

# Shifting the paradigm for women in IT sector

## Training Outline

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## Project summary

### Shifting the paradigm for women in IT sector (SHIFT4IT)

The project Shifting the paradigm for women in IT sector will address the issue of youth employability by offering young people, more precisely, 80 young women, mostly with degrees in social sciences and humanities from 4 European countries, a comprehensive and relevant training to help them enter the dynamic, ever-expanding IT job market as IT project managers. In this way, the gender gap will also be addressed, since women are still widely underrepresented in the IT even though business are constantly seeking for new talents and workforce.

### Project objectives

Through tight cooperation with representatives of the business sector in research, development and implementation of the training programme, the project will contribute to bridging the gap between demands of the market and abilities of the future work force and focus on providing specific skills that reflect the needs of the future employers in the project management jobs in the IT. Throughout project activities, digital readiness, resilience and capacity of its participants will be addressed, through teaching the target group very specific and sought-after business skills

## IT Project Manager

### Job definition

A project manager is a professional who organizes, plans, and executes projects while working within restraints like budgets and schedules. Project managers lead entire teams, define project goals, communicate with stakeholders, and see a project through to its closure.

What differentiates IT project managers from other IT specialists is their ability to understand the wider picture of developing IT products, focusing on the user and client experience more than on the technology and IT solutions behind the developed products

### Key competences, skills and characteristics

Key competences, skills and characteristics that are recognized by the consortium and IT sector employers that need to be developed through the SHIFT4IT training:

- People skills: team player, conflict resolution, empathy, flexibility, positive attitude, providing support to team members, motivator, giving constructive feedback, encourage creativity, ...
- Communication skills: clear communication
- Organisation skills: setting goals, planning, time management, budget management, ...
- Troubleshooting and problem-solving thinking
- Analytical thinking

- Proactivity
- Stress resistance
- Work ethics
- Responsibility
- Loyalty
- Knowledge of business
- Knowledge of technology

## Target groups

Target group of the training are young women aged between 23 and 30 mostly with degrees in social sciences and humanities. Each edition of the course can involve a maximum of 20 students.

## Admission requirements

Basic computer skills and a curious interest in IT and Management.

## Organisation of the training

### Duration of the training

170 hours

### Training schedule

Define the number of hours a week and the intensity of the training

### Training programme

The training is organised in 4 modules that are combined under 2 topics:

- IT education - 110 hours
  - **Logic behind product development in IT sector**: programming languages, databases, systems, web and app development (60 hours)
  - **UX/UI design** (60 hours)
- Project management – 60 hours
  - **Agile methods** (30 hours)
  - **Project management** (30 hours)

## Topic: IT Education

### Logic behind product development

#### Module preview

The Logic Behind Product Development module covers essential principles and methodologies in IT product development. Students will learn programming basics, database management, web and mobile development, system architecture, networking, and data security.

#### Competencies, skills and knowledge

Competencies	Skills	Knowledge
<b>Basic Programming</b>	Writing and troubleshooting simple programs in Python, implementing control structures, functions, and basic data structures, handling file operations, using modules and packages.	Basic programming logic and pseudocode, Python syntax, control structures, functions, and data structures, NumPy and Pandas for data analysis.
<b>Database Management</b>	Performing SQL queries for data manipulation and retrieval, designing and optimizing data models, creating and executing SQL queries.	Relational database concepts and SQL, data modelling concepts, normalization, and optimization techniques.
<b>Data Security and Privacy</b>	Identifying and implementing basic data protection principles, addressing common security threats, ensuring compliance with privacy laws and regulations.	Core data protection principles and encryption methods, common security threats and mitigation techniques, privacy laws such as GDPR and compliance requirements.
<b>Systems and Networking</b>	Identifying different system architectures, applying basic network configuration and troubleshooting techniques.	Different system architectures (e.g., monolithic, microservices), basic networking concepts, including IP addressing and network devices.
<b>Web and Mobile Development</b>	Developing basic web applications using HTML, CSS, and JavaScript, implementing interactive	HTML, CSS, and JavaScript for web development, web development frameworks

	and dynamic features in web applications, developing and deploying simple web and mobile applications.	and tools, mobile app development processes for Android and iOS.
<b>Software Development Life Cycle</b>	Applying SDLC principles in project management, simulating a project setting to practice SDLC principles.	Phases of the SDLC, project management roles and methodologies.

## Programme and timeline

Name of the lesson <sup>1</sup>	Number of hours
Overview of Programming and Development	24
Fundamentals of Databases and Data Management	8
Data Security and Privacy	4
Basic Systems and Networking Overview	4
Web and Mobile Development Overview	12
Software Development Life Cycle (SDLC)	4
Python Project Workshop	4

## Teaching or pedagogical methods

Teaching and pedagogical methods that will be used during the training are:

**Lecture:** The instructor will deliver structured presentations to introduce and explain key concepts, theories, and principles.

**Discussion:** Interactive sessions where students and instructors engage in dialogue about the topics covered.

**Hands-on Activities:** Practical exercises where students apply what they have learned by working on real-world problems and projects.

**Group Activities:** Collaborative tasks where students work in teams to complete projects or solve problems.

**Interactive Q&A:** Question-and-answer sessions where students can ask questions and receive immediate feedback from the instructor.

**Peer Review:** A process where students evaluate each other's work and provide constructive feedback.

**Individual Exercises:** Tasks completed individually to reinforce learning and assess understanding.

## Lessons plan

Name of the lesson: **Overview of Programming and Development**

<sup>1</sup> Lesson: a period of time in which somebody is taught something.

