MODULE HANDBOOK
INTERNSHIP

BACHELOR DEGREE PROGRAM
DEPARTMENT OF BIOMEDICAL ENGINEERING
FACULTY OF INTELLIGENT ELECTRICAL AND INFORMATICS TECHNOLOGY

INSTITUT TEKNOLOGI SEPULUH NOPEMBER

MODULE HANDBOOK
INTERNSHIP

Module name	**Internship**	
Module level	Undergradute	
Code	EB184703	
Course (if applicable)	Internship	
Semester	First Semester (Gasal)	
Person responsible for the module	M. Hilman Fatoni, S.T., M.T.	
Lecturer	???	
Language	Bahasa Indonesia and English	
Relation to curriculum	Undergradute degree program, **mandatory**, 7th semester.	
Type of teaching, contact hours	???	
Workload	1. Lectures : 3 x 50 = 150 minutes per week. 2. Exercises and Assignments : 3 x 60 = 180 minutes (3 hours) per week. 3. Private learning : 3 x 60 = 180 minutes (3 hours) 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	-	
Learning outcomes and their corresponding PLOs	Course Learning Outcome (CLO) after completing this module, CLO 1: Students are able to understand the internship process carried out according to the topic. CLO 2: Students are able to explain the internship being carried out. CLO 3: Students are able to apply the knowledge gained during lectures to solve problems at the internship. CLO 4: Students are able to present their internship results in a seminar forum.	 PLO-02 PLO-02 PLO-06 PLO-02

Content	This course studies coverage of activities carried out during the internship and the knowledge used during the internship.
Study and examination requirements and forms of examination	● In-class exercises ● Written Task 1 ● Presentation Task 1, 2, 3, 4, 5 ● Programming Task 1 ● Mid-term examination ● Final examination
Media employed	LCD, whiteboard, websites (myITS Classroom), zoom.
Reading list	Main : 1. - Supporting : 1. -

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***
Kerja Praktek ***Internship***	EB184703	Biomedical Instrumentation and Signal Processing	T=2	P=0	VII	Feb 27, 2020

OTORISASI / PENGESAHAN ***AUTHORIZATION / ENDORSEMENT***	**Dosen Pengembang RPS** ***Developer Lecturer of Semester Learning Plan***	**Koordinator RMK** ***Course Cluster Coordinator***	**Ka DEPARTEMEN** ***Head of Department***
	(M. Hilman Fatoni, S.T., M.T.)	**(Dr. Rachmad Setiawan, S.T., M.T.)**	**(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 **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-02	*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	Mampu menerapkan ilmu pengetahuan, keterampilan, dan metode terkini dalam menyelesaikan permasalahan di bidang Teknik Biomedika.
	PLO-06	*Able to apply the latest knowledge, skills and methods in solving problems in the field of Biomedical Engineering.*
	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 mampu memahami proses kerja praktek yang dilaksanakan sesuai dengan topiknya. *Students are able to understand the internship process carried out according to the topic.*
	CP MK 2 ***CLO 2***	Mahasiswa mampu menjelaskan kerja praktek yang dilaksanakan. *Students are able to explain the internship being carried out.*
	CP MK 3 ***CLO 3***	Mahasiswa mampu menerapkan ilmu-ilmu yang didapatkan selama perkuliahan untuk menyelesaikan permasalahan di tempat kerja praktek. *Students are able to apply the knowledge gained during lectures to solve problems at the internship.*
	CP MK 4 ***CLO 4***	Mahasiswa mampu mempresentasikan hasil Magang dalam forum seminar. *Students are able to present their internship results in a seminar forum.*

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*		√										

Diskripsi Singkat MK ***Short Description of Course***	Mata kuliah ini memberikan pengalaman situasi kerja di lapangan secara langsung. Kerja praktik dilaksanakan di industri atau tempat kerja yang memanfaatkan disiplin ilmu Teknik Biomedik. *This course provides hands-on experience of work situations in the field. Internships are carried out in industries or workplaces that utilize Biomedical Engineering disciplines.*

