Module Handbook

Preliminary of Final Project

Bachelor Degree Program
Department of Biomedical Engineering

Faculty of Intelligent Electrical Technology and Informatics
Institut Teknologi Sepuluh Nopember

MODULE HANDBOOK

Preliminary of Final Project

Module name	Preliminary of Final Project	
Module level	Undergraduate	
Code	EB234703	
Course (if applicable)	Project Design	
Semester	7	
Person responsible for the module	Dr. Achmad Arifin, S.T., M.Eng.	
Lecturer	Dr. Achmad Arifin, S.T., M.Eng. Prof. Dr. Ir. Mohammad Nuh, DEA Dr. Norma Hermawan, S.T., M.T., M.Sc. Rezki El Arif, S.T., M.T., Ph.D Nada Fitrieyatul Hikmah, S.T., M.T. Ir. Josaphat Pramudijanto, M.Eng. Fauzan Arrofiqi, S.T., M.T., Ph.D.	
Language	Bahasa Indonesia and English	
Relation to curriculum	Undergraduate degree program, **Specialization**	
Type of teaching, contact hours	Lectures, <60 students Tuesdays, 11.00-12.50 (GMT+7)	
Workload	1. Lectures : 3 x 50 = 150 minutes per week. 2. Exercises and Assignments : 3 x 50 = 150 minutes per week. 3. Private learning : 3 x 50 = 150 minutes per week.	
Credit points	2 credit points (SKS)	
Requirements according to the examination regulations	A student must have attended at least 75% of the lectures to sit in the exams.	
Mandatory prerequisites	Project Design	
Learning outcomes and	Course Learning Outcome (CLO) after completing this module,	
their corresponding	CLO 1:	
PLOs	Mahasiswa memahami dan mampu menerapkan kaidah-kaidah penulisan ilmiah *Students understand and are able to apply the rules of scientific writing*	PLO-02

	CLO 2: Mahasiswa mampu menggunakan instrumen-instrumen pendukung yang diperlukan dalam penulisan karya ilmiah *Students are able to use the supporting instruments needed in writing scientific papers*	PLO-10
	CLO 3: Mahasiswa mampu menyusun proposal tugas akhir *Students are able to prepare a final project proposal*	PLO-06
	CLO 4: Mahasiswa mampu memaparkan rancangan proposal tugas akhir dalam kegiatan seminar pada tengah semester *Students are able to present the draft of the final project proposal in seminar activities in the middle semester*	PLO-05
Content	Mata kuliah ini bertujuan mempersiapkan mahasiswa dalam menyusun proyek penelitian individu mahasiswa dengan bimbingan tim dosen pembimbing. Hasil akhir dari mata kuliah ini adalah dihasilkannya proposal tugas akhir yang dipresentasikan dalam bentuk seminar dan menjadi proyek penelitian yang laporan kemajuan pada tahap awal dilakukan pada akhir perkuliahan	
Study and examination requirements and forms of examination	● In-class exercises ● Assignment 1, 2, 3 ● Research proposal seminar (Mid-Semester) ● Research progress seminar (End of Semester)	
Media employed	LCD, whiteboard, websites (myITS Classroom), zoom.	
Reading list	Main: 1. C. George Thomas,"Research Methodology and Scientific Writing, 2nd Edition", Springer 2021. 2. Piet Verschuren and Hans Doorewaard, "Designing a Research Project, Second edition", *Eleven International Publishing, 2010.* Supporting: 1. Panitia Pengembang Pedoman Bahasa Indonesia, Kementerian Pendidikan dan Kebudayaan, "Pedoman Umum Ejaan Bahasa Indonesia", Badan Pengembangan dan Pembinaan Bahasa, 2016.	

