

COURSE SYLLABUS

Computer Information Systems

Course code: CIS 161/4

Term and year: Fall 2026

Day and time: Wednesday, 18:15-21:00

Instructor: Ing. Armend Qerimi, MSc.

Instructor contact: armend.qerimi@aauni.edu

Consultation hours: Wednesday, 21:00-21:30 (immediately after class)

Credits US/ECTS	3/6	Level	Bachelor
Length	15 weeks	Pre-requisite	None
Contact hours	42 hours	Grading	Letter grade

1. Course Description

The course introduces students to the practical use of computer information systems in everyday academic, professional, and personal contexts. Emphasis is placed on how digital tools and basic information systems support organization, research, communication, and decision-making across disciplines. The course explores topics such as digital productivity, data interpretation, responsible internet behavior, online safety, and AI-assisted learning. Students engage in hands-on activities, discussions, and group work using real tools and case-based examples. No prior technical knowledge is required, making the course accessible to students from all study backgrounds.

2. Student Learning Outcomes

Upon completion of this course, students should be able to:

- SLO 1: Describe the core components of contemporary information systems, including basic hardware, software, cloud services, and networks, and explain how they support everyday academic tasks.
- SLO 2: Select and apply appropriate digital productivity and collaboration tools to organize work, manage study projects, and work effectively in teams.
- SLO 3: Collect, format, and analyze small datasets in spreadsheet software, and interpret resulting tables, charts, or dashboards to inform simple decisions.
- SLO 4: Formulate clear prompts and ethically employ generative AI tools to support learning, research, and writing, while documenting AI contributions and limitations.
- SLO 5: Identify common cybersecurity threats, implement basic protective measures, and manage personal digital identity and online footprint responsibly.
- SLO 6: Plan, create, and deliver a concise, visually supported presentation, individually or in a small group, using online slide or whiteboard platforms to communicate structured ideas to an academic audience.

General Education Learning Outcomes

This is a general education course. Your general education core curriculum enables you to learn and practice the basics about the use of information systems that will become the foundation for learning and achieving success in your academic major.

3. Reading Material

Required Materials

All materials are accessible via NEO:

- Rainer, R. K., & Prince, B. (2023). Introduction to Information Systems. Wiley. Selected chapters available on NEO.
- Brooks, C. J., Grow, C., Craig, P., & Short, D. Cybersecurity Essentials. Wiley. Selected chapters available on NEO.
- Additional articles and short readings available in class and on NEO.

Recommended Materials

Supplementary articles, videos, and tool walkthroughs are shared on NEO throughout the semester to cover the latest developments in information technology and AI.

4. Teaching methodology

Each session combines a short lecture, open discussion, and hands-on exercises with real tools. You will work both individually and in small groups to apply what we cover. Active participation is expected throughout. The course uses a mix of individual tasks, in-class activities, quizzes, a mid-term test, an AI-reflection workbook, a group semester project with presentation, and a final test. The mix is designed so you build both the underlying concepts and the practical skills.

5. Course Schedule

Session / Date	Class agenda
Session 1 Sep 02	Topic: Course introduction; Introduction to Information Systems Description: We will walk through the syllabus, academic expectations, and how grading works. We will introduce what an information system is and look at how many of them a typical student already interacts with in a single day. In a short in-class exercise, you will map your own personal information system on one page: every account, every app, and every place your data is stored. The session ends with a brief discussion of what we will cover in the following 14 weeks. Reading: Syllabus (review before class). Assignments/deadlines: Verify your NEO login and confirm you can upload an assignment. Pick one global company or platform to follow for the whole semester (for example Spotify, Netflix, Amazon, Booking.com, Uber, TikTok) and submit your choice via NEO before next session.