Bahan Kajian: Materi pembelajaran ***Course Materials:***	1. Cakupan tentang kegiatan-kegiatan yang dilakukan selama kerja praktek berlangsung / *The coverage of activities carried out during internship takes place.* 2. Ilmu-ilmu yang digunakan selama kerja praktek / *Knowledge used during internship.*
Pustaka ***References***	**Utama / *Main*:** **1. -** **Pendukung / *Supporting*:** *1.* -
Dosen Pengampu ***Lecturers***	-
Matakuliah syarat ***Prerequisite***	-

Mg ke/ *Week*	**Kemampuan akhir tiap tahapan belajar (Sub-CPMK) / *Final ability of each learning stage (LLO)***	**Penilaian / *Assessment***		**Bantuk Pembelajaran; Metode Pembelajaran; Penugasan Mahasiswa; [Estimasi Waktu] / *Form of Learning; Learning Method; Student Assignment; [Estimated Time]***		**Materi Pembelajaran [Pustaka] / *Learning Material [Reference]***	**Bobot Penilaian /*Assess-ment Load* (%)**
		Indikator / *Indicator*	**Kriteria & Teknik / *Criteria & Techniques***				
(1)	**(2)**	**(3)**	**(4)**	**Tatap Muka / *In-class* (5)**	**Daring / *Online* (6)**	**(7)**	**(8)**

1	● Mahasiswa mampu memahami proses kerja praktek yang dilaksanakan sesuai dengan topiknya. ● Mahasiswa mampu menjelaskan kerja praktek yang dilaksanakan. ● Mahasiswa mampu menerapkan ilmu-ilmu yang didapatkan selama perkuliahan untuk menyelesaikan permasalahan di tempat kerja praktek. ● *Students are able to understand the internship process carried out in accordance with the topic.* ● *Students are able to explain the internship being carried out.* ● *Students are able to apply the knowledge gained during lectures to solve problems at the internship.*	● Kebenaran melaksanakan tugas. ● Keberhasilan menjelaskan tugas. ● Ketepatan waktu pelaksanaan tugas ● *Success in carrying out tasks.* ● *Success describes assignments.* ● *Timeliness of task executionbiocybernetics techniques.*	**Non-tes :** **Tugas 1:** Menjalankan tugasnya sebagai siswa kerja praktek di industri sesuai dengan peraturan perusahaan / tempat kerja praktek dan mendapatkan penilaian secara professional dari supervisor di industri (ditulis di form penilaian supervisor). ***Non-test :*** ***Task 1:*** *Carry out his duties as a student internship in the industry in accordance with company / internships regulations and get a professional assessment from the supervisor in the industry (written on the supervisor assessment form).*	● Bekerja maupun beraktifitas sesuai dengan peraturan perusahaan atau tempat kerja praktek. **[20-40 x 8 x 60”]**	● Bekerja maupun beraktifitas sesuai dengan peraturan perusahaan atau tempat kerja praktek.	● Cakupan tentang kegiatan-kegiatan yang dilakukan selama kerja praktek berlangsung. **[-]** ● *The concept of biocybernetics* ● *History of biocybernetics.* ***[Material link on* MyITSClassroom*]***	**70**