I. Rencana Pembelajaran Semester / *Semester Learning Plan*

	INSTITUT TEKNOLOGI SEPULUH NOPEMBER (ITS) **FACULTY OF INTELLIGENT ELECTRICAL AND INFORMATICS TECHNOLOGY** **DEPARTMENT OF BIOMEDICAL ENGINEERING**	**Document Code**
SEMESTER LEARNING PLAN		

MATA KULIAH (MK) ***COURSE***	**KODE** ***CODE***	**Rumpun MK** ***Course Cluster***	**BOBOT** **(sks) Credits**		**SEMESTER**	**Tgl Penyusunan** ***Compilation Date***
Pra - Tugas Akhir ***Preliminary of Final Project***	EB234703	Ilmu Teknik Biomedika *Biomedical Engineering*	T=2	P=0	7	Jan 17, 2022

OTORISASI / PENGESAHAN ***AUTHORIZATION / ENDORSEMENT***	**Dosen Pengembang RPS** ***Developer Lecturer of Semester Learning Plan***	**Koordinator RMK** ***Course Cluster Coordinator***	**Ka DEPARTEMEN** ***Head of Department***
	(Dr. Achmad Arifin, S.T., M.Eng)	**(Ir. Josaphat Pramudijanto, M.Eng.)**	**(Dr. Achmad Arifin, S.T., M.Eng..)**

Capaian Pembelajaran ***Learning Outcomes***	**CPL-PRODI yang dibebankan pada MK** ***PLO Program Charged to The Course***	
	CPL-02	Mampu mengkaji dan memanfaatkan ilmu pengetahuan dan teknologi dalam rangka mengaplikasikannya pada bidang Teknik Biomedik, serta mampu mengambil keputusan secara tepat dari hasil kerja sendiri maupun kerja kelompok dalam bentuk laporan tugas akhir atau bentuk kegiatan lain yang luarannya setara dengan tugas akhir melalui pemikiran logis, kritis, sistematis, dan inovatif
	PLO-02	*Able to study and utilize science and technology in order to apply it to the field of Biomedical Engineering and able to make appropriate decisions from the results of one's own work or group work in the form of final assignment reports or forms of learning*

		activities others whose output is equivalent to the final assignment through logical, critical, systematic and innovative thinking.
	CPL-05	*Mampu menemukan, memahami, menjelaskan, merumuskan, dan menyelesaikan permasalahan umum pada bidang Teknik dan permasalahan khusus pada bidang Teknik Biomedika yang meliputi instrumentasi biomedika cerdas, teknik rehabilitasi medika, pencitraan dan pengolahan citra medika, serta informatika medika*
	PLO-05	*Able to find, understand, explain, formulate, and solve general problems in the field of Engineering and special problems in the field of Biomedical Engineering which includes intelligent biomedical instrumentation, medical rehabilitation techniques, imaging and processing of medical images, and medical informatics.*

	CPL-06 PLO-06	Mampu merancang dan melaksanakan eksperimen laboratorium dan/atau lapangan, menganalisa dan menginterpretasi data, serta menggunakan penilaian yang obyektif untuk menarik kesimpulan *Able to design and implement laboratory experiment and / or field experiments, analyze and interpret data, and use objective assessments to draw conclusions.*
	CPL-10 PLO-10	Mampu bekerja dalam tim lintas disiplin dan budaya serta bertanggung jawab kepada masyarakat dan mematuhi hukum dan etika profesi dalam menyelesaikan masalah Teknik Biomedika *Able to work in interdisciplinary and intercultural teams and be responsible to the community and comply with legal and professional ethics in solving Biomedical Engineering problems.*
	Capaian Pembelajaran Mata Kuliah (CPMK) ***Course Learning Outcome (CLO) - If CLO as description capability of each Learning Stage in the course, then CLO = LLO***	
	CP MK 1 ***CLO 1***	Mahasiswa memahami dan mampu menerapkan kaidah-kaidah penulisan ilmiah *Students understand and are able to apply the rules of scientific writing*
	CP MK 2 ***CLO 2***	Mahasiswa mampu menggunakan instrumen-instrumen pendukung yang diperlukan dalam penulisan karya ilmiah *Students are able to use the supporting instruments needed in writing scientific papers*
	CP MK 3 ***CLO 3***	Mahasiswa mampu menyusun proposal tugas akhir *Students are able to prepare a final project proposal*
	CP MK 4 ***CLO 4***	Mahasiswa mampu memaparkan rancangan proposal tugas akhir dalam kegiatan seminar pada tengah semester *Students are able to present the draft of the final project proposal in seminar activities in the middle semester*
	CP MK 5 ***CLO 5***	Mahasiswa mampu melaksanakan awal penelitian tugas akhir dan melaporkan perkembangannya setiap minggu. *Students are able to carry out initial final project research and delivering report progress every week.*
	CP MK 6 ***CLO 6***	Mahasiswa mampu memaparkan perkembangan tugas akhir pada seminar akhir semester *Students are able to present the progress of the final project at the end of the semester seminar*

