Task Description:

Choose a scientific paper, preferably of high rank (paper from journal with higher impact factor, at least with IF 2,5–3), from the field of polymer science and technology. Write a critical review (3-5 pages) in which you analyze and discuss the polymer material or technology studied in the paper. This review should include an overview of the current state of the art in the field, highlight key innovations from the research, and provide a detailed analysis of at least three characterization methods that are either well- known or of particular interest to you. Also, prepare a presentation of the paper you have chosen to study. When you find a paper that you like and think is suitable for critical evaluation, you can send it to us **(lfiket@fkit.unizg.hr; asaravanj@fkit.unizg.hr)** for review before starting your task.

When searching for scientific papers on polymer science, use keywords like:

- "Polymer modification"
- "Polymer composite materials"
- "Polymer synthesis"
- "Sustainable polymers" or "recyclable polymers"
- "Conductive polymers" for applications in electronics
- "Biodegradable plastics" or "polymer waste management"
- "Self-healing polymers"

Use reliable databases like:

- Google Scholar
- Web of Science
- Scopus

Objectives:

- Familiarize yourself with current scientific literature and identify important innovations.
- Develop critical thinking skills through the analysis of research work.
- Improve technical writing and presentation skills in the context of scientific research.

Critical Review (3-5 pages)

1. **Analysis of the Paper:** Discuss the general field to which the paper belongs and explain how it fits into the current state of technology.
2. **Innovations and Novelty:** Highlight the paper's key contributions to the field and potential innovations.
3. **Characterization Methods:** Provide a detailed analysis of the paper's three characterization methods, emphasizing their importance and unique aspects.

- Why each method is important for understanding polymer properties.
- The principles behind each method.
- What specific information each method provides about the polymer.

4. **Critical Thinking:** Show a critical approach and identify strengths or weaknesses in the research.

Presentation (10 minutes):

Prepare a PowerPoint presentation in which you connect the studied polymer material or technology with relevant industrial applications in addition to reviewing the paper.

Evaluation Criteria:

- **Understanding of Content:** Demonstrate a clear understanding of the scientific paper.
- **Presentation Skills**: Clearly and precisely communicate information and respond to questions.

The critical review (paper) must be submitted via email by **January 8, 2026.**, while the presentation must be submitted by **January 15, 2026.**

Presentations are scheduled for **January 22, 2026.,** from **10:00 am** to **12:00 pm.**

Good luck and have fun researching.