



### MODULE HANDBOOK DESCRIPTION

Module designation	Object Oriented Programming (FBD3104)
Semester(s) in which the module is taught	5 / <i>third year</i>
Person responsible for the module	<i>Cipta Ramadhani, S.T., M.Eng</i>
Language	<i>Indonesian</i>
Relation to curriculum	<i>Compulsory</i>
Teaching methods	<i>lectures, Small Group Discussion, Case Base Method</i>
Workload (incl. contact hours, self-study hours)	Contact Hours every week, each week of the 16 weeks/semester : (per week includes) <ul style="list-style-type: none"><li>• 2 x 50 minutes : Lecture</li><li>• 2 x 60 minutes : Exercise and Assignment</li><li>• 2 x 60 minutes : Self-learning</li></ul> total Study hours = 340 minutes/week
Credit points	2 (~ 3,2 ECTS)
Required and recommended prerequisites for joining the module	Algorithm and programming (ES 1215)

<p>Module objectives/intended learning outcomes</p>	<p>PLO 3 – <b>Engineering Analysis</b> :Able to choose methode, make literature reviews, design experiments with simulations, and analyze result to reach the right conclusions, as well as develop guidelines for using tools</p> <p>PLO 4 – <b>Engineering Design</b> : Able to design and develop components, system and/or processes to support engineering activities and create technologicsl innovations by optimally utilizing potential resources</p> <p>PLO 5 – <b>Experiment</b> : Able to design and carry out experiments using basic and modern technical tools and analyze and interpret data based on the correct methodology to strengthen engineering assessments</p>	
	<ol style="list-style-type: none"> <li>1. Students are able to explain the fundamental of object oriented programming (OOP).</li> <li>2. Students have the ability to create class and object using Java Programming.</li> <li>3. Students are able to understand the concept of function in OOP</li> <li>4. Students are able to understand the concept of String as a type of class in OOP.</li> <li>5. Students are able to explain the fundamental of object oriented programming (OOP).</li> <li>6. Students are able to understand the concept of String of abstract method and class in OOP.</li> </ol>	<p>PLO3, PLO4</p>
	<ol style="list-style-type: none"> <li>1. Students are able to understand the concept of function in OOP</li> <li>2. Students are able to understand the concept of String as a type of class in OOP.</li> <li>3. Students are able to determine the basic feature of encapsulation in OOP.</li> </ol>	<p>PLO3</p>

	<ol style="list-style-type: none"> <li>1. Students have the ability to create class and object using Java Programming.</li> <li>2. Students are able to understand both concept and application of Inheritance in OOP</li> <li>3. Students are able to understand both concept and application of polymorphism in OOP.</li> </ol>	PLO5
Content	Introduction to OOP, Class dan object, Method, String, Encapsulation, Inheritance, Polymorphism, abstract class	
Examination forms	<i>Multiple choice examination and Essay , Presentation case study</i>	
Study and examination requirements	<i>Per-meeting score = 5 % x 16 meeting = 80%</i> <i>Exercise Report/ Homework/Portofolio = 20%</i>	
Reading list	<ol style="list-style-type: none"> <li>1. Head First Java, 2nd edition, 2008, Bert Bates and Kathy Sierra, O'Reilly</li> <li>2. Java™ How to Program, 9th, 2012, Prentice Hall</li> <li>3. Head First Object Oriented Design and Analysis, 1st edition, 2006, Brett D. McLaughlin, Gary Pollice, David West, O'Reilly Media.</li> </ol>	