Peta CPL – CP MK

Map of PLO - CLO

	CPL-01	CPL-02	CPL-03	CPL-04	CPL-05	CPL-06	CPL-07	CPL-08	CPL-09	CPL-10	CPL-11	CPL-12
CPMK 1 / SUB CPMK 1 *CLO 1 / LLO 1*					✔							
CPMK 2 / SUB CPMK 2 *CLO 2 / LLO 2*		✔										
CPMK 3 / SUB CPMK 3 *CLO 3 / LLO 3*		✔										
CPMK 4 / SUB CPMK 4 *CLO 4 / LLO 4*						✔						
CPMK 5 / SUB CPMK 5 *CLO 5 / LLO 5*		✔										
CPMK 6 / SUB CPMK 6 *CLO 6 / LLO 6*						✔						
CPMK 7 / SUB CPMK 6 *CLO 7 / LLO 7*										✔		

Deskripsi Singkat MK

Short Description of Course

Mata kuliah untuk mempersiapkan mahasiswa dalam menyusun proyek penelitian individu mahasiswa dengan bimbingan tim dosen pembimbing. Hasil akhir dari mata kuliah ini adalah dihasilkannya proposal tugas akhir yang dipresentasikan dalam bentuk seminar dan menjadi proyek penelitian tugas akhir dengan laporan kemajuan pada tahap awal dilakukan pada akhir perkuliahan

This course prepares students in preparing individual student research projects under the guidance of a team of supervisors. The final result of this course is the production of a final assignment proposal which is presented in the form of a seminar and becomes a final project research project with

	progress reports at the initial stage carried out at the end of the lecture

Bahan Kajian: Materi pembelajaran ***Course Materials:***	1. Konsep penelitian/*A concept of research* 2. Sistematika proposal penelitian/*Systematics of research proposal* 3. Introduction and literature review 4. Research methodology 5. Research planning 6. Proposal Review 7. Experiment with Human Subject 8. Research presentation 9. Proposal defense 10. Specific research progress 11. Research progress seminar
Pustaka ***References***	**Utama / *Main*:** 1. C. George Thomas,"Research Methodology and Scientific Writing, 2nd Edition", Springer 2021. 2. Piet Verschuren and Hans Doorewaard, "Designing a Research Project, Second edition"*, Eleven International Publishing, 2010.* **Pendukung / *Supporting*:** 1. Panitia Pengembang Pedoman Bahasa Indonesia, Kementerian Pendidikan dan Kebudayaan, "Pedoman Umum Ejaan Bahasa Indonesia", Badan Pengembangan dan Pembinaan Bahasa, 2016.
Dosen Pengampu ***Lecturers***	Dr. Achmad Arifin, S.T., M.Eng. Prof. Dr. Ir. Mohammad Nuh, DEA Dr. Norma Hermawan, S.T., M.T., M.Sc. Rezki El Arif, S.T., M.T., Ph.D Nada Fitrieyatul Hikmah, S.T., M.T. Ir. Josaphat Pramudijanto, M.Eng. Fauzan Arrofiqi, S.T., M.T., Ph.D.
Matakuliah syarat ***Prerequisite***	Project Design