Session / Date	Class agenda
Session 2 Sep 09	Topic: Computer and information systems concepts: stack, data, and business processes Description: We will examine what information systems are and how they work in practice. Using one well-known service as a worked example, we will trace how a single user action travels through the layers of a modern system: device, network, server, and database. In the second half of class you will work in small groups to map the same layers for a different digital service of your choice and present a short summary to the class. By the end of the session you will be able to describe how any digital service is structured at a high level and identify where it can fail. Reading: Introduction to Information Systems (Rainer & Prince, 2023), assigned chapters on NEO. Assignments/deadlines: For your semester-thread company, sketch which layer of the stack you find most interesting and why. One short paragraph submitted before next session.
Session 3 Sep 16	Topic: Personal productivity systems; introduction to AI Description: We will discuss the types of information systems used in daily academic life: tools for managing information, learning, communication, and collaboration. We will introduce the common pattern behind every productivity system (capture, organize, do, review), then explore how cloud-based platforms such as Notion, Google Workspace, and Trello implement that pattern in different ways. In the second half of class you will set up a working personal productivity system in the lab. The session also introduces AI tools and the AI-reflection workbook, which opens this week. Reading: Short reading on personal productivity systems (PDF on NEO). Assignments/deadlines: Submit a screenshot of the productivity system you set up in class before leaving. Use the system for the week and submit a short reflection (about one page) before next session. The AI-reflection workbook is open from this week.
Session 4 Sep 23	Topic: Data, visualisation, spreadsheets; Quiz 1 Description: We will examine what data is, how it is used, and why representation matters. We will analyse several real examples of charts that misled readers and discuss what made each one misleading. The session then introduces spreadsheet software, with particular focus on one concept that students often miss in their early use: the difference between relative and absolute cell references. Quiz 1 runs in the last 30 minutes of class and covers material from sessions 1 to 3. Reading: Review your notes from sessions 1 to 3. Assignments/deadlines: Quiz 1 in class (15% of final grade). Group work in class: deconstruct one misleading chart and rebuild it honestly.

Session / Date	Class agenda
Session 5 Sep 30	Topic: Introducing AI: how it actually works Description: We will introduce generative AI tools and explain, in plain language, how they produce their output. Understanding the underlying mechanism helps explain both their strengths and their tendency to hallucinate. We will introduce a simple prompt framework that you can name and apply, and then run the same task across three different AI tools in the lab to compare results. By the end of the session you will be able to write effective prompts, choose the right tool for a given task, and judge when AI output should and should not be trusted. Reading: Short reading on how large language models work (PDF on NEO). Assignments/deadlines: In class: run the same prompt across two or three available AI tools and submit a one-paragraph comparison via NEO. For next session: bring one strong and one weak prompt example and log both in your AI workbook.
Session 6 Oct 07	Topic: AI for research and writing; semester project briefing Description: We will explore how AI tools can support academic research and writing, focusing on where they help (brainstorming, summarising, rephrasing) and where they are unsafe (generating facts, sources, or quotes). The session includes a live demonstration of AI fabricating academic citations, which we will verify together to make the limits visible. In the second half of class I will brief you on the semester project: topic options, team formation, deliverables, and deadlines. The AI workbook checkpoint is submitted at the end of class. Reading: Project brief (NEO). Assignments/deadlines: Submit AI workbook checkpoint at end of class (40% of workbook grade). Form your project team and submit team members plus chosen project archetype via NEO by end of class.
Session 7 Oct 14	Topic: AI and digital content: from chatbots to deepfakes Description: We will examine how AI-generated content is produced across text, image, and audio, and how to recognise it. The session uses several well-known global examples of synthetic media and discusses how each one affected public trust. In the second half of class you will create one piece of AI content in the lab and exchange with a classmate to attempt detection. The session closes with a short discussion of how to evaluate the trustworthiness of content online when traditional cues no longer hold. Reading: Short article on synthetic media and detection (PDF on NEO). Assignments/deadlines: In class: create one safe AI content sample and assess a classmate's sample for provenance, trust signals, and warning signs. Submit your content and notes via NEO.