Timing	Lesson objectives	Course materials	Pedagogical methods
4h	Describe basic programming concepts: Understand variables, data types, and pseudocode for program logic; Recognize and implement control structures such as loops and conditionals; Develop basic algorithms and implement them using pseudocode.	Slides. Handouts. Pseudocode worksheets.	Lecture. Discussion. Hands-on activity.
2h	Describe core Python syntax and development setup: Understand Python syntax and basic operations for programming; Set up and navigate VS Code as a Python IDE; Write simple Python scripts using basic syntax and operations.	Slides. VS Code setup guide. Python code examples.	Lecture. Hands-on exercise group discussion.
4h	Use loops and conditional logic to build structured programs: Identify different types of loops and conditional statements in Python; Implement loops to solve repetitive tasks and apply conditionals for decision-making; Describe the importance of loops and conditionals in efficient code.	Slides. Coding exercises. Example scripts.	Lecture. Hands-on coding. Group discussion.
2h	Develop reusable functions for modular code: Define and structure functions in Python; Describe the benefits of using functions for code reusability; Implement functions to perform specific tasks in a program.	Slides. Code examples. Handouts.	Lecture. Hands-on exercises. Interactive Q&A.

4h	<p>Use Python data structures for data organization and management: Differentiate between lists, tuples, dictionaries, and sets; Implement these data structures to store, organize, and manage data; Describe real-life use cases and advantages of each data structure.</p>	<p>Slides. Coding exercises. Example scripts.</p>	<p>Lecture. Hands-on exercises. Group discussion.</p>
2h	<p>Manage data storage and retrieval with file handling: Understand the basics of reading and writing files in Python; Describe how file handling allows for persistent data storage; Implement simple file operations to store and retrieve information.</p>	<p>Slides. Example scripts. Coding exercises.</p>	<p>Lecture. Hands-on exercises. Group discussion.</p>
2h	<p>Enhance Python projects with modules and packages: Recognize the role of modules and packages in Python; Import and use modules to expand functionality; Describe how packages contribute to organized, modular code.</p>	<p>Slides. Examples of built-in modules. Exercises.</p>	<p>Lecture. Hands-on exercises. Interactive Q&amp;A.</p>
4h	<p>Perform data manipulation and numerical operations with NumPy and Pandas: Identify the purpose and structure of NumPy arrays and Pandas DataFrames; Use NumPy for calculations and Pandas for data manipulation; Describe applications of these libraries in data analysis and scientific computing.</p>	<p>Slides. Examples of NumPy arrays and Pandas. DataFrames. Coding exercises.</p>	<p>Lecture. Hands-on exercises. Group discussion.</p>



## Name of the lesson: **Fundamentals of Databases and Data Management**

Timing	Lesson objectives	Course materials	Pedagogical methods
4h	<p>Understand the basics of relational databases and perform SQL operations: Recognize the structure of relational databases and tables; Use SQL queries to retrieve, update, and delete data; Describe the significance of relational databases in data storage.</p>	<p>Slides on database concepts, SQL handouts, Example databases.</p>	<p>Lecture, Hands-on SQL training, Group discussion.</p>
4h	<p>Develop data models and optimize databases for efficient management. Understand the role of conceptual, logical, and physical data models; Create entity-relationship diagrams to represent data relationships; Apply normalization and indexing techniques to improve database efficiency.</p>	<p>Slides on data modelling concepts. ER diagram worksheets. optimization techniques.</p>	<p>Lecture. Hands-on data modelling exercises. Interactive Q&amp;A.</p>

## Name of the lesson: **Data Security and Privacy**

Timing	Lesson objectives	Course materials	Pedagogical methods
4h	<p>Recognize core data protection principles and implement security measures: Identify common data security threats and methods for preventing unauthorized access; Describe compliance requirements for data privacy, such as GDPR; Apply encryption, access control, and other security practices.</p>	<p>Slides on security threats and measures. Encryption examples. Compliance handouts.</p>	<p>Lecture. Hands-on security exercises. Group discussion.</p>

Name of the lesson: **Basic Systems and Networking Overview**

Timing	Lesson objectives	Course materials	Pedagogical methods
4h	<p>Understand system architectures and networking concepts in IT: Describe different architectural approaches (e.g., monolithic, microservices) and their impact on scalability. Recognize the role of IP addressing, network devices, and protocols. Identify key architectural and networking considerations in IT projects.</p>	<p>Slides on system architectures and networking basics. Project scenarios. Troubleshooting guides.</p>	<p>Lecture. Discussion. Practical exercise.</p>

Name of the lesson: **Web and Mobile Development Overview**

Timing	Lesson objectives	Course materials	Pedagogical methods
3h	<p>Structure and style basic web pages using HTML and CSS: Use HTML tags to create headings, paragraphs, links, and images. Apply foundational CSS to style text, layout, and visual elements. Understand the roles of HTML and CSS in web development and how they interact.</p>	<p>Slides on HTML/CSS. Coding exercises. Example projects.</p>	<p>Lecture. Hands-on coding exercises. Group discussion.</p>
3h	<p>Design responsive layouts with advanced CSS: Implement the CSS box model, Flexbox, and Grid for layout. Use media queries for responsive design on different screen sizes.</p>	<p>Slides on CSS box model, Flexbox, and Grid. Responsive design examples.</p>	<p>Lecture. Hands-on layout exercises. Interactive Q&amp;A.</p>

	Describe the importance of responsive design in web development.		
2h	Add interactivity to web pages with JavaScript: Understand JavaScript basics such as variables, functions, and events; Add interactive elements using event listeners; Describe how JavaScript enhances user experience on websites.	Slides on JavaScript basics. Coding exercises. Example projects.	Lecture Hands-on coding exercises. Group discussion.
4h	Develop and test a basic mobile app: Set up development environments for Android and iOS; Create a simple app with user interactions and test on mobile.	Slides on mobile setup and UI components. Example code. Testing guide.	Lecture. Hands-on coding. Group troubleshooting.

Name of the lesson: [Software Development Life Cycle](#)

Timing	Lesson objectives	Course materials	Pedagogical methods
4h	Outline and apply SDLC phases in project planning: Identify key SDLC phases and their objectives in software projects; Describe project manager roles and responsibilities within each phase; Implement SDLC principles in a simulated project setting.	Slides on SDLC phases. Case studies. Project examples.	Lecture. Interactive discussion. Case study review.

Name of the lesson: [Python Project Workshop](#)

Timing	Lesson objectives	Course materials	Pedagogical methods
4h	Develop, complete, and present a structured Python project: Plan, set up, and implement features for a Python project;	Project guidelines. Example projects. Coding resources.	Project-based learning. Group discussions. Hands-on coding.

