MODULE HANDBOOK

Course:	**Radiotherapy Planning**
Module Level:	Undergraduate
Code:	FIB 305
Sub-heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester/Term:	6th / 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 307) Introduction to Radiotherapy Physics
Learning Goals/Competencies:	**General Competence (Knowledge):** 1. To understand external radiotherapy treatment planning 2. To understand brachytherapy and internal radiotherapy **Specific Competence:** To communicate scientific topic according the radiotherapy in oral and written skills
Contents:	After following this course, the students are able to understand external radiotherapy treatment planning, and able to understand treatment planning of internal radiotherapy and brachytherapy. The course will provide some general topics including: single and multi field radiotherapy treatment planning, 2D, 3D, conformal, IMRT, IGRT technique, working principle of simulator, Introduction of various accessories radiotherapy, principle of dosage calculations and calibrations external radiotherapy, introduction of brachytherapy intracavitary, implantation, intraluminal, calculation the brachytherapy dose, Introduction of internal radiotherapy and internal dosimetry
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 score for the exams (midterm test and final exams), 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 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:	Powerpoint slides, LCD projectors and whiteboards
Learning Methods:	Lecture, assessments and group discussion
Literature(s):	1. Metcalfe, et al, The Physics of Radiotherapy X-rays and Electron. (Medical Physics Publishing, 2007) 2. G. C. Bentel, C. E. Nelson, and K.T. Noell. *Treatment Planning Dose Calculation in Radiation Oncology*. McGraw Hill, New York, NY, 1989) 3. Podgorsak, *Radiation Oncology Physics: Handbook for Teacher and Student*. (IAEA, 2005) 4. Khan, Gerbi. *Treatment Planning in Radiation Oncology*. Lippincott Williams & Wilkins, Philadelphia: 2012 5. J. R. Williams and D. I. Thwaites. *Radiotherapy Physics in Practice*. (Oxford University Press, New York, 1994)
Notes:	This course aims to give student about the implementation physics in radiotherapy. * Total ECTS = {(total hours workload × 50 min) / 25 hours Each ECTS is equals with 25 hours.