Module Handbook

Module Name:	**Radiotherapy Physics**
Module Level:	Undergraduate
Abbreviation, if applicable:	FIB 311
Sub-heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester/term:	5th / Third Year
Module coordinator(s):	Dr. Suryani Dyah Astuti, M.Si
Lecturer(s):	Bambang Haris, S.Si, M.Si
Language:	Bahasa Indonesia
Classification within the curriculum	~~Compulsory Course~~ / Elective Studies
Teaching format / class hours per week during semester:	2 hours lectures (50 min / hour)
Workload:	2 hours lectures, 2 hour structural activities, 2 hours individual study, 14 week per semester, and total 78 hours per semester ~2.6 ECTS
Credit Points:	2
Requirements:	Modern Physics, Biophysics
Learning goals/competencies:	Knowledge: - to understand the principles of radiotherapy equipments - to understand the application of external and internal beam radiotherapy Skills: - to communicate scientific topic according the radiotherapy in oral and written
Content:	After following this course, the students have able to understand the internal, external radiations which are produced by radiation sources. The student should also understand radiotherapy external 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 brachyterapy, Clinical aspects brachyitherapy
Attribut soft skill	Active and good communication
Study/exam achievements:	Students are considered to be competent and pass if at least get 40 of maximum mark of the exams (UTS dan UAS), structured activity (group discussion). Final score (NA) is calculated as follow: 15% assignment 1 + 15% assignment 2 + 35% UTS + 35% UAS 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
Forms of Media:	Slides and LCD projectors, whiteboards
Learning Methods	Lecture, assessments and group discussion
Literature:	1. Khan, Gerbi. Tratment planning in Radiation Oncology. Lipincott Williams & Wilcins, Philadelphia: 2011 2. S.Podgorsak, Radiation Oncology Physics: hanbook for Teacher and Student (IAEA, 2005) 3. H. E. Johns and J. R. Cunningham. *The Physics of Radiology*, 4th ed. (Charles C. Thomas, Springfield, IL, 1983) 4. J. Van Dyk (Editor). *The Modern Technology of Radiation Oncology* (Medical Physics Publishing, Philadephia, PA, 1999) 5. J. R. Williams and D. I. Thwaites. *Radiotherapy Physics in Practice*. (Oxford University Press, New York, 1994) 6. Siamak Shahabi (Editor). *Blackburn's Introduction to Clinical Radiation Therapy Physics*. (Medical Physics Publishing Corporation, Madison, Wisconsin, 1989) 7. P. M. K. Leung. *The Physical Basis of Radiotherapy*. (The Ontario Cancer Institute incorporating The Princess Margaret Hospital, 1990).
Notes:	*Total ECTS = {(total hours workload × 50 min) / 25 hours Each ECTS is equals with 25 hours.