UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF PHYSICS EDUCATION
PHYSICS STUDY PROGRAM
Colombo St. Number 1 Yogyakarta 55281
Telephone (0274)565411 Ext. 217, fax (0274) 548203
Web: http://fisika.fmipa.uny.ac.id/, E-mail: fisika@uny.ac.id

Bachelor of Physics **MODULE HANDBOOK**

Module name:	Thin Film
Module level, if applicable:	Undergraduate Program
Code:	FSK6250
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	6th
Module coordinator:	Pinaka Elda Swastika, M.Sc.
Lecturer(s):	Prof. Dr. Ariswan, M.Si., Rita Prasetyowati, M.Si., Pinaka Elda Swastika, M.Sc.
Language:	Indonesian
Classification within the curriculum:	Elective Course
Teaching format / class hours per week during the semester:	100 minutes lectures per week.
Workload:	Total workload is 90.67 hours per semester which consists of 100 minutes lectures, 120 minutes structured activities, and 120 minutes individual study per week for 16 weeks.
Credit points:	2 SKS (3.25 ECTS)
Prerequisites course(s):	-
Course Outcomes	CO1. Mastering the basic concepts of fabrication and characterization of thin films for several applications. CO2. Able to choose the correct fabrication and characterization methods based on its application
Content:	This course discuss thin film fabrication methods such as Vacuum Technology, Physical Vapor Deposition (PVD), Chemical Vapor Deposition (CVD) and sputtering, formation

<table>
<tr><td></td><td>and structure of thin films, characterization of thin films, mechanical, optical, electrical and magnetic properties of thin films, metallurgic and protective coatings, surface modification and several applications of thin films.</td></tr>
<tr><td>Study / exam achievements:</td><td>The final mark will be weight as follow:

<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO1 and CO2</td><td>a. Assignment (Case Study)
b. Quiz
c. Mid
d. Final Exam</td><td>Written test</td><td>30%
15%
25%
30%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
</table>
</td></tr>
<tr><td>Forms of media:</td><td>Board, LCD Projector, Laptop/Computer</td></tr>
<tr><td>Literature:</td><td>1. Ohring, Milton. 1991. The Materials Science of Thin Film. London : Academic Press Limited.
2. Konuma M. 1992. Film Deposition by Plasma Techniques. Berlin : Springer-Berlag Berlin Heidelberg.
3. Stuart, R.V. 1983. Vacuum Technology, Thin Film and Sputtering. London : Academic Press Limited.
4. Ryssel, H dan Ruge, I. 1986. Ion Implantation. New York : John Willey & Sons.
5. Ariswan, R Prasetyowati, H Sutrisni. 2018. Physicochemical Properties of Sn (S1-xTex) Solid Solutions of Both Massive Materials And Thin Films. Chalcogenide Letters 15 (3), 173-180.</td></tr>
</table>

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
CO1		√							
CO2					√				