MODULE HANDBOOK

Course:	**Statistical Physics**
Module Level:	Bachelor
Code:	FIT302
Sub-heading, if	-
Courses included in the	-
Semester/Term:	5th / Third Year
Module Coordinator(s):	Andi Hamim Zaidan M.Si., Ph.D.
Lecturer(s):	Andi Hamim Zaidan M.Si., Ph.D., Drs.Siswanto, M.Si., Drs.Djony Izak Rudyardjo,M.Si. and Dr. Soegianto Soelistiono, M.Si.
Language:	Bahasa Indonesia
Classification within the	Compulsory Course / ~~Elective Studies~~
Teaching format / class hours per week during semester:	3 hours lectures (50 min / hour)
Workload:	3 hours lectures, 3 hours individual activities, 3 hours structured tasks, 14 weeks per semester, and total 126 hours per semester (~ 4.2 ECTS*)
Credit Points:	3
Requirement(s):	Thermodynamics (FIT204) and Quantum Physics (FIT301)
Learning Goals/Competencies:	**General Competence (Knowledge):** Demonstrate knowledge of various statistic distributions, their significances in physics, and their properties. Application of Statistical Physics on simple systems. **Specific Competence:** 1. The Ability to apply probability and distribution functions to solve basic and simple/straightforward problems 2. The Ability to identify and/or formulate each of the statistical distributions 3. The Ability to apply the statistical distributions to determine the thermodynamics properties of the system
Contents:	After finishing this course, student has enough knowledge about **Probability and distribution functions**, **Statistical Physics**: energy levels, energy states, macro states, micro states, **Maxwell-Boltzmann statistics**: thermodynamics probability, distribution function, partition function, entropy, Gibb's paradox, semi-classical perfect gas: entropy, Helmholtz function; **Bose-Einstein statistics**: thermodynamics probability, distribution function; **Fermi-Dirac statistics**: thermodynamics probability, distribution function. **Application of Statistical physics on simple systems**
Soft Skill Attribute:	Effort and ethic.
Study/Exam Achievements:	Students are considered to be competent and passed if at least get 55% of maximum mark of the exams, homework, quizzes. Final score is calculated as follow: 20% Homework + 10% Quizzes + 35% midterm exam + 35% final exam. Final index is defined as follow: 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:	Lectures & discussion
Form of Media:	Slides and LCD projectors, whiteboards
Literature(s):	1. Sears, F. W. and Salinger. 1986. *Thermodynamics, Kinetic Theory, and Statistical Thermodynamics,* Addison Wesley. 2. Guénault, T. 1995. *Statistical Physics*, 2nd Chapman & Hall. 3. Pointon, 1967. *An introduction to Statistical Physics for Students*, Longman.
Notes:	*Total ECTS = {(total hours workload × 50 min) / 25 hours Each ECTS is equals with 25 hours.