Test and refine code for functionality and efficiency; Present the project and provide feedback through peer review.		
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## Assessments methods

We will use the following assessment methods during the module:

### Quizzes and Tests

Assess understanding of key concepts through multiple-choice, short answer, and problem-solving exercises. Periodic quizzes and a final comprehensive test will gauge students' grasp of the material.

### Practical Assignments

Evaluate students' ability to apply knowledge in practical scenarios. Assignments will include coding exercises, database queries, security tasks, and web/mobile projects, regularly assigned with major assignments at the end of each topic.

### Group Projects

Assess collaborative skills by having students work on group tasks to solve problems or develop applications. One or two major projects will include presentations and peer evaluations to foster teamwork and peer learning.

### Participation and Engagement

Gauge involvement in class activities through attendance, participation in discussions, and engagement in hands-on activities. Continuous assessment throughout the module will ensure active participation and engagement.

## Additional learning resources

Links to additional learning resources like recommended readings, online resources, video tutorials etc.

Link	Contents description
<a href="https://www.w3schools.com/">https://www.w3schools.com/</a>	W3Schools offers tutorials on web development technologies like HTML, CSS, JavaScript, SQL, and Python.
<a href="https://developer.mozilla.org/">https://developer.mozilla.org/</a>	MDN Web Docs provides detailed documentation and tutorials on HTML, CSS, JavaScript, and other web technologies.
<a href="https://www.codecademy.com/">https://www.codecademy.com/</a>	Codecademy provides interactive courses on Python, SQL, web development, and more.
<a href="https://www.coursera.org/">https://www.coursera.org/</a>	Coursera offers courses from top universities and companies on programming, data science, and IT topics.

<a href="https://www.khanacademy.org/computing/computer-programming">https://www.khanacademy.org/computing/computer-programming</a>	Khan Academy offers free courses on computer programming and web development.
<a href="https://www.youtube.com/watch?v=rfsVS0vtbw">https://www.youtube.com/watch?v=rfsVS0vtbw</a>	A comprehensive YouTube tutorial for beginners.
<a href="https://www.youtube.com/user/schaf5er5">https://www.youtube.com/user/schaf5er5</a>	A YouTube playlist covering Python topics from beginner to advanced.
<a href="https://www.youtube.com/watch?v=7S_tz1z_5bA">https://www.youtube.com/watch?v=7S_tz1z_5bA</a>	A YouTube tutorial on MySQL basics.
<a href="https://www.youtube.com/watch?v=ztHopE5Wnpc">https://www.youtube.com/watch?v=ztHopE5Wnpc</a>	A YouTube tutorial on designing databases.
<a href="https://www.youtube.com/user/TechGuyWeb">https://www.youtube.com/user/TechGuyWeb</a>	A YouTube channel with tutorials on HTML, CSS, JavaScript, and more.
<a href="https://www.youtube.com/watch?v=Q33KBiDriJY">https://www.youtube.com/watch?v=Q33KBiDriJY</a>	A comprehensive YouTube tutorial on full stack web development.

## Equipment needed

The equipment needed to deliver this module is:

- One computer per participant
- Internet connection
- Python (with IDEs like PyCharm or VSCode)
- MySQL or PostgreSQL (with GUI tools like MySQL Workbench or pgAdmin)
- Text editors or IDEs (e.g., VSCode, Sublime Text)
- Projector and screen
- Whiteboard and markers
- Mobile devices (Android and iOS for app testing)

## UX/UI design

### Module preview

#### Explain what the module is about

The UX/UI module will focus on analysing and understanding the needs of end-users to create digital products and services that are intuitive, efficient, and enjoyable for users to interact with, ultimately improving their overall experience.

### Competencies, skills and knowledge

Competencies	Skills	Knowledge
<b>Skills</b>		
Understand and apply the fundamentals of user experience	Problem-solving, critical thinking, communication, creativity, and collaboration. User research, wireframing, prototyping, usability testing, information architecture	Concepts, principles, theories, best practices, methodologies, user-centred design principles, design tools and software
<b>Hard Skills</b>		
Understanding of UX	Ability to map user paths and identify pain points.	Information architecture: structuring information, designing tree structures and taxonomies for the web.
Basic design knowledge	Fundamentals of layout. Understanding of design principles	Visual hierarchy and typography.  Contrast, alignment, repetition and proximity.
Design tools	Use of prototyping and design tools Ability to develop a design system	Figma, Adobe XD or Sketch.  Platforms such as Storybook or Zero height.
UI integration	Fundamentals of UI integration	
Testing and validation	Ability to evaluate interfaces Gather feedback.	Screen audits to identify usability or design issues. Use of user testing tools and methodologies
Accessibility	Knowledge of web accessibility guidelines.	WCAG

	Ability to design web interfaces accessible to all users, including those with disabilities.	
Metrics	Configuration and use of analysis tools.	Google Analytics, Matomo or Hotjar
<b>Soft Skills</b>		
Adaptability	Ability to adjust quickly to new technologies and methodologies.	
Problem solving	Finding creative and effective solutions to design and development challenges.	
Communication	Clearly explain technical concepts to non-technical people.	
Teamwork	Collaborate effectively in multidisciplinary teams.	
Empathy	Put yourself in the user's shoes to understand their needs and frustrations.	
Curiosity	Constant desire to learn and keep abreast of the latest trends in design and development.	
Attention to detail	Ensuring precision in design and code to ensure optimal user experience.	
Time management	Meet deadlines while maintaining a high level of quality.	

## Programme and timeline

Name of the lesson <sup>2</sup>	Number of hours
Introduction to UX	3.5
Principles of ergonomics	10.5
Principles of design	7
Information Architecture	3,5
Design system & Prototyping	7
User research/testing	3.5

<sup>2</sup> Lesson: a period of time in which somebody is taught something.

Design thinking	3.5
Accessibility	3.5
Metrics	3.5
Project	14

## Teaching or pedagogical methods

Teaching and pedagogical methods that will be used during the training are:

**Interactive lessons:** Interactive lessons involve innovation methods in teaching that actively engage students in the learning process. Instead of passively receiving information, students participate in activities, discussions, and exercises that

**Project Based Learning:** an instructional methodology that centers around students completing projects that require them to apply their knowledge and skills to real-world challenges. The final project is a deliverable, an actual site redesign project. Right from the start of the program, students choose a site that speaks to them (subject, value, future company choice) and throughout the program they apply the concepts seen in class to their personal project. At the end, they propose a new version of an existing site or application.

