

ESKIŞEHİR TECHNICAL UNIVERSITY

2024-2025 FALL SEMESTER

MLZ447- Materials Processing Laboratory - II

EXPERIMENT (6) – (Thin Film Deposition and Characterization)

Report Content

1. Application Selection:

Choose an application area for thin film depositions (e.g., optical coatings, electronic devices, biomedical applications). Identify the type of thin film deposition used in this application.

- What material is coated (metal, metal-oxide, dielectric etc.), and which method is used (e.g., PVD, CVD, sputtering, spin-coating)?
- What substrate (e.g., glass, silicon, metal) is the material deposited onto?
- What are the critical parameters considered during the process?

2. Characterization Techniques:

Based on the chosen application, explain the characterization methods used to evaluate the thin film's properties.

- What characterization tools are used (e.g., XRR, SEM, AFM, FTIR)?
- What information is obtained from these tools (e.g., surface morphology, thickness, composition, crystal structure)?

3. Report Structure:

Your report should include the following sections:

Introduction: Discuss the importance of thin film coatings in the chosen application.

Coating Method and Materials: Describe the coating process and materials used.

Characterization Methods and Results: Detail the techniques used and the findings.

Conclusion: Summarize and evaluate the findings.

For both questions, you are required to conduct a literature search and give the references in questions in the form of a bibliography list, numbered in the text. (5 point)

The report should be a maximum of TWO PAGES.