

### UNIVERSITAS NEGERI YOGYAKARTA

## POSTGRADUATE PROGRAM DEPARTMENT OF ELECTRONICS AND INFORMATICS ENGINEERING EDUCATION

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# Master of Education in Electronics and Informatics Engineering

#### **MODULE HANDBOOK**

Module name:	Elektronika Medis (Electronics Medic)					
Module level, if applicable:	Postgraduate					
Code:	PTI 8219					
Sub-heading, if applicable:	-					
Classes, if applicable:	-					
Semester:	2 <sup>nd</sup>					
Module coordinator:	Dr. Ir. Fatchul Arifin, M.T.					
Lecturer(s):	Dr. Ir. Fatchul Arifin, M.T.					
Language:	English					
Classification within the	Elective Course					
curriculum:	Liective Course					
Teaching format / class	100 minutes lectures and 120 minutes structured activities per					
Hours per week during the	week.					
semester:	week.					
	Total workload is 90,67 hours per semester which consists of					
Workload:	100 minutes lectures, 120 minutes structured activities, and					
	120 minutes self-study per week for 16 weeks					
Creditpoints:	2					
Prerequisites course(s):	-					
	After taking this course the students have ability to: CO1. After taking this course the students have ability to apply					
	responsibility, and collaboration in community activities					
Course outcomes:	CO2. After taking this course the students have ability to develop					
	Medical Instrumentation Systems					
	CO3. After taking this course the students have ability to provide					
	solutions to contemporary problems related to medical					
	instrumentation.					

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	CO4	CO4. After taking this course the students have ability to analyze							
		data related to medical instrumentation Systems							
Content:	medi used cond relate	This course discusses about anatomy of human; principle of medical electronic instrumentation; sensors, transducers that are used by medical instrumentation and their characteristics; signal conditioning circuits; signal processing; and signal output devices related to medical devices. This course also discuss about various medical instrumentation that are used at hospital.							
	and basic value compasse the r	Attitude assessment is carried out at each meeting by observation and / or self-assessment techniques using the assumption that basically every student has a good attitude. The student is given a value of very good or not good attitude if they show it significantly compared to other students in general. The result of attitude assessment is not a component of the final grades, but as one of the requirements to pass the course. Students will pass from this course if at least have a good attitude.  The final mark will be weight as follow:							
Study/exam	N	0	СО	Assessment Object	Assessment Technique	Weight			
achievements:		1	CO1	Individual	Written Test,	25%			
		2	CO2	Assignment,	Oral test, Observation,	25%			
	;	3	CO3	Group Assignment,	portfolio	25%			
		1	CO4	Quiz		25%			
		Total 100%							
Forms of media:	LCD	Pro	oiector. La	ptop / Computer,	White Board				
Tomic of modia.			-			, D			
Literature:	ht M (a 2. E ar (1	<ol> <li>Biomedical Instrumentation And Measurements by R. Anandanatarajan: (2011)   Vedams eBooks (P) Ltd.―         https://www.abebooks.co.uk/Biomedical-Instrumentation-Measurements-R-Anandanatarajan-PHI/4924174200/bd         (accessed Oct. 06, 2020).</li> <li>Electronic Devices for Rehabilitation (Medical Instrumentation and Clinical Engineering Series): Used; Good Hardcover (1998)   Bookbarn International.―</li> </ol>							
	https://www.abebooks.co.uk/9780412261008/Electronic- Devices-Rehabilitation-Medical-Instrumentation-								
		0412261006/plp (accessed Oct. 06, 2020).  3. Electronics for Medical Personnel by Edward J. Bukstein:							
		3. Electronics for Medical Personnel by Edward J. Bukstein:  Poor (1973)   Anybook Ltd.―							
		https://www.abebooks.co.uk/9780572008598/Electronics-							
		<ul> <li>Medical-Personnel-Edward-Bukstein-0572008597/plp (accessed Oct. 06, 2020).</li> <li>4. Electronics for Medical Personnel by Edward J. Bukstein: Poor (1973)   Anybook Ltd.―</li> </ul>							
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		https://www.abebooks.co.uk/9780572008598/Electronics-							
	М	Medical-Personnel-Edward-Bukstein-0572008597/plp							

(accessed Oct. 06, 2020). 5. Medical Electronics by Guld et al: Fair (1973) | Anybook Ltd.― https://www.abebooks.co.uk/9780901223517/Medical-Electronics-Guld-0901223514/plp (accessed Oct. 06, 2020). 6. Medical Instrumentation: Application and Design, 4th Edition | Wiley,― Wiley.com. https://www.wiley.com/enus/Medical+Instrumentation%3A+Application+and+Design%2 C+4th+Edition-p-9780471676003 (accessed Oct. 06, 2020) 7. Principles of Electronics in Medical Research by Hill D W: Fair (1965) | Anybook Ltd.― https://www.abebooks.co.uk/Principles-Electronics-Medical-Research-Hill-W/10582436563/bd (accessed Oct. 06, 2020). 8. L. Xing, M. L. Giger, and J. K. Min, Eds., Artificial Intelligence in Medicine: Technical Basis and Clinical Applications, 1st Edition. Academic Press, 2020

### **PLO and CO mapping**

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
CO1		✓								
CO2			✓							
CO3									✓	
CO4										✓