Session / Date	Class agenda
Session 8 Oct 21	Topic: Mid-term test Description: We will begin with the mid-term test, which covers all material from sessions 1 to 7. The test runs for 90 minutes and uses a mix of multiple choice, short answer, and one applied question. The test is closed-book and AI tools are not permitted. The remaining class time is used for a short debrief and a brief preview of the second half of the course. Reading: Review all readings and class notes from sessions 1 to 7. Assignments/deadlines: Mid-term test in class (20% of final grade). Project checkpoint due before next session: submit your research question, planned structure, and at least three preliminary sources via NEO.
Oct 28	Mid-term break (no class)
Session 9 Nov 04	Topic: Online safety; managing your digital identity Description: We will examine the main threats students face online: phishing, weak passwords, social engineering, and data leaks. We will introduce the concept of a threat model and apply it to your own situation: who would target you, why, and what is worth protecting. In the second half of class you will check your own email against a public breach database, install a password manager, and enable two-factor authentication on at least your primary email. The session closes with a short discussion of GDPR and your data rights in the EU. Reading: Cybersecurity Essentials (Brooks, Grow, Craig & Short, Wiley), chapters on cybersecurity fundamentals and the threat landscape (specific chapters posted on NEO). Excerpt from Digital Literacy Unpacked (Reedy & Parker, 2018), Ch. 5 (PDF on NEO). Assignments/deadlines: Come with one example of a scam, fraud, or breach you have heard of or experienced. In class: complete a personal security action plan covering password management, two-factor authentication, account recovery, and data privacy. You do not need to submit personal account details. Bring your phone if you want to review your own security settings; a university computer is available in class.
Session 10 Nov 11	Topic: Spreadsheets I: modelling discipline; project paper due Description: We will work with spreadsheet software to explore how formulas and functions support data organisation and decision-making. The session covers cell formatting, basic functions, logical functions (IF, AND, OR), and lookup functions (VLOOKUP and XLOOKUP). We will also examine one well-known case where a spreadsheet error caused serious real-world consequences and use it to introduce the discipline of separating inputs, calculations, and outputs in any model you build. The semester project paper is due by end of class. Reading: Spreadsheet practice file and short reading on modelling conventions (NEO). Assignments/deadlines: Submit the semester project paper before end of class (15% of final grade). In-class diagnostic and shared build at the start of class.

Session / Date	Class agenda
Session 11 Nov 18	Topic: Spreadsheets II: working with real, messy data Description: This session is dedicated to practice. Each team works with the same real public dataset, such as global music streaming, World Bank country data, or sports statistics, and goes through the full process of cleaning, organising, and analysing the data. We will cover the basic statistical concepts needed to read data honestly: mean versus median, outliers, and common sources of error. Each team produces one chart with one clear insight and presents it to the class at the end of the session. Reading: Dataset and short brief posted on NEO. Assignments/deadlines: Submit your team's cleaned dataset, one chart, and one-sentence insight to NEO by end of class.
Session 12 Nov 25	Topic: Presenting ideas: structure beats decoration Description: We will examine how different platforms (whiteboards, slide tools, visual organisers) support brainstorming, structuring, and presenting ideas. The session introduces one structuring principle that improves most presentations (one claim per slide, supported by evidence) and applies it to a short comparison of strong and weak example slides. In the second half of class, each team builds one slide for the upcoming project presentation, exchanges it with another team for structured feedback, and revises it before leaving the room. Reading: Selected excerpts from Presentation Zen by Garr Reynolds (https://www.presentationzen.com/) and a short note on the Pyramid Principle (PDF on NEO). Assignments/deadlines: Build one project slide in class. Submit the rebuilt version after peer feedback via NEO. Confirm your team's presentation slot for next session.
Session 13 Dec 02	Topic: Semester project presentations; AI workbook final submission Description: Each team will present their semester project: 10 minutes per team plus 5 minutes of Q&A. The audience will use a structured feedback rubric, and every non-presenting student is expected to ask at least one substantive question during the session. The final 20 minutes are a short course retrospective in which you reflect on what was most useful, what you would change, and what you will take with you. The AI-reflection workbook final submission is due at the end of class. Reading: Review your project materials. Assignments/deadlines: Project presentation in class (10% of final grade). Submit AI workbook final version (60% of workbook grade). Complete a short ungraded course retrospective in class.