Mg ke/ *Week*		Penilaian / *Assessment*	Bantuk Pembelajaran; Metode Pembelajaran; Penugasan Mahasiswa;	Materi Pembelajaran [Pustaka] /	Bobot Penilaian

	Kemampuan akhir tiap tahapan belajar (Sub-CPMK) / *Final ability of each learning stage (LLO)*	**Indikator / *Indicator***	**Kriteria & Teknik / *Criteria & Techniques***	**[Estimasi Waktu] / *Form of Learning; Learning Method; Student Assignment; [Estimated Time]***		***Learning Material [Reference]***	***/Assess-ment Load* (%)**
(1)	**(2)**	**(3)**	**(4)**	**Tatap Muka / *In-class* (5)**	**Daring / *Online* (6)**	**(7)**	**(8)**
1,2	Mahasiswa mampu memahami dan menjelaskan konsep penelitian dan sistematika proposal penelitian. *Students are able to describe the concept of research and systematics of research proposal.*	• Mahasiswa mampu menjelaskan konsep penelitian • Mahasiswa mampu menjelaskan dan merancang sistematika proposal penelitian • *Students are able to explain concept of research* • *Students are able to explain and design a research proposal systematics*	**Non-tes :** Diskusi Tugas Presentasi ***Non-test :*** *Discussion* *Assignment* *Presentation*	• Kuliah dan diskusi [TM : 2 x 50”] [BM : 2 x 50”] [PT : 2 x 50”] • *Presentation and brainstorming . [FF : 2 x 50”] [SA : 2 x 50”] [SS : 2 x 50”]*	• Belajar mandiri melalui Share ITS. • *Self learning through Share ITS*	• Concept of research • *Research proposal systematics*	**5**

3-4	Mahasiswa mampu menjelaskan dan menerapkan kaidah-kaidah penulisan ilmiah yang meliputi review literatur, metodologi penelitian dan membuat perencanaan penelitian. *Students are able to explain and apply the principles of scientific writing which include reviewing literature, research methodology and making research plans.*	• Mahasiswa mampu menjelaskan dan menerapkan kaidah-kaidah penulisan ilmiah yang meliputi review literatur, metodologi penelitian dan membuat perencanaan penelitian. • *Students are able to explain and apply the principles of scientific writing which include reviewing literature, research methodology and making research plans.*	**Non-tes :** Diskusi Tugas Presentasi **Non-test :** *Discussion Assignment Presentation*	• Kuliah dan diskusi [TM : 2 x 50"] [BM : 2 x 50"] [PT : 2 x 50"] • *Presentation and brainstorming. [FF : 2 x 50"] [SA : 2 x 50"] [SS : 2 x 50"]*	• Belajar mandiri melalui Share ITS. • Self learning through Share ITS	• Kaidah penulisan ilmiah • Review literatur • Metodologi penelitian • Perencanaan penelitian • *Principles of scientific writing* • *Literature review* • *Research methodology* • *Research planning*	**5**

