MODULE HANDBOOK

Course:	**Practical Work of Health Physics and Enumeration System**
Module Level:	Undergraduate
Code:	FIB 309
Sub-heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester/Term:	7^{th} / Fourth Year
Module Coordinator:	Dr. Suryani Dyah Astuti, M.Si.
Lecturer(s):	Dr. Suryani Dyah Astuti, M.Si. and Bambang Haris, S.Si., M.Si
Language:	Bahasa Indonesia
Classification within the Curriculum:	~~Compulsory Course~~ / Elective Course
Teaching format / class hours per week during semester:	2 hours of lectures (50 min / hour)
Workload:	2 hours doing worksheet and pretest preparation, 2 hours of laboratory work, 2 hours of group discussion, searching literature and writting , 13 weeks per semester, and total 78 hours per semester ~ 2,6 ECTS*
Credit Points:	1
Requirement(s):	(FIB 307) Introduction of Radiology Physics
Learning Goals/Competencies:	**General Competence (Skill):** To Introduce measurements such as the measurement of scintillation radiation, nuclear spectroscopy, the use of diode detectors, TLD. **Specific Competence:** Students are able to understand the measurement of scintillation radiation, nuclear spectroscopy, using detector diodes, TLD.
Contents:	After following this course, the students are able to understand the measurement of scintillation radiation, nuclear spectroscopy, the use of diode detectors, TLD. The course will provide general topics including: shielding of X-ray design space, Characterization of material's shielding of X-ray energy, Det. NaI (Tl), Calibration of Nuclear Spectroscopy MCA (Multi Channel Analyzer), (Det.HPGe), the measurement of individual dose monitoring film badge, surveymeter Calibration, Det. Geiger Mueller and Ion Chamber, nuclear spectroscopy SCA (Single Channel Analyzer), characterization work Geiger Mueller detector, Determination of Radionuclides type, (Det.HPGe) and The measurement of the dose TLD.
Soft Skill Attribute:	Good communication, Organization, Leadership, Logic, Ethics, Effort and Group
Study/Exam Achievements:	Students are considered to be competent and passed if at least get 40 of maximum mark of the exams (midterm exams and final exams), structured activity (group discussion). Final score is calculated as follow: 15% assignment 1 + 15% assignment 2 + 35% midterm exams + 35% final exams Final grade 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
Forms of Media:	Powerpoints slides, LCD projectors and whiteboards
Learning Methods:	Lecture, assessments and group discussion
Literature(s):	1. ICRP No. 60. 1990 *Recommendations of International Commission on Radiological Protection*. (Elsevier Science. 1990) 2. Herman Cember, *Introduction to Health Physics*. 2nd ed., (Pergamon Press Inc. New York, NY. 1983). 3. RL. Kathren. *Radiation Protection*. (Adam Hilger LTD., Bristol, 1985). 4. D. A. Gollnick. Basic Radiation Protection Technology. 2nd ed. (Pacific Radiation Corporation. Altadena. CA. 1993)
Notes:	This course aims to give student about the measurement of radiation. *Total ECTS = {(total hours workload × 50 min) / 25 hours Each ECTS is equals with 25 hours.