



UNIVERSITAS GADJAH MADA
DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
BACHELOR IN CIVIL ENGINEERING

Numerical Methods

Course

Description

Course contents

Week #1 to #8

Mathematics in civil engineering

Roots of equations

Linear algebraic equations

Curve fitting

Week #9 to #16

Numerical differentiation and integration

Ordinary differential equations (initial-value problems)

Introduction to the finite difference approximation (boundary-value problems)

Reading materials



Handbooks

Chapra, S.C., Canale, R.P., 2015, *Numerical Methods for Engineers*, 7th Ed., McGraw-Hill Book Co., New York.



Class notes

<https://istiarto.staff.ugm.ac.id/index.php/kuliah/sarjana-s1/numerical-methods/>



Various sources

Online or offline

Gradings

Part 1 (50%)

Quiz, homeworks
(10-20%)

Part 2 (50%)

Quiz, homeworks
(10-20%)

Midterm exam
(30-40%)

Final exam (30-
40%)

Activities

Presentations

Discussions

Quiz

Homeworks

Exam

Quiz, homeworks

- SIMASTER
- pdf files
- manuscripts must be readable

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