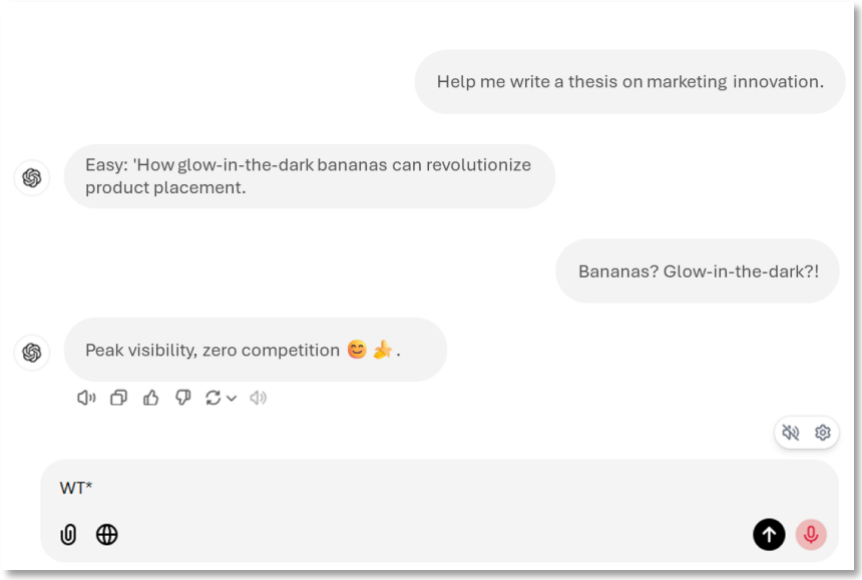
Academic Writing –
Foundations and AI Integration

*Are You Ready to Tackle the **"Glowing-Banana" Problem in Academic Writing**?*

Imagine having a tool so powerful that it could revolutionize your academic writing—a tool that could generate ideas, organize your research, and even refine your drafts. Sounds incredible, right?



But here's the catch: the tool is only as effective as the way you use it. This is what we call the "Glowing-Banana" Problem.

The "Glowing-Banana" Problem highlights a common pitfall when using AI for academic writing: without the right input and understanding, even the most advanced AI can produce results that look impressive but miss the mark entirely. Think of AI as a hammer—a game-changing tool for building and creating. But as powerful as a hammer is, you wouldn't use it to drill a hole or saw a piece of wood.

The same principle applies to AI. To unlock its true potential, you need to know when to use it, how to direct it, and what role it should play in your academic process. Otherwise, you risk producing something flashy but unhelpful—like a glowing banana in a supermarket: eye-catching, but completely out of place.

Course Summary

This five-day seminar is designed to provide a structured approach to mastering academic writing. The course **begins with foundational skills** in research design, writing clarity, and manuscript preparation, focusing on traditional methods without the use of artificial intelligence (AI). In the **latter part of the week, the program introduces advanced AI tools** that enhance various aspects of the research process, including idea generation, literature synthesis, data management, and manuscript refinement. The final day is devoted to hands-on project work and presentations, ensuring that participants consolidate their learning and leave with practical skills applicable to their academic pursuits.

Target Audience

Bachelor's, Master's, MBA, and PhD students who want to leverage AI for their graduation or research project

Learning Outcomes

1. Understand the Academic Writing Process: From idea generation to completing a thesis, graduation paper, or research project.
2. Practical Use of AI Tools: Integrate AI into research workflows to improve efficiency and quality.
3. Create a Comprehensive Research Plan: Develop and present a clear abstract and outline as a foundation for a thesis, graduation, or research project.

Course Details

Dates: February 24–28, 2025

ECTS Credits: X ECTS – Bachelor X ECTS – Masters

Examination

Bachelor - formal presentation of a project.

Master - Submission of a research abstract (maximum 1,000 words) and a formal presentation of a project.

