Module Handbook

Module Name:	Statistical Physics
Module Level:	Bachelor
Abbreviation, if applicable:	FI 3203
Sub-heading, if applicable:	
Courses included in the module, if applicable:	
Semester/term:	6/ third year
Module coordinator(s):	
Lecturer(s):	
Language:	Bahasa Indonesia
Classification within the curriculum:	~~General Studies~~ / Major Subject / ~~Elective Studies~~
Teaching format / class hours per week during the semester:	3 hours lecture
Workload:	3 hours lectures, 6 hours individual study, 12 weeks per semester, and total 144 hours a semester
Credit Points:	3
Requirements:	Mathematical Physics I, Mathematical Physics II
Learning goals:	**Knowledge:** 1. Demonstrate knowledge of various statistic distributions, their significances in physics, and their properties. Application of Statistical physics on simple systems. **Skill:** 1. Ability to apply probability and distribution functions to solve basic and simple/straightforward problems 2. Ability to identify and/or formulate each of the statistical distributions 3. Ability to apply the statistical distributions to determine the thermodynamics properties of the system.
Content:	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.
Study/exam achievements:	Students are considered to be competent and pass if at least get 50% of maximum mark of the exams, homework, quizes
Forms of Media:	Slides and LCD projectors, blackboards
Literature:	1. Sears, F. W. and Salinger, Thermodynamics, Kinetic Theory, and Statistical Thermodynamics, Addison Wesley, 1986. 2. Pointon, An introduction to Statistical Physics for Students, Longman, 1967. 3. Guénault, T., Statistical Physics, 2nd ed. Chapman & Hall, 1995 4. Amit, J. Daniel and Y. Verbin, Statistical Physics: an introductory course, World Sci , 1995.
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