**Problem Based Learning:** an instructional method where students learn through solving real problems & case studies

**Collaborative Learning:** involves students working together in groups to achieve shared learning goals.

**Peer teaching:** involves students taking on the role of the teacher to explain concepts or assist their classmates in understanding specific topics.

**Peer feedback:** involves students providing constructive feedback to their peers on their work, presentations, or projects.

**Design thinking process:** a problem-solving approach that emphasizes empathy, ideation, prototyping, and testing.

## Lessons plan

Name of the lesson: **Introduction to UX**

Timing	Lesson objectives	Course materials	Pedagogical methods
3.5 h	Facilitate group cohesion Explain the fundamentals of UX:	Ice breaker activities and games to foster interaction and	Group activities and exercises designed to reinforce learning



	<ul style="list-style-type: none"> <li>- describe the basics of UX design</li> <li>- explain the importance of UX in product development</li> <li>- describe principles and best practice.</li> </ul> <p>Explain the importance of empathy and user needs:</p> <ul style="list-style-type: none"> <li>- discuss the role of empathy and</li> <li>- understand user needs in designing effective digital products.</li> </ul> <p>Define the UX design process:</p> <ul style="list-style-type: none"> <li>- Provide an overview of the UX design process</li> <li>- Identify the various stages, from research to prototyping to testing.</li> </ul>	<p>engagement among participants.</p> <p>Slide presentations covering the basics of UX design, including definitions, principles, and best practices.</p> <p>Handouts or worksheets summarizing key points and concepts discussed during the session.</p> <p>Examples of successful UX design projects and case studies illustrating real-world applications of UX principles.</p>	<p>objectives and encourage collaboration.</p> <p>Interactive lectures with opportunities for participant questions, discussions, and reflections.</p> <p>Hands-on demonstrations of UX design tools and techniques.</p>
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Name of the lesson: **Principles of ergonomics**

Timing	Lesson objectives	Course materials	Pedagogical methods
10.5 h	<p>Explain the principles of ergonomics:</p> <ul style="list-style-type: none"> <li>- Understand and explain the definition and importance of ergonomics in interface design.</li> <li>- Understand and explain the relationship between ergonomics, user comfort, and usability in digital product design.</li> <li>- Master the main principles of ergonomics and their practical application.</li> </ul>	<p>Readings and resources on ergonomic principles from academic literature, industry publications, and online sources.</p> <p>Case studies and examples illustrating the impact of ergonomics on design decisions and user experience.</p>	<p>Lecture presentations on ergonomic principles with interactive discussions and Q&amp;A sessions.</p> <p>Hands-on activities and demonstrations to explore ergonomic concepts and design solutions.</p> <p>Case studies and real-world examples to analyse ergonomic</p>

	<p>Evaluate the ergonomics of a product or service:</p> <ul style="list-style-type: none"> <li>- identify and prevent common ergonomic errors in interface design.</li> <li>- use appropriate methods to evaluate the ergonomics of a product or service.</li> </ul> <p>Integrate user needs and limitations into design decisions.</p>	<p>Tools and methods for conducting ergonomic evaluations. Practical exercises and simulations to demonstrate ergonomic principles and their application in design practice.</p>	<p>challenges and solutions in existing products and interfaces.</p>
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Name of the lesson: **Principles of design**

Timing	Lesson objectives	Course materials	Pedagogical methods
7 h	<p>Explain the fundamental elements of design:</p> <ul style="list-style-type: none"> <li>- Understand and identify the fundamental elements of design such as colour, typography, space and layout.</li> </ul> <p>Improve legibility and aesthetics of a design:</p> <ul style="list-style-type: none"> <li>- Apply design principles (contrast, repetition, alignment, proximity) to improve legibility and aesthetics.</li> </ul> <p>Critique and evaluate existing designs</p> <ul style="list-style-type: none"> <li>- critique and evaluate existing designs according</li> </ul>	<p>Readings and resources on design principles from books, articles, and online sources. Examples of well-designed digital interfaces illustrating key design principles. Tools for analysing and critiquing design choices in existing products and interfaces. Hands-on activities and exercises to apply design principles in practical design challenges.</p>	<p>Lecture presentations on design principles with real-world examples and case studies. Hands-on design exercises to practice applying design principles to various design tasks. Peer critiques and feedback sessions to evaluate and improve design solutions based on established principles.</p>

	<p>to the principles of design.</p> <ul style="list-style-type: none"> <li>- integrate user-centred thinking into design, paying particular attention to functionality and aesthetics.</li> <li>- know current design trends and their influence on design decisions.</li> </ul>		
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Name of the lesson: **Information Architecture**

Timing	Lesson objectives	Course materials	Pedagogical methods
7 h	<p>Prioritize information:</p> <ul style="list-style-type: none"> <li>- create a tree structure and breadcrumb.</li> <li>- manage taxonomies.</li> </ul>	<p>Links to the used course material/website/app/software for mapping and wireframes low fidelity</p>	<p>Learning conversations. Mind mapping. Case studies. Group work.</p>

Name of the lesson: **Design system and prototyping**

Timing	Lesson objectives	Course materials	Pedagogical methods
7 h	<p>Explain the importance of design systems in digital product development:</p> <ul style="list-style-type: none"> <li>- Understand the concept of design systems in digital product development.</li> <li>- Explain its importance.</li> </ul> <p>Create and maintain a design system for</p>	<p>Links to articles, tutorials, and documentation on design system principles and practices.</p> <p>Prototyping software tools such as Sketch, Figma, or Adobe XD.</p> <p>Templates and resources for building design systems and prototyping interfaces.</p>	<p>Interactive lectures covering design system fundamentals and prototyping techniques.</p> <p>Hands-on exercises to create and refine design system components and interactive prototypes.</p> <p>Critique sessions to review and</p>

