



**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 curriculum:	Elective Course
Teaching format / class Hours per week during the semester:	100 minutes lectures and 120 minutes structured activities per week.
Workload:	Total workload is 90,67 hours per semester which consists of 100 minutes lectures, 120 minutes structured activities, and 120 minutes self-study per week for 16 weeks
Creditpoints:	2
Prerequisites course(s):	-
Course outcomes:	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 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.

	CO4. After taking this course the students have ability to analyze data related to medical instrumentation Systems																								
Content:	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.																								
Study/exam achievements:	<p>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:</p> <table border="1"> <thead> <tr> <th>No</th> <th>CO</th> <th>Assessment Object</th> <th>Assessment Technique</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CO1</td> <td rowspan="4">Individual Assignment, Group Assignment, Quiz</td> <td rowspan="4">Written Test, Oral test, Observation, portfolio</td> <td>25%</td> </tr> <tr> <td>2</td> <td>CO2</td> <td>25%</td> </tr> <tr> <td>3</td> <td>CO3</td> <td>25%</td> </tr> <tr> <td>4</td> <td>CO4</td> <td>25%</td> </tr> <tr> <td colspan="3">Total</td> <td></td> <td>100%</td> </tr> </tbody> </table>	No	CO	Assessment Object	Assessment Technique	Weight	1	CO1	Individual Assignment, Group Assignment, Quiz	Written Test, Oral test, Observation, portfolio	25%	2	CO2	25%	3	CO3	25%	4	CO4	25%	Total				100%
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2	CO2			25%																					
3	CO3			25%																					
4	CO4			25%																					
Total				100%																					
Forms of media:	LCD Projector, Laptop / Computer, White Board																								
Literature:	<ol style="list-style-type: none"> <li>Biomedical Instrumentation And Measurements by R. Anandanatarajan: (2011)   Vedams eBooks (P) Ltd.â€• <a href="https://www.abebooks.co.uk/Biomedical-Instrumentation-Measurements-R-Anandanatarajan-PHI/4924174200/bd">https://www.abebooks.co.uk/Biomedical-Instrumentation-Measurements-R-Anandanatarajan-PHI/4924174200/bd</a> (accessed Oct. 06, 2020).</li> <li>Electronic Devices for Rehabilitation (Medical Instrumentation and Clinical Engineering Series): Used; Good Hardcover (1998)   Bookbarn International.â€• <a href="https://www.abebooks.co.uk/9780412261008/Electronic-Devices-Rehabilitation-Medical-Instrumentation-0412261006/plp">https://www.abebooks.co.uk/9780412261008/Electronic-Devices-Rehabilitation-Medical-Instrumentation-0412261006/plp</a> (accessed Oct. 06, 2020).</li> <li>Electronics for Medical Personnel by Edward J. Bukstein: Poor (1973)   Anybook Ltd.â€• <a href="https://www.abebooks.co.uk/9780572008598/Electronics-Medical-Personnel-Edward-Bukstein-0572008597/plp">https://www.abebooks.co.uk/9780572008598/Electronics-Medical-Personnel-Edward-Bukstein-0572008597/plp</a> (accessed Oct. 06, 2020).</li> <li>Electronics for Medical Personnel by Edward J. Bukstein: Poor (1973)   Anybook Ltd.â€• <a href="https://www.abebooks.co.uk/9780572008598/Electronics-Medical-Personnel-Edward-Bukstein-0572008597/plp">https://www.abebooks.co.uk/9780572008598/Electronics-Medical-Personnel-Edward-Bukstein-0572008597/plp</a></li> </ol>																								