Session / Date	Class agenda
Session 14 Dec 09	Topic: Final test Description: We will close the semester with the final test, covering material from the whole course with somewhat more weight on the second half. The test runs for 90 minutes, uses multiple choice and short answer, and ends with a short essay where you apply concepts from the course to a digital service you use. The test is closed-book and AI tools are not permitted. The remaining class time is used to look ahead at follow-on courses and resources for further reading. Reading: Review course materials. Assignments/deadlines: Final test in class (10% of final grade).

6. Course Requirements and Assessment (with estimated workloads)

By the end of Session 4, students will have completed graded work contributing to at least 20% of the final grade: Quiz 1, weekly homework, and participation/in-class activities.

Assignment	Workload (hours)	Weight in Final Grade	Evaluated Course Specific Learning Outcomes	Institutional Learning Outcomes*
Class participation and in-class activities	25	10%	SLO 1, SLO 2, SLO 3, SLO 4, SLO 5, SLO 6	2, 3
Homework	20	10%	SLO 1, SLO 2, SLO 3, SLO 4, SLO 5	1, 2
Quiz 1 (session 4)	10	15%	SLO 1, SLO 2, SLO 4	1
AI-reflection workbook	20	10%	SLO 4	1, 3
Mid-term test (session 8)	20	20%	SLO 1, SLO 2, SLO 3, SLO 4, SLO 5	1, 2
Semester project, paper (session 10)	30	15%	SLO 1, SLO 2, SLO 4, SLO 5	1, 2, 3
Semester project, presentation (session 13)	15	10%	SLO 2, SLO 6	2, 3
Final test (session 14)	10	10%	SLO 1, SLO 3, SLO 4, SLO 5	1
TOTAL	150	100%		

*1 = Critical Thinking; 2 = Effective Communication; 3 = Effective and Responsible Action

7. Detailed description of the assignments

Assignment 1: Class participation and in-class activities (10%)

I assess your participation and in-class work across all 14 sessions. The grade reflects your contribution to class discussion (relevance, evidence, listening to peers) and the completion and quality of short tasks you do in class, both individually and in small groups. Attendance itself is not graded. However, you cannot earn participation credit for a session you do not attend.

Assessed area	Percentage
Substantive contribution to class discussion	50%
Completion and quality of in-class exercises and short tasks	50%

Assignment 2: Homework (10%)

Short individual tasks I set between sessions. Typical length is one page or a short tool-based exercise. The goal is to consolidate the weekly material and prepare you for the next session. Submit all homework via NEO before the next class. AI assistance is permitted, but you must record any AI use in your AI-reflection workbook. Schedule-listed submissions are counted under participation or homework and do not carry separate weight.

Assessed area	Percentage
Completeness and on-time submission	40%
Quality and relevance of the response	60%

Assignment 3: Quiz 1, session 4 (15%)

Written in-class quiz covering sessions 1 to 3: information systems concepts, system layers, personal productivity systems, and introductory AI use in academic workflows. Closed-book. AI tools are not permitted.

Assessed area	Percentage
Multiple-choice items (concepts and terminology)	60%
Short answer items (applied understanding)	40%

Assignment 4: AI-reflection workbook (10%)

An individual workbook in which you document your use of AI tools across the course. For each substantial use, log the prompt you wrote, the tool you used, the output, what you kept or changed, and a short reflection on quality and limitations. The workbook is submitted in two stages: a checkpoint at session 6 (40% of this grade) and a final version at session 13 (60% of this grade). AI use for content is expected here. Your grade rests on the documentation and critical reflection, not on the AI output itself.

