Module Descriptions

A **module** is a self-contained **learning unit** within a higher education program that includes thematically related courses and is assigned a **fixed number of credits**. It follows specific **learning objectives**, includes an **assessment component**, and contributes to achieving the qualifications of a degree program. In some countries, “modules” are also named “courses”.

Please provide a module description for each module. In addition to the compulsory and elective modules, this also includes credited internships and the final thesis.

Please summarize all module descriptions in one document (Module Handbook) and create a table of contents so that the modules can be found easily.

Module designation	*Complex Analysis*
Semester(s) in which the module is taught	*2*
Person responsible for the module	*Prof. Dr. Hartono, M.Si.* *Dr. Eminugroho Ratna Sari, M.Sc.*
Language	*Indonesian.*
Relation to curriculum	*Elective.*
Teaching methods	*Lecture and Discussion.*
Workload (incl. contact hours, self-study hours)	*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.*
Credit points	*2*
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	*After taking this course the students have ability to:* *CO1. Demonstrate an understanding of the complex number system, including the concepts of conjugates and modulus.* *CO2. Prove some theorem of limit , continuity and differentiable of complex function.* *CO3. Solving the problems related with the Cauchy Riemann Condition .* *CO4. Demonstrate an understanding of the concepts of contours and contour integration.* *C05. Solving problems related with integral contour.*
Content	*This course covers the complex number system, including Cartesian and polar forms, conjugates, modulus, and roots of complex numbers. It also discusses limits, continuity, and derivatives of complex functions, with particular emphasis on the relationship between derivatives and the Cauchy-Riemann conditions. Furthermore, the course explores contour integrals, Cauchy's integral theorem, and their applications.*

Examination forms	*Presentations and written examinations.*
Study and examination requirements	*The course assessment is divided into two main components:* 1. ***Cognitive Assessment (50%)*** *This includes the following elements:* ○ *Attendance: 10%* ○ *Quiz: 0%* ○ *Assignment:0%* ○ *Midterm Exam (UTS): 20%* ○ *Final Exam (UAS): 20%* 2. ***Participatory Assessment (50%)*** *This includes:* ○ *Case Study: 25%* ○ *Team-Based Project: 25%* ***Total: 100%***
Reading list	*1. Asmar, H.N. and Grafakos, L, 2018. Complex Analysis with Applications, Switzerland : Springer Nature.* *2. A. Brown, J.W. and Churchill, R.V. 2014. Complex Variables and Applications. 9th Edition. New York: McGraw-Hill, Inc.*