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NEST4WB
Round Table

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Moderator:
Bojan Prlinčević PhD, project coordinator

Round Table

Topics

- Development and creation of learning materials
  - The material needs to be created for all new and updated courses.
  - The material should be completed by the end of September.
  - The format of the learning materials.
  - Groups formed to monitor and coordinate the work on the development of the materials.

📁 1. Course Clustering & Thematic Organization

A. Electrical Engineering Fundamentals

- Electrical Engineering
- Electrical Machines 3
- Electrical Measurements 2
- Low-voltage Electrical Installations
- Power Plants
- Analog Electronics

Digital Relay Protection

B. Smart Grids & Power Systems

- Smart Energy Grids
- Smart Grid Technology
- Smart Systems for Measurement and Monitoring in Power Grids
- Power Systems Substations (Distribution Plants)
- Microgrids
- Electric Vehicles in Smart Grids
- Integration of Renewable Energy Sources into the Electrical Grid
- Measurement and Monitoring Systems in Smart Grid
- IoT Infrastructure in Smart Power Grids

C. Renewable Energy & Sustainability

- Renewable Energy Sources
- Photovoltaic Power Plants
- Smart Wind Energy Systems and Grid Integration
- Fundamentals of Renewable Energy Technologies
- Sustainable Development & Environmental Impact
- Solar Thermal Technologies
- Geothermal Energy Systems
- Hydropower Engineering & Management
- Wind Energy Development

D. Energy Systems & Management

- Energy Systems & Grid Integration
- Project Management in Engineering
- Project Management for Renewable Energy
- Introduction to Project Management
- Energy Economics & Market Analysis
- Energy, Policy and EU Regulation
- Energy Efficiency & Demand-side Management
- Energy Data Analytics & Visualisation
- Energy Entrepreneurship
- Sustainable Urban Energy Systems

E. ICT, Control & Cybersecurity

- Communication Systems
- Modern Computer Networks
- Management and Control Systems
- Monitoring and Diagnostics of High-Voltage Equipment

- Cybersecurity Systems
- Security and Risks of Information Systems
- Introduction to the Theory of Databases
- Software Modeling of Solar and Wind Energy Use
- Data Structures and Algorithms

F. Supporting Knowledge

- Robotics and Automation
- Mathematics and Statistics for Energy Management
- Environmental Protection and Safety
- Research Methods in Renewable Energy
- Climate Change & Renewable Energy

🧱 2. Standardized Structure for Each Course Chapter

Each course section should follow a consistent format:

1. Introduction and Learning Objectives
2. Theoretical Concepts
3. Applied Examples and Case Studies
4. Tools, Software, or Methodologies Used
5. Problem Sets and Practice Questions
6. Mini-Projects or Assignments
7. Further Reading and Resources
8. Glossary of Key Terms

🛠️ 3. Content Development Process

1. Form Course Teams
2. Curate Existing Material
3. Create Original Content
4. Peer Review

📊 4. Include Interactive & Visual Elements

- Diagrams, charts, and infographics
- simulation demos
- Software tutorials (e.g., for Smart Grid Simulation, Solar PV modeling)

📦 5. Compile and Package

- Print-ready PDF versions
- Interactive eBook version with hyperlinks, search functions, and media embedding
- Modular format for updates (per course/module)

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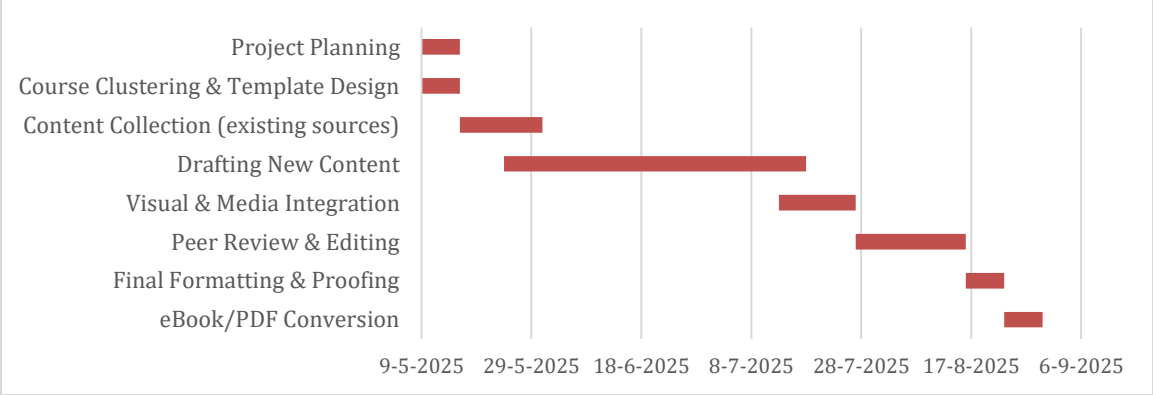
6. Timeline

START DATE	END DATE	DESCRIPTION	DURATION (days)	OVERLAPING
9/5/2025	16/5/2025	Project Planning	7	0
9/5/2025	16/5/2025	Course Clustering & Template Design	7	7
16/5/2025	31/5/2025	Content Collection (existing sources)	15	0
24/5/2025	18/7/2025	Drafting New Content	55	7
13/7/2025	27/7/2025	Visual & Media Integration	14	5
27/7/2025	16/8/2025	Peer Review & Editing	20	0
16/8/2025	23/8/2025	Final Formatting & Proofing	7	0
23/8/2025	30/8/2025	eBook/PDF Conversion	7	0



Course Chapter Template

Course Title

e.g., Smart Grid Technology

1. Learning Objectives

List 3–5 clear outcomes (e.g., “Understand the architecture of smart grids…”).

2. Theoretical Overview

Key definitions, concepts, relevance to energy systems.

3. Tools & Technologies

List tools/software used. Include guides or screenshots.

4. Applications & Case Studies

Real-world examples, case studies, or industry projects.

5. Practice Questions

Concept checks, calculations, design-based questions.

6. Assignments or Projects

Suggested projects with tools, objectives, evaluation criteria.

7. Further Reading & Resources

Books, articles, websites, video links.

8. Glossary

List 10–20 key terms with definitions.

Optional Add-ons

Video links, lab files, or simulation references.

Standard Structure of Study Materials

This structure ensures that your study materials are professional, academically rigorous, and student-centered.

1. Cover Page/Slide

- Course Name and Course ID
- Level of Study (e.g., Bachelor, Master, PhD) and the name of Study Program
- Author(s), Institution/Department
- Date

2. Table of Contents / Outline

- For textbooks: Table of Contents listing all chapters and sections.
- For presentations: Outline Slide introducing the main topics or sections.

3. Section/Lecture Introduction

- Begin each section or lecture with a clear explanation of learning objectives: what students will learn and why it is important.

4. Main Content

- Present the core material with a focus on clarity, depth, and academic quality.
- Ensure all adopted sources, data, and quotations are properly cited.
- Integrate references directly in the text where appropriate.
- Use diagrams, examples, and case studies to enhance understanding.

5. Conclusion and Practical Application

- Summarize the key points of the section or chapter.

- Include also how and where the acquired knowledge can be practically applied in real-world scenarios or professional practice.

6. References

- Provide a complete list of all sources cited in the material, formatted according to the chosen citation style (e.g., APA, MLA, and very useful are tools generating citations, such as Mendeley, EndNote, etc)

7. Knowledge Check (Recommended)

- Optionally, include a short quiz or set of review questions to help students verify their understanding of the material.

THANK YOU

FOR YOUR ATTENTION!