoman Suwitra. (nd). <i>Astronomi Dasar.</i> Singaraja: IKIP Singaraja</p>															

PLO and CO mapping

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