Assessed area	Percentage
Completeness of entries (prompts, outputs, attribution)	30%
Quality of critical reflection on outputs and limitations	40%
Ethical handling and clear attribution of AI contributions	30%

Assignment 5: Mid-term test, session 8 (20%)

Written test covering sessions 1 to 7. It includes recall, application, and short evaluation. Closed-book. AI tools are not permitted.

Assessed area	Percentage
Multiple-choice and terminology items	35%
Short-answer items	35%
Applied scenario	15%
Short evaluative response	15%

Assignment 6: Semester project paper, due session 10 (15%)

Group project, 3 to 4 students per team. Each team picks a topic from the project brief I hand out at session 6 and submits a written paper of approximately 1500 to 2000 words. The paper must include a clear problem statement, structured analysis, examples or data, and properly cited sources in APA style. AI assistance is permitted. All AI contributions must be documented in your AI workbook and disclosed in the paper itself.

Assessed area	Percentage
Topic relevance and research quality	30%
Structure, clarity, and writing	25%
Quality of sources and citations	20%
Originality and critical thinking	25%

Assignment 7: Semester project presentation, session 13 (10%)

Group oral presentation of the semester project. 10 minutes per team plus 5 minutes of Q&A. You must use visual support (slides, whiteboard, or equivalent). Every team member must present at least one part. AI assistance for preparation is permitted. Live use of AI during the presentation is not allowed.

Assessed area	Percentage
Content accuracy and depth	30%
Visual design and structure	25%
Delivery (clarity, pacing, engagement)	25%
Handling of Q&A	20%

Assignment 8: Final test, session 14 (10%)

Written test covering the full semester, with more weight on the second half. It includes multiple-choice questions, short-answer questions, and one integrative response applying course concepts to the semester-thread company. Closed-book. AI tools are not permitted.

Assessed area	Percentage
Multiple-choice items	40%
Short-answer items	35%
Integrative response	25%

8. General Requirements and School Policies

General requirements

All coursework is governed by AAU's academic rules. Students are expected to be familiar with the academic rules in the Academic Codex and Student Handbook and to maintain the highest standards of honesty and academic integrity in their work. Please see the AAU intranet for a summary of key policies regarding coursework.

Course-specific requirements

- Attendance. You must attend at least two-thirds of classes (10 out of 14) to complete the course. Attendance itself is not graded, but you cannot earn participation credit for a session you do not attend.
- Late arrival and early departure. Attendance is checked at the start of class. If you arrive after the check, or miss more than five minutes of class by arriving late or leaving early, you are marked absent for that session.
- Classroom. Class is held in a university computer lab. A workstation is provided for every student, so you do not need to bring your own laptop or device. You are welcome to use your own laptop if you prefer.
- Deadlines and late work. If you cannot meet a deadline, email me before the deadline to request an extension. Late submissions made without prior agreement are not accepted and receive zero. Once we agree on a new deadline, that deadline is final.
- Submitting work. Submit all written assignments via NEO. Email submissions are not accepted. You are responsible for confirming that your upload was successful before the deadline passes.
- AI policy. AI-assisted tools are permitted in all assignments except in-class quizzes and tests (Quiz 1, Mid-term test, Final test). In those, AI use is not allowed. Whenever you use AI in graded work, record the use in your AI-reflection workbook (prompt, tool, output, what you kept or changed) and disclose it in the submitted work itself. Undisclosed AI use is treated as a violation of academic integrity and may result in a failing grade for the assignment.
- Citing sources. Cite all sources in APA style. Wikipedia and AI chatbots are not citable academic sources for the semester project. Use them only as starting points to find proper sources.
- Group work. For the semester project, all team members are expected to contribute equally. If a teammate is not contributing, raise it with me before session 10, not after submission. Peer evaluation inside the team is part of the project grade.
- Academic integrity. All work must be your own, or your teams where group work is specified. Plagiarism, undisclosed AI generation, and submitting another student's work as your own are grounds for failing the assignment.
- Respect in class. We work in small groups and discuss real cases. Listen to peers, and keep the classroom a place where people are willing to speak up.