	<p>consistent and scalable UI/UX design.</p> <ul style="list-style-type: none"> <li>- Use prototyping tools (Sketch, Figma, or Adobe XD) to translate design concepts into interactive prototypes.</li> </ul>		<p>provide feedback on design system components and prototypes created by participants.</p>
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Name of the lesson: **User research/testing**

Timing	Lesson objectives	Course materials	Pedagogical methods
3,5 h	<p>Define a persona:</p> <ul style="list-style-type: none"> <li>- Explain what personas are and what they are used for</li> </ul> <p>Understand the importance of user research and user testing in the design and development process:</p> <ul style="list-style-type: none"> <li>- apply different methods for user research and techniques for conducting user tests.</li> <li>- interpret user feedback and iterate on designs based on testing results</li> </ul>	<p>Links to articles, guides, and videos on user testing methodologies and best practices.</p> <p>Sample user testing questionnaires, and tasks.</p> <p>Case studies showcasing successful user testing processes and outcomes.</p>	<p>Interactive lectures to introduce key concepts and principles of user testing.</p> <p>Hands-on workshop to practice designing and conducting user tests.</p> <p>Individual or group exercises to analyse user feedback and identify actionable insights for design improvement.</p>

Name of the lesson: **Design thinking**

Timing	Lesson objectives	Course materials	Pedagogical methods
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3,5 h	<p>Explain the principles of design thinking and understand the importance of iterative process:</p> <ul style="list-style-type: none"> <li>- explain the key concepts and principles of design thinking.</li> <li>- empathize with users and understand their needs and challenges.</li> <li>- show creativity and think outside the box and generate diverse solutions.</li> <li>- prototype and test their ideas iteratively to refine and improve solutions.</li> </ul>	<p>Presentation slides outlining the key concepts and principles of design thinking.</p> <p>Design thinking toolkit containing templates, worksheets, and tools for ideation, prototyping, and testing.</p> <p>Case studies and examples demonstrating successful applications of design thinking in different industries and domains.</p> <p>Access to online resources and articles for further reading and exploration of design thinking principles and methodologies.</p>	<p>Hands-on exercises and design challenges to practice empathy, ideation, prototyping, and testing.</p> <p>Facilitated brainstorming sessions to generate innovative solutions to real-world problems.</p> <p>Design critiques and peer feedback sessions to evaluate and refine participants' design ideas and prototypes.</p>
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Name of the lesson: **Accessibility**

Timing	Lesson objectives	Course materials	Pedagogical methods
3,5 h	<p>Measure the importance of accessibility and respect the standards:</p> <ul style="list-style-type: none"> <li>- apply techniques for designing and developing accessible digital products.</li> <li>- explore guidelines and standards for accessibility compliance.</li> </ul>	<p>Slide presentations on accessibility principles and techniques.</p> <p>Case studies demonstrating accessible design implementations.</p> <p>Access to relevant web resources and guidelines.</p>	<p>Interactive discussions on accessibility principles and best practices.</p> <p>Hands-on exercises to practice implementing accessibility features.</p> <p>Group activities for analysing and critiquing</p>

			accessibility of existing digital products. Real-world scenarios to apply accessibility concepts and techniques.
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Name of the lesson: **Metrics (introduction)**

Timing	Lesson objectives	Course materials	Pedagogical methods
3,5 h	<p>Understand the importance of metrics in evaluating digital products and user experiences:</p> <ul style="list-style-type: none"> <li>- explain basic concepts and terminology related to metrics and analytics.</li> <li>- explore common metrics used to measure user engagement, behaviour, and performance.</li> </ul>	Links to articles, guides, and tools for understanding and implementing metrics.	<p>Interactive lectures to introduce key concepts and principles.</p> <p>Practical exercises to apply metrics to real-world scenarios.</p> <p>Group discussions to share insights and experiences with metrics usage.</p>

Name of the lesson: **Project**

Timing	Lesson objectives	Course materials	Pedagogical methods
14 h	Produce a final deliverable, such as a prototype, design system or case study, which can be integrated into each participant's	<p>Extensive slide presentations covering all aspects of UX project management, research methodologies, and design principles.</p> <p>Detailed handouts and worksheets for</p>	<p>Hands-on workshops and interactive exercises to apply UX design techniques in real-world scenarios.</p> <p>Individual and group critiques to</p>

	<p>professional portfolio:</p> <ul style="list-style-type: none"> <li>- apply the skills and knowledge acquired during training to a project of their choice.</li> <li>- defend and justify the design choices before an audience or panel of experts.</li> <li>- Encourage autonomy, initiative and project management by guiding participants through all stages of the design process, from ideation to implementation.</li> </ul> <p>Encourage critical thinking and self-assessment:</p> <ul style="list-style-type: none"> <li>- compare design choices with feedback and the results of user tests. explore common metrics used to measure user engagement, behaviour, and performance.</li> </ul>	<p>conducting user research, creating personas, and mapping user journeys.</p> <p>Access to a variety of UX design software and tools for wireframing, prototyping, and usability testing.</p> <p>Comprehensive reading materials, articles, and case studies for deeper understanding of UX design concepts and best practices.</p>	<p>provide constructive feedback on project work and foster continuous improvement.</p> <p>Final project presentations and portfolio development to showcase participants' mastery of UX design concepts and skills.</p>
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## Assessments methods

We will use the following assessment methods during the module:

## Project-Based Assessments

Have participants complete a comprehensive project that involves different stages of UX design, from research to prototyping. This project can be assessed based on criteria such as user research quality, design creativity, usability, and implementation.

## Peer Reviews

Encourage participants to review each other's work. This not only fosters a collaborative learning environment but also helps them learn to critique UX work constructively.

## Usability Testing

Have participants conduct usability tests on their own or existing designs. Assess their ability to plan, execute, and analyse usability tests, including writing detailed usability reports with actionable insights.

## Self-Assessment and Reflection + Expert Feedback

### Surveys and Feedback

Collect feedback from participants about the training program to identify what they found most and least useful, and how they feel about their own learning progress.

By combining these methods, trainers can obtain a comprehensive understanding of each participant's progress and proficiency in UX design.

