Module Handbook

Courses	Modern Physics
Programme	Undergraduate Program (S-1)/Bachelor
Code	
Semester	4
Group of Course Coordinator	Dra. Suliyanah, M.Si
Lecturers	1. Dra. Suliyanah, M.Si 2. Dr. Asnawi, M.Si 3. Lydia Rohmawati, M.Si 4. Utama Alan Deta, M.Pd., M.Si 5. Prof. Dr. Wasis, M.Si 6. Abu Zainuddin, M.Pd
The language used	Indonesian
Classification in the curriculum	Compulsory course
Learning format / number of class hours per week	Per-week consists of: 3 hours face to face (1 hour face to face = 50 minutes)
Load	3 hours face to face, 3 hours structured assignments, 3 learn to be independent per-week, for 15 weeks = a total of 135 hours face-to-face / semester
Credit Unit	3 CU = 4.77 ECTS
Precondition	Basic Physics 2
Course Learning Outcome	1. Mastering structured studies on the concept of relativity, the nature of wave dualism, quantum mechanics, many electron atoms, atomic theory to radioactivity processes 2. Solving physics problems related to the concepts of relativity, atomics, and quantum mechanics through a mathematical approach 3. Analyze the findings / studies related to Modern Physics concepts obtained from ICT-based literature sources 4. Have a scientific attitude, think critically in solving modern physics concepts and innovate in the fields of education and research
Courses content	The Modern Physics course discusses the concepts/principles/theories / basic laws of Modern Physics (physics content knowledge) which underlies the study material in the Physics curriculum of SMA / SMK in depth which includes Relativity, Particle Properties of Waves, Wave Properties of Particles, Structure Atom, Quantum Mechanics, Hydrogen Atom Quantum Theory, Multiple Electron Atom, Core Structure, Nuclear Transformation, as well as being able to communicate scientifically and work effectively both individually and in groups.
Attributed soft skill	scientific report public speaking team work

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<tr><td>Learning achievement (assesment)</td><td>Students are considered competent and pass if they get at least a minimum test score of 68 for mid test (SS) and final exam (S), assignments (A), and participation (P), where the final grade (FG) is calculated following the formula:
Final Grade of the course (FG) = 20% P + 30% A + 20% SS + 30%S

Convert the 0-100 scale value to a 0-4 scale and the letters are arranged as follows:
<table><tr><th>Letter</th><th>Number</th><th>Interval</th></tr><tr><td>A</td><td>4,00</td><td>85 ≤ A < 100</td></tr><tr><td>A-</td><td>3,75</td><td>80 ≤ A- < 85</td></tr><tr><td>B+</td><td>3,50</td><td>75 ≤ B+ < 80</td></tr><tr><td>B</td><td>3,00</td><td>70 ≤ B < 75</td></tr><tr><td>B-</td><td>2,75</td><td>65 ≤ B- < 70</td></tr><tr><td>C+</td><td>2,50</td><td>60 ≤ C+ < 65</td></tr><tr><td>C</td><td>2,00</td><td>55 ≤ C < 60</td></tr><tr><td>D</td><td>1,00</td><td>40 ≤ D < 55</td></tr><tr><td>E</td><td>0,00</td><td>0 ≤ E < 40</td></tr></table></td></tr>
<tr><td>Media form</td><td>1. Power point file
2. e-book file</td></tr>
<tr><td>References</td><td>1. Beiser A, 2003, “Consepts of Modern Physics”, Sixth Edition. McGraw Hill Inter. BookCompany
2. Supangkat, Haryadi, 1990. “Fisika Modern”, Jurusan Fisika ITB.
3. Wehr,M R.1980,” Physics of The Atom” , Addison Wesley Manila</td></tr>
<tr><td>Note</td><td></td></tr>
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