MODULE HANDBOOK

Course:	**Quantum Mechanics**
Module Level:	Undergraduate
Code:	FIT402
Sub-heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester/Term:	6th / Third Year
Module Coordinator:	Febdian Rusydi, Ph.D
Lecturer(s):	Febdian Rusydi, Ph.D and Andi Hamim Zaidan,Ph.D
Language:	Bahasa Indonesia
Classification within the Curriculum	Compulsory Course / ~~Elective Course~~
Teaching format / class hours per week during semester:	2 hours of lectures (50 minutes/hour)
Workload:	2 hours of lectures, 2 hours of structural activities, 2 hours of individual study, 13 weeks per semester, and total of 78 hours per semester ~ 2.6 ECTS*
Credit Points:	2
Requirement(s):	(FIT301) Quantum Physics and (FIT303) Electricity and Magnetism
Learning Goals/Competencies:	**General Competence (Knowledge) :** Students are able to reformulate the solution of Schrödinger equation using quantum mechanics formalism using the variational principles and WKB approximation. **Specific Competence:** 1. Students understand about linear algebra and Dirac notation. 2. Students are able to reformulate and solve Schrödinger equation for atoms using quantum mechanics formalism. 3. Students are able to use variational principle and WKB approximation for solving Schrödinger equation in realistic cases.
Contents:	In FIT301 Quantum Physics, students learn how to model hydrogen atom based on Schrödinger equation. Additionally in FIT306 Many-body Quantum Mechanics, the atomic model based on Schrödinger equation is extended to other atoms with the number of electrons is two or more. In this course, we reformulate the solving of Schrödinger equation for atoms using quantum mechanics formalism, where linear algebra and Dirac notation are introduced. The final goals are to use the quantum mechanics formalism to solve Schrödinger equation for realistic cases using the variational principle and WKB approximation.
Soft Skill Attribute	Effort and ethic.

Study/Exam Achievements:	Passing grade is D (equivalent of score 40.0 of 100.0). The score is determined by one exam (40%) and one final task (60%). Score to grade conversion: A : 75 - 100 AB : 70 - 74.99 B : 65 - 69.99 BC : 60 - 64.99 C : 55 - 59.99 D : 40 - 54.99 E : 0 - 39.99
Learning Methods:	Lecturing, homework, tutorial
Form of Media:	Whiteboard, projector.
Literature(s):	David J. Griffiths. 2013. Introduction to Electrodynamics, 4th edition, Pearson.
Notes:	*Total ECTS={(total hours workloadx50 min)/60 min}/25 hours Each ECTS is equals with 25 hours