Detailed Program

Preparation Materials

Before the course begins, students will receive a **preparatory reading list**, including essential foundational texts and relevant articles, to ensure they are familiar with the key concepts and themes. Completing the reading is mandatory and provides the basis for active participation in class discussions and activities.

Additionally, students must complete a structured questionnaire with five targeted questions. This questionnaire is designed to assess prior knowledge, personal learning goals, and individual preferences. The responses will guide course adjustments, ensuring the content and teaching approach meet the needs of the group effectively.

Day 1: Foundations of Academic Writing

The first day of the course focuses on establishing the fundamental principles of academic writing. Participants begin by exploring the relationship between research questions and the broader goals of academic inquiry. The session opens with a discussion on **how to identify a research topic** that aligns with both personal academic interests and the gaps present in current scholarship. Emphasis is placed on the **iterative process of refining broad ideas into specific, feasible, and impactful research questions.** Participants will examine examples of strong and weak research questions from various fields to understand the essential qualities of clarity, originality, and relevance.

Following this, attention shifts to the **structural components of an academic paper**. Participants are introduced to the core sections of a manuscript, including the introduction, methods, results, discussion, and conclusion. Each section's purpose is analyzed in detail, with examples provided to illustrate effective approaches. **Techniques for maintaining logical flow**, coherence, and alignment with the research objectives are discussed.

Writing clarity and precision are key themes of the afternoon session. Participants will explore methods for **improving the readability of their work**, including strategies for avoiding jargon, constructing concise sentences, and using active voice effectively.

Day 2: Deepening Research and Writing Skills

Building on the foundations established on the first day, the second day delves into the **processes of conducting a literature review**, synthesizing information, and drafting a manuscript. Participants begin by **exploring systematic approaches to literature review** (e.g. Scopus, VOS viewer, PRISMA), learning how to use academic databases effectively and identify high-quality sources. The importance of critically evaluating sources for relevance, reliability, and contribution to the field is emphasized.

The afternoon session transitions to **manuscript drafting**. Participants are guided through the process of writing the introduction and methods sections, with particular attention given to articulating research objectives and detailing methodologies. Time is also allocated for a peer-review exercise, where participants **critique each other's work** and provide constructive feedback.

Day 3: Integrating AI into Academic Research

The third day marks a shift in focus as participants are **introduced to the role of AI in academic research**. The day begins with an exploration of how AI tools can support idea generation and research design. Participants learn how AI can identify trends and gaps in

the literature, assisting in the development of research questions and hypotheses. Tools such as Semantic Scholar and ChatGPT are demonstrated, with a focus on their applications in brainstorming and literature analysis.

The afternoon session moves to the application of AI in content development and structuring. Participants are introduced to tools that assist in **drafting and expanding text,** such as predictive text features and autocompletion. The session also covers techniques for using AI to create structured outlines, ensuring logical flow and coherence in manuscripts. Visual and multimedia integration is discussed, with demonstrations of **AI-powered tools for generating graphs, tables, and infographics**. Participants engage in a hands-on workshop where they use AI tools to draft an outline and create visual elements for their research.

Day 4: Advanced Applications of AI

On the fourth day, participants deepen their understanding of how **AI can streamline the later stages of the research process.** The morning session focuses on literature review and synthesis. Participants learn how AI tools can **extract and analyze large volumes of academic texts, identifying patterns and summarizing findings**. Techniques for creating comparative analyses and summary tables are demonstrated, with a focus on how these outputs can enhance the comprehensiveness of a literature review. The potential of AI to interpret complex datasets is explored through practical examples. Tools such as RapidMiner are demonstrated, with participants engaging in a workshop to apply these tools to sample datasets.

The day concludes with a focus on editing, review, and publication support. Participants learn how AI can assist in refining language, improving grammar, and structuring abstracts and summaries.

Day 5: Project Work and Presentations

The final day of the course is dedicated to project work and the presentation of outcomes. Participants are tasked with applying the skills and tools introduced throughout the week to develop a structured research abstract and outline.