5	Mahasiswa mampu menggunakan instrumen-instrumen pendukung yang diperlukan dalam penulisan karya ilmiah. *Students are able to use supporting instruments needed in writing scientific papers.*	• Mahasiswa mampu menggunakan instrumen-instru men pendukung yang diperlukan dalam penulisan karya ilmiah. • *Students are able to use supporting instruments needed in writing scientific papers.*	**Non-tes :** Diskusi Tugas Presentasi ***Non-test :*** *Discussion* *Assignment* *Presentation*	• Kuliah dan diskusi [TM : 1 x 50”] [BM : 1 x 50”] [PT : 1 x 50”] • *Presentation and brainstorming.* *[FF : 1 x 50”]* *[SA : 1 x 50”]* *[SS : 1 x 50”]*	• Belajar mandiri melalui Share ITS. • *Self learning through Share ITS*	Penggunaan instrumen-instrumen pendukung yang diperlukan dalam penulisan karya ilmiah. *Application of supporting instruments for writing scientific papers.*	**5**
6	Mahasiswa mampu menjelaskan prosedur penelitian yang melibatkan subyek manusia dan Menyusun formulir ethical clearance *Students are able to explain research procedures involving human subjects and prepare ethical clearance forms*	• Mahasiswa mampu menjelaskan prosedur penelitian yang melibatkan subyek manusia dan Menyusun formulir ethical clearance • *Students are able to explain research procedures involving human subjects and prepare ethical clearance forms*	**Non-tes :** Diskusi Tugas Presentasi ***Non-test :*** *Discussion* *Assignment* *Presentatio n*	• Kuliah dan diskusi [TM : 1 x 50”] [BM : 1 x 50”] [PT : 1 x 50”] • *Presentation and brainstorming.* *[FF : 1 x 50”]* *[SA : 1 x 50”]* • *[SS : 1 x 50”]*	• Belajar mandiri melalui Share ITS. • *Self learning through Share ITS*	• Penelitian dengan subjek manusia • Ethical clearance • *Experiment with human subject* • *Ethical clearance*	**5**

7	Mahasiswa mampu menentukan topik tugas akhir dan menyusun proposal tugas akhir. *Students are able to determine the topic of the final project and develop a final project proposal.*	• Mahasiswa mampu menentukan topik tugas akhir dan menyusun proposal tugas akhir. • *Students are able to determine the topic of the final project and develop a final project proposal.*	**Non-tes :** **Diskusi** **Tugas praktikum** ***Non-test :*** *Discussion* *Assignment* *practicum*	• Kuliah dan diskusi [TM : 1 x 50”] [BM : 1 x 50”] [PT : 1 x 50”] • Lecturing and discussion. *[FF : 1 x 50”]* *[SA : 1 x 50”]* *[SS : 1 x 50”]*	• Belajar mandiri melalui Share ITS. • Self learning through Share ITS	• Penentuan topik tugas akhir • Penyusunan proposal tugas akhir • *determining the topic of the final project* • *Writing a final project proposal*	
8	**SEMINAR PROPOSAL TUGAS AKHIR** ***FINAL PROJECT PROPOSAL SEMINAR***						**30**
9 - 10	Mahasiswa dapat melakukan perbaikan proposal dan melakukan konsultasi dengan pembimbing untuk memulai pelaksanaan penelitian *Students are able to make improvements to proposals and consult with supervisors to start conducting research*	• Ketepatan waktu pengumpulan tugas • Kebenaran melaksanakan tugas • Keberhasilan menjelaskan tugas • Kebenaran jawaban dan analisis • Kelengkapan dan kerapian hasil laporan • Ketepatan waktu pengumpulan	**Non-tes :** Diskusi Tugas praktikum ***Non-test :*** *Discussion* *Assignment* *practicum*	• Kuliah dan diskusi [TM : 2 x 50”] [BM : 2 x 50”] [PT : 2 x 50”] • *Lecturing and discussion.* *[FF : 2 x 50”]* *[SA : 2 x 50”]* *[SS : 2 x 50”]*	• Belajar mandiri melalui Share ITS. • *Self learning through Share ITS*	• Revisi Proposal • Konsultasi dengan dosen pembimbing • *Proposal revision* • *Research consultation with supervisor*	**10**

		laporan praktikum ● Kebenaran menjelaskan proyek ● *On time submission of assignment* ● *Correctness of the assignment* ● Successfullness in explaining the assignment. ● Answer and analysis correctness ● Completeness and neatness of the report result ● On time submission of practicum report ● Correctness in explaining project					

