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:	Web-Based Application
Module level, if applicable:	Postgraduate
Code:	PTI 8222
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	2nd
Module coordinator:	Dr. phil Rahmatul Irfan, S.T., M.T.
Lecturer(s):	Handaru Jati, M.M., M.T., Ph.D.
Language:	Bahasa Indonesia
Classification within the curriculum:	Elective courses
Teaching format / class hoursperweekduring the semester:	100 minutes lectures and 120 minutes structured activities per week.
Workload:	Total workload is 90 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 students have the ability to: CO1. Understand the concepts of methods, techniques, tools and evolution of web-based applications. CO2. Creating modeling and architecture as well as web-based application design and technology. CO3. Perform testing, operation and maintenance of web-based applications. CO4. Solve project management problems. CO5. Apply the application development process, usability and performance, and security of web-based applications.

Content:	This course discusses the latest concepts, methods, techniques, tools and evolution of web-based applications developed with an engineering approach to produce quality web applications. Topics: requirements engineering, modeling and architecture, design and technology, testing, operation and maintenance, project management, application development processes, usability and performance, and security of web applications.
Study/exam achievements:	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 attitudeif they show it significantlycompared to other students in general. The result of attitude assessment is not a component of the final grades, but as one of therequirements 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: *(see table below)*

No	CO	Assessment Object	Assessment Technique	Weight
1	CO1, CO2, CO3, CO4	Project	Assignment	50%
2	CO1, CO2, CO4	Scientific Paper	Assignment	30%
3	CO5	Presentations and submit scientific papers	Presentations	20%
			Total	100%

Forms of media:	Board, LCD Projector, Laptop/Computer
Literature:	1. Flask Web Development by Miguel Grinberg Copyright © 2018 Miguel Grinberg. All rights reserved.Printed in the United States of America. Published by O'Reilly Media, Inc., 1005 Gravenstein Highway North, Sebastopol, CA 95472.; 2. Pressman, R. S., & Lowe, D. (2008). Web Engineering: A Practitioner's Approach (1 edition). Boston: McGraw-Hill Education.; 3. Casteleyn, S., Daniel, F., Dolog, P., & Matera, M. (2009). Engineering Web Applications (1 edition). Springer Berlin Heidelberg.; 4. Governor, J., Hinchcliffe, D., & Nickull, D. (2009). Web 2.0 Architectures: What entrepreneurs and information architects need to know (1 edition). Adobe Developer Library.; 5. Team, 1988, "International Journal of Technology and Web Engineering", Idea Group Publishing; 6. Gerti Kappel et al, 2006, "Web Engineering, The

Discipline of Systematic Development of Web Application", John Wiley & Sons Ltd;

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8. Team, 2011, "International Conference on Web Engineering (ICWE)", Springer;

9. Prof Athula Ginige, 2006, "Web Engineering Course Materials", University of Western Sydney;

10. Hong-mei, S., & Rui-sheng, J. (2012). Web Engineering Process and Its Application. In Advances in Information Technology and Industry Applications (pp. 99–105). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-26001-8_1

11. Imtiaz, J., Iqbal, M.Z., & Khan, M.U. 2020. An automated model-based approach to repair test suites of evolving web applications. Elsevier: Journal of Systems and Software.

12. Cao, R.K., & Liu, X. 2020. IFML-Based Web Application Modeling. Elsevier: Procedia Computer Science.

13. Ponzini, R., Salvadore, F., Begovic, E., & Bertorello, C. 2020. Automatic CFD analysis of planing hulls by means of a new web-based application: Usage, experimental data comparison and opportunities. Elsevier: Ocean Engineering.

14. Sturm, R., Pollard, C., & Craig, J. 2017. Chapter 7 - Managing Web-Based Applications in Application Performance Management (APM) in the Digital Enterprise Managing Applications for Cloud, Mobile, IoT and eBusiness. Elsevier.

15. Fahy, B. 2014. Chapter 6 - The Security Risks of Web-Based Applications in the Workplace in Security Leader Insights for Information Protection Lessons and Strategies from Leading Security Professionals. Elsevier.

16. Mesbah, A. 2015. Chapter Five - Advances in Testing JavaScript-Based Web Applications in Advances in Computers. Elsevier.

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
CO1					✓					
CO2							✓			
CO3								✓		
CO4						✓			✓	
CO5										✓