## Additional learning resources

Links to additional learning resources like recommended readings, online resources, video tutorials etc.

Link	Contents description
<a href="https://www.smashingmagazine.com/2018/02/comprehensive-guide-ui-design">https://www.smashingmagazine.com/2018/02/comprehensive-guide-ui-design</a>	A Comprehensive Guide To UI Design
<a href="https://uxplanet.org/">https://uxplanet.org/</a>	One-stop resource for everything related to user experience
<a href="https://openclassrooms.com/en/paths/76-ux-designer">https://openclassrooms.com/en/paths/76-ux-designer</a>	UX designer online training
<a href="https://www.figma.com/resource-library/difference-between-ui-and-ux/">https://www.figma.com/resource-library/difference-between-ui-and-ux/</a>	UI vs UX: What's the Difference between UI & UX Design?
<a href="https://careerfoundry.com/en/blog/ux-design/the-difference-between-ux-and-ui-design-a-laymans-guide/">https://careerfoundry.com/en/blog/ux-design/the-difference-between-ux-and-ui-design-a-laymans-guide/</a>	UI vs UX: What's the Difference between UI & UX Design?
<a href="https://www.solulab.com/role-of-ux-in-modern-web-">https://www.solulab.com/role-of-ux-in-modern-web-</a>	The Role of UX (User Experience) in Modern Web Design



<a href="#">design/#:~:text=User%20experience%20in%20web%20design,the%20success%20of%20digital%20platforms</a>	
<a href="https://www.interaction-design.org/literature/topics/ux-design">https://www.interaction-design.org/literature/topics/ux-design</a>	What is User Experience (UX) Design?
<a href="https://www.uxpin.com/studio/blog/guide-design-consistency-best-practices-ui-ux-designers/">https://www.uxpin.com/studio/blog/guide-design-consistency-best-practices-ui-ux-designers/</a>	Design Consistency Guide UI and UX Best Practices
<a href="https://baymard.com/learn/ux-design-principles">https://baymard.com/learn/ux-design-principles</a>	The Best Practices and Key Principles of UX Design

## Equipment needed

The equipment needed to deliver this module is:

- One computer per participant,
- Internet connection,
- Projector,
- Adobe XD or Sketch or Figma,
- Teams.

# Topic: Project Management

## Agile Methods

### Module preview

The agile methods module will focus on analysing and understanding different project management approaches that prioritize cross-functional collaboration and continuous improvement, dividing projects into smaller phases and guiding teams through the cycles of planning, execution and evaluation.

### Competencies, skills and knowledge

Competencies	Skills	Knowledge
Understand the basic principles of Agile project management. Know how to apply these principles to improve the efficiency and flexibility of projects.	Build and manage an activity backlog, including clearly defining user stories, prioritizing activities and managing tab granularity.	Knowledge of the fundamental principles guiding Agile project management, such as the value of continuous feedback and cross-functional collaboration.
Practical knowledge of two important Agile frameworks, Kanban and Scrum. Ability to distinguish between them, understand where and how to apply them and use the specific tools associated with each framework.  Ability to plan activities according to the capacity of the team. This includes the creation and management of an activity backlog, effective division of tasks and capacity planning to optimise the use of available resources.	Practically apply Kanban and Scrum concepts, using practical exercises to consolidate understanding and hone skills in the use of these approaches.	Knowledge of the differences between Kanban and Scrum. Understanding of the distinctions between Kanban and Scrum, including their respective roles, ceremonies and artefacts. Knowing the strengths and situations where one may be preferable to the other.

Ability to measure Agile performance, using appropriate metrics such as speed (Scrum) or lead time (Kanban). Ability to identify signs of possible failure in Agile implementation and take preventive action.	Evaluate the effectiveness of Agile implementation and make continuous improvements.	Knowledge of strategies to reconcile the traditional Waterfall approach with Agile principles and practices, enabling a smooth transition or hybrid integration where necessary.
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## Programme and timeline

Name of the lesson <sup>3</sup>	Number of hours
Fundamentals of Agile project management methodology	(4)
Agile taxonomy	1.5
Managing a project with an Agile approach	2.5
Agile's frameworks: Kanban and Scrum	(11)
Kanban and Scrum compared	1.5
Agile in 'non-development' processes	2.5
Roles and rituals	2
Focus on Scrum Master certifications	1
Practical workshop - Agile adoption: building a board and writing cards	4
Planning of activities considering the team's production capacity: creation of a backlog	(7.5)
How to create a backlog	2.5
How to manage card granularity	2.5
How to manage capacity planning	2.5
Measuring performance and preventing failure	(7.5)
How to measure performance	2.5
How to avoid failure	2.5
Reconciling Waterfall and Agile	2.5

## Teaching or pedagogical methods

Teaching and pedagogical methods that will be used during the training are:

<sup>3</sup> Lesson: a period of time in which somebody is taught something.

Lectures: structured presentations delivered by a teacher to convey theoretical knowledge and core concepts of Agile methodologies. The format can be in-person or virtual, often using slides or multimedia.

Case studies: involve in-depth analyses of real-world scenarios where Agile methodologies have been implemented. Participants examine successes, challenges, and lessons learned from these projects to gain insights into practical applications of Agile.

Interactive activities: hands-on exercises designed to engage participants actively in the learning process. These may include simulations, role-playing, or Agile games that demonstrate Agile principles in action.

Class discussions: facilitate open dialogue among participants about Agile methods, fostering critical thinking and knowledge sharing. They allow participants to express their viewpoints, experiences, and questions regarding Agile principles.

Interactive presentations: involve engaging participants during the delivery of content, often incorporating polls, quizzes, or Q&A sessions to maintain interest and assess understanding in real time.

Group activities: involve participants working together in small teams to complete tasks or projects related to Agile methodologies. These activities emphasize collaboration, communication, and collective problem-solving.

## Lessons plan

Name of the lesson: **Fundamentals of Agile project management methodology**

Timing	Lesson objectives	Course materials	Pedagogical methods
1.5 h	Understand Agile taxonomy - Understand the core elements of Agile methodology - Define and differentiate key Agile concepts, roles, events, and artifacts - Identify basic Agile terms used in project management	Projector and slides for presentation. Flip charts. Markers.	Lecture. Interactive presentation. Class discussion.
2.5 h	Know how to manage a project with an Agile approach	Projector and slides for presentation. Flip charts.	Lecture. Interactive presentation.

