

## MODULE HANDBOOK

Module Name	:	Advanced Quantum Physics
Module Level	:	Bachelor
Abbreviation, if applicable	:	FI3211
Sub-heading, if applicable	:	
Semester/ term	:	6
Module Coordinator(s)	:	
Lecturer(s)	:	
Language	:	Bahasa Indonesia
Classification within the curriculum	:	Elective Studies
Teaching format/ class hours per week during the semester	:	2 Hours lectures
Workload	:	2 hours lectures with 4 hours individual studies and structured activities,
Credits Points	:	2
Requirements	:	FI3103 Quantum Physics
Leraning goals	:	<p>Knowledge:</p> <ol style="list-style-type: none"> <li>(1) Demonstrate knowledge of quantum mechanics</li> <li>(2) Demonstrate knowledge about difference between quantum mechanics and classical mechanics.</li> </ol> <p>Skill:</p> <ol style="list-style-type: none"> <li>(1) Demonstrate ability of solving Schrodinger, Heisenberg, and Interaction picture problems.</li> <li>(2) Demonstrate ability of using algebra operator and symmetry transformation</li> <li>(3) Demonstrate ability of analysis of molecular and crystal symmetry and to calculate the band energy of solids.</li> <li>(4) Demonstrate ability of Stationary and nonstationary Perturbation theory for simple system</li> </ol> <p>Competencies:</p> <ol style="list-style-type: none"> <li>(1)</li> <li>(2)</li> </ol>
Content	:	The principles of non-relativistic quantum mechanics, dynamics equations, Schrödinger picture, Heisenberg, symmetry in quantum theory and its application, a stationary disturbance theory and non-stationary, scattering theory, and current special topics in quantum mechanics and applied physics.