11-14	Mahasiswa dapat melaksanakan penelitian tugas akhir dan membuat laporan perkembangan setiap minggu *Students are able to carry out final project research and make progress reports every week*	• Ketepatan waktu pengumpulan tugas • Kebenaran melaksanakan tugas • Keberhasilan menjelaskan tugas • Kebenaran jawaban dan analisis • Kelengkapan dan kerapian hasil laporan • Ketepatan waktu pengumpulan laporan praktikum • Kebenaran menjelaskan proyek praktikum • *On time submission of assignment*	**Non-tes :** **Diskusi** **Tugas praktikum** **Non-test :** **Discussion** **Assignment practicum**	• Kuliah dan diskusi [TM : 3 x 50”] [BM : 3 x 50”] [PT : 3 x 50”] • Lecturing and discussion. [FF : 3 x 50”] [SA : 3 x 50”] [SS : 3 x 50”]	• Belajar mandiri melalui Share ITS. • *Self learning through Share ITS*	• Laporan perkembangan penelitian • Konsultasi dengan dosen pembimbing • *Research progress report* • *Research consultation with supervisor*	**10**

		● *Correctness of the assignment* ● *Successfullness in explaining the assignment.* ● *Answer and analysis correctness* ● *Completeness and neatness of the report result* ● *On time submission of practicum report* ● *Correctness in explaining practicum project*					
15-16	**SEMINAR KEMAJUAN TUGAS AKHIR** ***FINAL PROJECT PROGRESS SEMINAR***						**30**

TM=Tatap Muka, **PT**=Penugasan Terstuktur, **BM**=Belajar Mandiri.
***FF** = Face to Face, **SA** = Structured Assignment, **SS** = Self Study.*

II. Rencana Asesmen & Evaluasi (RAE) / *Assessment & Evaluation Plan*

	ASSESSMENT & EVALUATION PLAN BACHELOR DEGREE PROGRAM OF BIOMEDICAL ENGINEERING - FTEIC ITS **Course : Preliminary of Final Project**		**RA&E** Write Doc Code
Kode/*code*: **EB2346xx**	**Bobot sks/*credits* (T/P): 3/0**	**Rumpun MK: Ilmu Dasar Teknik** ***Course Cluster: Basic Engineering***	Smt: selection
OTORISASI ***AUTHORIZATION***	**Penyusun RA & E** ***Compiler A&EP*** **Dr. Achmad Arifin, S.T., M.Eng.**	**Koordinator RMK** ***Course Cluster Coordinator*** **Ir. Josaphat Pramudijanto, M.Eng.**	**Ka DEP** ***Head of DEP*** **Dr. Achmad Arifin, S.T., M.Eng.**

Mg ke/ *Week* (1)	**Sub CP-MK / *Lesson Learning Outcomes (LLO)* (2)**	**Bentuk Asesmen (Penilaian) *Form of Assessment* (3)**	**Bobot / *Load* (%) (4)**
1,2	**Sub CP-MK 1:** Mahasiswa mampu menggambarkan hubungan antar data klinis ***LLO 1:*** *Students are able to describe the relationship between clinical data.*	**Non-tes :** Tugas 1 tahap 1 ***Non-test :*** *Assignment 1 stage 1*	Tugas 1/assignment 1 :5%

3,4	**Sub CP-MK 2:** Mahasiswa dapat menggunakan catatan kesehatan elektronik untuk membuat bantuan keputusan klinis (mis. Membandingkan berbagai teknik pengobatan). ***LLO 2:*** *Students can use electronic health records to make clinical decision aids (eg comparing different treatment techniques).*	**Non-tes : Tugas 2:** ***Non-test :*** ***Assignment 2:***	Tugas 2/assignment 2: 5%
5	**Sub CP-MK 3:** Mahasiswa mampu mendesain database kesehatan (pendaftaran pasien, repository kesalahan pengobatan kesehatan, dll.) ***LLO 3:*** *Students are able to design medical database (patient registration, repository of error medication, medical history, etc).*	**Non-tes :** Tugas 3: presentasi ***Non-test :*** *Assignment 3* *Presentation.*	Tugas 1/assignment 2 :5% Presentasi/ Presentation: 10%

