UIN SUNAN KALIJAGA YOGYAKARTA
FACULTY OF SCIENCE AND TECHNOLOGY
Jl. Marsda Adisucipto Yogyakarta 55281, Telp:+62274519739, Fax:+62274540971,
E-mail: fst@uin-suka.ac.id, website: http://saintek.uin-suka.ac.id/

Undergraduate Programme in Physics

Telp : +62274 519739
Email : fisika@uin-suka.ac.id
Website : https://fisika.uin-suka.ac.id/id

MODULE HANDBOOK

Module Name	Inversion Method
Module level, if applicable	Bachelor
Code, if applicable	FIS425075
Subtitle, if applicable	-
Courses, if applicable	Inversion Method
Semester(s) in which the module is taught	7th (seventh)
Person responsible for the module	Andi, M.Sc.
Lecturer(s)	Andi, M.Sc
Language	Indonesia
Relation to curriculum	Elective course in the fourth year (7th semester) Bachelor Degree
Type of teaching, contact hours	150 minutes lectures and 180 minutes structured activities per week.
Workload	Total workload is 136 hours per semester, which consists of 150 minutes lectures per week for 14 weeks, 180 minutes structured activities per week, 180 minutes individual study per week, in total is 16 weeks per semester, including mid exam and final exam
Credit points	3
Requirements according to the examination regulation	Minimum attendance 75% All assignments submitted Attendance on time
Recommended prerequisites	No prerequisites stated on
Module objectives/intended learning outcomes	After completing this course, the students: CO 1. Able to understand the concept of inversion modeling in geophysics. CO 2. Able to conduct inversion modelling of geophysical data for linear cases. CO 3. Able to conduct inversion modeling of geophysical data for non-linear cases.
Content	1. Concept of geophysical data modeling 2. Least squares method 3. Linear inversion 4. Application of linear inversion 5. Non-linear inversion 6. Application of non-linear inversion with linear approximation 7. Application of non-linear inversion with global approximation
Study and examination requirements and forms of examination	The final mark will be weighted as follows:

NO	Assessment methods (components, activities)	Weight (percentage)
1	Final Examination	40%
2	Mid-Term Examination	30%

	3 | Class Activities : Quiz, Homework, etc. | 30%

The final assessment is expressed in the form of a letter value converted from a number value with the following categories:

NO	Number Value	Letter Value	NO	Number Value	Letter Value
1	≥ 95	A	7	65-69.99	B/C
2	90-94.99	A-	8	60-64.99	C+
3	85-89.99	A/B	9	55-59.99	C
4	80-84.99	B+	10	50-54.99	C-
5	75-79.99	B	11	55-34.99	D
6	70-74.99	B-	12	<35	E

Media employed	White-board, Lcd Projector, e-learning (https://daring.uin-suka.ac.id/)
Reading list	1. Grandis, H., Pengantar Inversi Geofisika, HAGI, 2009. 2. Menke, M., 1984, Geophysical data analysis: discrete inverse theory, Academic Press. 3. Randall M. Richardson and George Zandt, 2009, Inverse Problems In Geophysics, 2009, Department of Geosciences, University of Arizona, Tucson, Arizona 85721. 4. Sen, M.K., Paul L. Stoffa., 1995, Global Optimization Methods in Geophysical Inversion, Cambridge University Press. 5. Albert Tarantola, 2005, Inverse Problem Theory and Methods for Model Parameter Estimation, Siam. 6. Scales, J.A., Smith, L. M., dan Treitel, S., 2001, Introductory Geophysical Inverse Theory, Samizdat Press.

PLO and CO Mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9
CO 1		√	√				√		√
CO 2		√	√				√		√
CO 3		√	√				√		√