MODULE HANDBOOK

Course:	**Introduction to Radiotherapy Physics**
Module Level:	Undergraduate
Code:	FIE 307
Sub-heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester/Term:	5th / Third 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 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):	(FIB 203) Introduction to Radiation Physics and Dosimetry
Learning Goals/Competencies:	**General Competence (Knowledge):** 1. To understand the principles of radiotherapy equipments 2. To understand the application of external and internal radiotherapy beam **Specific Competence:** To communicate scientific topic about radiotherapy in verbal and written
Contents:	After following this course, the students are able to understand the internal and external radiations which are produced by radiation sources. The student also understand external radiotherapy and brachytherapy. The course will provide some general topics includings: introduction for radiooncology, the basic of radiobiology in radiotherapy, description of clinical photon beam, dose calculation, basic clinical dosimetry, clinical electron beam, the basic characteristics of physics in brachytherapy and clinical aspects of brachyitherapy.
Soft Skill Attribute:	Effort and ethic
Study/Exam Achievements:	Students are considered competent and eligible to pass the course upon obtaining at least 40 of maximum mark for the exams (midterm exam and final exam), structured activity (group discussion). Final score is calculated as follow: 15% assignment 1 + 15% assignment 2 + 35% midterm test + 35% final exam Final grade is defined as ollow: 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:	Powerpoint slides, LCD projectors, and whiteboards
Learning Methods:	Lecture, assessments and group discussion
Literature(s):	1. Khan, G. 2011. *Tratment planning in Radiation Oncology*. Lipincott Williams & Wilcins, Philadelphia:. 2. Podgorsak, S. 2005. Radiation Oncology Physics: Handbook for Teacher and Student. IAEA. 3. Johns, H.E. and Cunningham, J. R. 1983. *The Physics of Radiology*, 4th ed. (Charles C. Thomas, Springfield, IL) 4. J. Van Dyk (Editor). 1999. *The Modern Technology of Radiation Oncology*. Medical Physics Publishing, Philadephia. 5. Williams, J. R. and Thwaites, D. I. 1994. *Radiotherapy Physics in Practice*. Oxford University Press, New York. 6. Siamak Shahabi (Editor). 1989. *Blackburn's Introduction to Clinical Radiation Therapy Physics*. Medical Physics Publishing Corporation. 7. Leung, P. M. K. 1990. *The Physical Basis of Radiotherapy*. The Ontario Cancer Institute incorporating The Princess Margaret Hospital.
Note(s):	The course aims to give student about the implementation of physics in radiotherapy. *Total ECTS = {(total hours workload × 50 min) / 25 hours Each ECTS is equals with 25 hours.