	<ul style="list-style-type: none"> <li>- Learn how to apply Agile practices to manage projects effectively</li> <li>- Analyse real-world case studies to see Agile in action</li> </ul>	<p>Markers. Examples and articles from real-world Agile teams.</p>	<p>Case studies discussion. Group reflection.</p>
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Name of the lesson: **Agile's frameworks: Kanban and Scrum**

Timing	Lesson objectives	Course materials	Pedagogical methods
1.5 h	<p>Understand Kanban and Scrum frameworks By the end of the lesson, participants will be able to:</p> <ul style="list-style-type: none"> <li>- Understand the fundamentals of Kanban and Scrum frameworks</li> <li>- Understand their differences and when apply them in real-world scenarios</li> </ul>	<p>Projector and slides for presentation. Flip charts. Markers.</p>	<p>Lecture. Interactive presentation. Class discussion.</p>
2.5 h	<p>Know how to apply Agile methods in 'non-development' processes</p> <ul style="list-style-type: none"> <li>- Understand the role of Agile in 'non-development' processes</li> <li>- Understand when Agile methodologies can be practically applied to 'non-development' processes</li> <li>- Understand how key Agile frameworks can be adapted to 'non-development' workflows</li> <li>- Anticipate challenges and solutions when implementing Agile in 'non-development' processes</li> <li>- Basic knowledge of online Agile project management tools (e.g. Trello, Jira)</li> </ul>	<p>Projector and slides for presentation. Flip charts. Markers. Examples of Agile board.</p>	<p>Lecture. Interactive presentation. Class discussion.</p>
2 h	<p>Define roles and rituals in Agile methods</p> <ul style="list-style-type: none"> <li>- Identify key roles in Agile methodologies (Scrum</li> </ul>	<p>Projector and slides for presentation. Flip charts. Markers.</p>	<p>Lecture. Interactive presentation. Class discussion.</p>

	<p>Master, Product Owner, Development Team, etc.)</p> <ul style="list-style-type: none"> <li>- Understand the responsibilities of each Agile role.</li> <li>- Define and explain Agile rituals (Sprint Planning, Daily Stand-ups, Sprint Review, Sprint Retrospective, Backlog Refinement, etc.)</li> <li>- Apply Agile roles and rituals in a simulated environment</li> </ul>	<p>Diagrams to show the flow of Agile rituals.</p> <p>Real world examples.</p>	
1 h	<p>Know how to get a Scrum Master certification</p> <ul style="list-style-type: none"> <li>- Understand the steps involved in obtaining a Scrum Master certification and the requirements for certification</li> <li>- Be familiar with key certification providers (Scrum Alliance, Scrum.org, SAFe, etc.)</li> <li>- Create a basic study plan</li> </ul>	<p>Projector and slides for presentation.</p>	<p>Lecture.</p>
4 h	<p>(Practical workshop - Agile adoption) How to build a board and write cards</p> <p>By the end of this workshop, participants will understand how to set up an Agile board, define workflows, write user stories and tasks on cards, and manage work effectively</p>	<p>Projector and slides for presentation.</p> <p>Flip charts.</p> <p>Markers.</p> <p>Large sheets of paper for group use.</p>	<p>Group activity.</p>

Name of the lesson: **Planning of activities considering the team's production capacity: creation of a backlog**

Timing	Lesson objectives	Course materials	Pedagogical methods
2.5 h	<p>Know how to create a backlog</p> <ul style="list-style-type: none"> <li>- Define a backlog and understand its importance in project management</li> </ul>	<p>Projector and slides for presentation.</p> <p>Flip charts.</p> <p>Markers.</p>	<p>Lecture.</p> <p>Interactive presentation.</p> <p>Interactive activities.</p>

	<ul style="list-style-type: none"> <li>- Differentiate between product backlog and sprint backlog</li> <li>- Understand backlog refinement and prioritization techniques</li> <li>- Create a simple backlog using a real-world scenario</li> </ul>	Case study material.	Class discussion.
2.5 h	<p>Understand how to manage card granularity</p> <ul style="list-style-type: none"> <li>- Understand the concept of card granularity in agile methodologies</li> <li>- Identify the benefits and drawbacks of various levels of granularity</li> <li>- Effectively manage and adjust card granularity for different types of work</li> <li>- Apply techniques to create and refine user stories with appropriate granularity</li> </ul>	<p>Projector and slides for presentation.</p> <p>Flip charts.</p> <p>Markers.</p> <p>Handouts with examples of user stories.</p>	<p>Lecture.</p> <p>Interactive presentation.</p> <p>Interactive activities.</p> <p>Class discussion.</p>
2.5 h	<p>Understand how to manage capacity planning</p> <ul style="list-style-type: none"> <li>- Understand the concept of capacity planning in an Agile environment</li> <li>- Identify the key factors influencing capacity planning</li> <li>- Apply techniques for effective capacity planning</li> <li>- Recognize the role of team dynamics and individual contributions in capacity planning</li> </ul>	<p>Projector and slides for presentation.</p> <p>Flip charts.</p> <p>Markers.</p> <p>Case study material.</p>	<p>Lecture.</p> <p>Interactive presentation.</p> <p>Interactive activities.</p> <p>Class discussion.</p>

Name of the lesson: **Measuring performance and preventing failure**

Timing	Lesson objectives	Course materials	Pedagogical methods
2.5 h	<p>Know how to measure performance:</p> <ul style="list-style-type: none"> <li>- Understand key performance metrics used in Agile environments</li> </ul>	<p>Projector and slides for presentation.</p> <p>Flip charts.</p> <p>Markers.</p>	<p>Lecture.</p> <p>Interactive presentation.</p> <p>Interactive activities.</p> <p>Class discussion.</p>