2	• Mahasiswa mampu mempresentasikan hasil Kerja Praktek dalam forum seminar. • *Students are able to present their internship results in a seminar forum.*	• Kelengkapan dan kerapian hasil laporan presentasi. • Ketepatan menjelaskan pemahaman materi • *Able to explain the usefulness of physiological systems modeling for the field of Biomedical Engineering.*	**Non-tes :** • **Tugas 2:** Buku laporan kerja praktek. • **Seminar Kerja Praktek:** Presentasi secara individu maupun kelompok untuk melaporkan kegiatan dengan topik spesifik kerja praktek (Presentasi) ***Non-test :*** • ***Task 2:*** *Internship report book.* • ***Internship Seminary:*** *Presentations individually or in groups to report activities with specific topics of internship (Presentations).*	• Kuliah dan brainstorming, tanya jawab. **[TM : 1 x 50"] [BM : 6 x 60"]** • *Presentation and brainstorming, ask and answer.* ***[FF : 1 x 50"] [SS : 6 x 60"]***	• Chatting dan diskusi dalam forum platform ITS. • *Chat and discussion in ITS platform forum.*	• Ilmu-ilmu yang digunakan selama kerja praktek. **[Link materi di MyITSClassroom]** • *Modeling Concepts.* • *Methods of modeling the human body physiological system.* ***[Material link on MyITSClassroom]***	**30**

TM=Tatap Muka, **BM**=Belajar Mandiri.
***FF** = Face to Face, **SS** = Self Study.*

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

	ASSESSMENT & EVALUATION PLAN BACHELOR DEGREE PROGRAM OF BIOMEDICAL ENGINEERING - FTEIC ITS **Course : Internship**		**RA&E** Write Doc Code
Kode/*code*: **EB184703**	**Bobot sks/*credits* (T/P): 2/0**	**Rumpun MK: Biomedical Instrumentation and Signal Processing** ***Course Cluster: Biomedical Instrumentation and Signal Processing***	Smt: VII
OTORISASI ***AUTHORIZATION***	**Penyusun RA & E** ***Compiler A&EP*** **M. Hilman Fatoni, S.T., M.T.**	**Koordinator RMK** ***Course Cluster Coordinator*** **Dr. Rachmad Setiawan, S.T., M.T.**	**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	**Sub CP-MK 1:** Mahasiswa mampu memahami proses kerja praktek yang dilaksanakan sesuai dengan topiknya. **Sub CP-MK 2:** Mahasiswa mampu menjelaskan kerja praktek yang dilaksanakan. **Sub CP-MK 3:** Mahasiswa mampu menerapkan ilmu-ilmu yang didapatkan selama perkuliahan untuk menyelesaikan permasalahan di tempat kerja praktek.	**Non-tes :** **Tugas 1:** Menjalankan tugasnya sebagai siswa kerja praktek di industri sesuai dengan peraturan perusahaan / tempat kerja praktek dan mendapatkan penilaian secara professional dari supervisor di industri (ditulis di form penilaian supervisor). ***Non-test :*** ***Task 1:*** *Carry out his duties as a student internship in the industry in accordance with company / internships regulations and get a professional assessment from the supervisor in the industry (written on the supervisor assessment form).*	70

	LLO 1: *Students are able to understand the internship process carried out in accordance with the topic.* ***LLO 2:*** *Students are able to explain the internship being carried out.* ***LLO 1:*** *Students are able to apply the knowledge gained during lectures to solve problems at the internship.*		
2	**Sub CP-MK 2:** Mahasiswa mehamami konsep pemodelan yang dapat digunakan untuk sistem fisiologi tubuh manusia. ***LLO 2:*** *Students are able to present their internship results in a seminar forum.*	**Non-tes :** **Tugas 2:** Buku laporan kerja praktek. **Seminar Kerja Praktek:** Presentasi secara individu maupun kelompok untuk melaporkan kegiatan dengan topik spesifik. ***Non-test :*** ***Task 2:*** *Intership report book.* ***Task 2:*** *Presentations individually or in groups to report activities with specific topics of internship (Presentations).*	30
		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-?*	*Task 1*	?
	CPMK 2 / *CLO 2*			
	CPMK 4 / *CLO 4*	*Week-?*	*Task 2*	?
		Week-?	*Internship Seminary*	?
CPL-06 / *PLO-06*	CPMK 3 / *CLO 3*	*Week-?*	*Task 1*	?
				∑ = 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	*Task 1*		?				?							**?**
2	*Task 2*		?											**?**
3	*Internship Seminary*		?											**?**
	Total		?				?							**1**