6,7	**Sub CP-MK 4:** Mahasiswa dapat melakukan Import, export, and menghubungkan table data lintas platform. ***LLO 4:*** *Students are able to calculate interval estimates from averages and proportions of a population from one or two sample groups.*	**Non-tes :** Tugas 4 ***Non-test :*** ***Assignment 4***	Tugas 1/assignment 4 :5%
8	**ETS**	**tes**	15%
9,10	**Sub CP-MK 5:** Mahasiswa dapat membuat queries dan reports untuk menggambarkan hubungan rumit diantara field (variable) di database kesehatan. ***LLO 5:*** *Students are able to design and perform hypothesis tests for a population based on the number of sample groups.*	**Non-tes : Tugas 5:** ***Non-test: Assignment 5***	Tugas 5/assignment 5 :5% Project:10 %

11,12	**Sub CP-MK 6:** Mahasiswa dapat menganalisis, melakukan merge, dan query database kesehatan untuk menghasilkan informasi baru ***LLO 6:*** *Students are able to determine the relationship between two or more variables.*	**Non Tes:** Tugas 6 ***Non Test:*** *Assignment 6*	Tugas 6/assignment 6 :5%
13,14	**Sub CP-MK 7** Mahasiswa dapat mengoptimisasi struktur data dan table yang mengeliminir duplikasi, entri data tak terpakai, dan ketidakjelasan data. ***LLO 7*** Students can optimize data structures and tables that eliminate duplication, unused	**Non Tes:** Tugas 7 Projek 2 ***Non Test:*** *Assignment 7* *Project 2*	Tugas 7/assignment 7 :5% Project:15 %

	data entry, and data obscurity		
15	**EAS**	**tes**	15%
		Total bobot penilaian ***Total assessment load***	**100%**

- Indikator Pencapaian CPL Pada MK / *Indicator of PLO achievement charged to the course*

CPL yang dibebankan pada MK / *PLO charged to the course*	**CPMK / *Course Learning Outcome (CLO)***	**Minggu ke / *Week***	**Bentuk Asesmen / *Form of Assessment***	**Bobot / *Load* (%)**
CPL-02 / *PLO-02*	CPMK 1 / *CLO 1*	*Week- 1-2*	*Assignment 1*	5
CPL-03 / *PLO-03*	CPMK 4 / *CLO 4*	*Week 6-7*	*Assignment 4*	5
	CPMK 6 / *CLO 6*	*Week- 11-12*	*Assignment 6*	5
CPL-06/ PLO-06	CPMK 2 / *CLO 2*	*Week- 3-4*	*Assignment 2*	5
	CPMK 3 / *CLO 3*	*Week- 5*	*Assignment 3, presentation*	15
	CPMK 5 / *CLO 5*	*Week- 9-10*	*Assignment 5, project 1*	15
CPL-08/PLO-08	CPMK 7 / *CLO 7*	*Week- 13-14*	*Assignment 7, project 2*	20
				∑ = **100%**

No	***Form of Assessment***	***PLO-01***	***PLO-02***	***PLO-03***	***PLO-04***	***PLO-05***	***PLO-06***	***PLO-07***	***PLO-08***	***PLO-09***	***PLO-10***	***PLO-11***	***PLO-12***	***Total***
1	*Tugas 1, 2, 3 (Presentasi) Assignment 1, 2, and 3 (Presentation)*		0.15											**0.15**
2	*Tugas 4 dan 5 (Tugas proyek) Assignment 4 and 5 (Project*		0.1				0.05				0.15			**0.25**

	assignment)													
3	*Tugas 6 dan 7 (Tugas proyek) Assignment 6 and 7 (Project assignment)*						0.2				0.1			**0.05**
4	*Seminar Seminar*					0.25								**0.45**
	Total		0.25			0.25	0.25				0.25			**1**