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	Basic Properties of Material
Module level, if applicable	Bachelor
Code, if applicable	FIS424032
Subtitle, if applicable	-
Courses, if applicable	Basic Properties of Material
Semester(s) in which the module is taught	4th (fourth)
Person responsible for the module	Dr. Widayanti, M.Si
Lecturer(s)	Dr. Widayanti, M.Si
Language	Indonesia
Relation to curriculum	Elective course in the second year (4th 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 regulations	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 and explain the scope of materials. CO 2. able to understand the classification and properties of materials. CO 3. able to analyze the needs of modern materials
Content	Introduction and History of Materials, Materials Science and Technology Atomic Structure: Atomic Theory (J.J. Thomson, E. Rutherford, N. Bohr), Electron Configuration, Periodic Properties of Elements Atomic Bonding: Primary Bonds (Covalent, Ionic, Metallic), Secondary Bonds (Van der Waals, Hydrogen), Solid Structures: Amorphous, Crystalline, Ceramics, Polymers, Material Classification: Metals, Ceramics, Polymers, Composites, Material Properties: Mechanical Properties, Electrical Properties, Magnetic Properties, Thermal Properties, Optical Properties , Modern Material Needs.
Study and examination requirements and forms of examination	The final mark will be weighted as follows:

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/

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. Callister JR William. 2001. *Fundamentals Of Materials Sciences and Engineering*. USA : John Willey and Sons.
2. M. A Omar. 1975. *Elementary Solid State Physics*. New York : Addison Wesley.
3. Van Vlack. 1989. *Ilmu dan Teknologi Bahan, Edisi Kelima*. Jakarta : Erlangga.
4. Kittel. 1991. *Introduction Solid State*. New York : John Willey and Sons.
5. Smith, W.F. 1996. *Principles of Materials Science and Engineering 3rd Ed*. MCGraw-Hill, Inc, New York

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					√				