	<ul style="list-style-type: none"> <li>- Identify and apply appropriate measurement tools and techniques</li> <li>- Evaluate team performance and project health through various metrics</li> <li>- Discuss the importance of continuous improvement and feedback loops.</li> </ul>	Case study material.	
2.5 h	<p>Identify risks and apply techniques to avoid failure</p> <ul style="list-style-type: none"> <li>- Understand the concept of risk in an Agile context</li> <li>- Identify different types of risks in Agile projects</li> <li>- Apply risk management techniques to mitigate potential failures.</li> </ul>	<p>Projector and slides for presentation.</p> <p>Flip charts.</p> <p>Markers.</p> <p>Case study material.</p> <p>Large sheets of paper for group use</p>	<p>Lecture</p> <p>Interactive presentation</p> <p>Interactive activities</p> <p>Groups activity (risk identification)</p> <p>Class discussion</p>
2.5 h	<p>Understand when to apply Waterfall and Agile</p> <ul style="list-style-type: none"> <li>- Distinguish between Waterfall and Agile methodologies</li> <li>- Identify the strengths and weaknesses of each methodology</li> <li>- Determine which methodology to apply based on project requirements</li> <li>- Apply critical thinking to assess real-world project scenarios</li> </ul>	<p>Projector and slides for presentation</p> <p>Flip charts</p> <p>Markers</p> <p>Case study material</p>	<p>Lecture</p> <p>Interactive presentation</p> <p>Interactive activities</p> <p>Class discussion</p>

## Assessments methods

We will use the following assessment methods during the module.

At the beginning of each module, learners will fill in a quick 'pre-assessment' questionnaire to assess their initial level of knowledge on the topics of that specific module (e.g. Mentimeter).

At the end of each module, learners will receive an evaluation questionnaire to assess their personal progress.

Additional possible assessment factors:

- Participation and engagement
- Quizzes and tests



- Group projects
- Practical assignments

## Additional learning resources

Links to additional learning resources like recommended readings, online resources, video tutorials, ...

Link	Contents description
<a href="https://www.pmi.org/certifications/agile-certifications">https://www.pmi.org/certifications/agile-certifications</a>	All official Agile certifications
<a href="https://www.scrum.org/professional-scrum-certifications/professional-scrum-master-assessments">https://www.scrum.org/professional-scrum-certifications/professional-scrum-master-assessments</a>	Professional Scrum Master Certifications
<a href="https://www.scrum.org/">https://www.scrum.org/</a>	Scrum Framework
<a href="https://scaledagileframework.com/">https://scaledagileframework.com/</a>	SAFe – Scaled Agile Framework
<a href="https://www.youtube.com/watch?v=6fKn4rgk4jM">https://www.youtube.com/watch?v=6fKn4rgk4jM</a>	What is Agile Methodology
<a href="https://www.youtube.com/watch?v=fHzLVtEiabk">https://www.youtube.com/watch?v=fHzLVtEiabk</a>	Difference Between Scrum & Kanban

## Equipment needed

The equipment needed to deliver this module is:

- Internet connection
- Projector
- Laptops (at least 1 per group)
- Free online Agile project management software
- Physical board
- Paper sheets
- Pens and markers

## Project Management Module preview

The Project Management module provides a comprehensive overview of key concepts, tools, and techniques used in effective project management. The module covers the entire project lifecycle from initiation and planning to execution, monitoring, controlling, and closing.

### Competencies, skills and knowledge

Competencies	Skills	Knowledge
Develop the ability to manage and lead projects successfully.	<b>General Skills:</b> Leadership and team management. Time management. Risk management. Financial management. Technical oversight and problem-solving. Adaptability and continuous learning.  <b>Hard Skills:</b> Project planning tools. Quality control techniques.  <b>Soft Skills:</b> Effective communication. Conflict resolution. Team collaboration.	Project lifecycle and methodologies (predictive, adaptive, hybrid). Project charter and stakeholder roles. Scope, schedule, and budget management. Quality assurance and change management. Post-deployment support and maintenance.
Demonstrate effective communication and stakeholder management skills.		
Apply project management methodologies and tools to real-world scenarios.		
Foster teamwork and resolve conflicts within a project environment.		

### Programme and timeline

Name of the lesson <sup>4</sup>	Number of hours
Project Management Fundamentals	7
Starting the Project	6
Planning the Work	8
Completing the Work	5
Ending the Project	4

<sup>4</sup> Lesson: a period of time in which somebody is taught something.

## Teaching or pedagogical methods

Pedagogical methods that will be used:

Lectures: Providing theoretical knowledge and foundational concepts.

Case Studies: Analysing real-world scenarios to apply learned concepts.

Group Discussions: Encouraging collaborative learning and exchange of ideas.

Simulation: Practicing project management in realistic scenarios to apply concepts and improve decision-making skills.

Workshops: Hands-on practice with project management tools and techniques.

Role-Playing: Engaging in role-playing exercises to simulate real-world challenges.

Interactive Activities: Utilizing interactive activities and exercises to reinforce learning.

## Lessons plan

Name of the lesson: **Project Management Fundamental**

Timing	Lesson objectives	Course materials	Pedagogical methods
1 h	Define the project lifecycle: <ul style="list-style-type: none"> <li>- Understanding the five phases of a project lifecycle.</li> <li>- Recognize the importance of each project lifecycle phase and its deliverables.</li> <li>- Differentiate between the project life cycle and the product life cycle.</li> </ul>	Power Point Presentations detailing project lifecycle phases with visual diagrams and descriptions. Handouts summarizing key phases and deliverables. Case studies	Lecture. Discussions. Scenario discussions for each project lifecycle phase. Case studies from software development industry.
1 h	Describe characteristics of predictive, adaptive, hybrid approaches: <ul style="list-style-type: none"> <li>- Understand the sequential nature of predictive, adaptive and hybrid approach.</li> </ul>	Handouts of project management approaches, including charts and tables. Case studies showcasing each approach in real-world applications, provided in a shared	Lecture. Group Discussion. Case Studies illustrating different methodologies.

	<ul style="list-style-type: none"> <li>- Compare different project management methodologies.</li> <li>- Identify the advantages and disadvantages of using predictive, adaptive and hybrid approach.</li> </ul>	folder or as printouts for classroom discussion.	
1 h	<p>Explain project management ethics:</p> <ul style="list-style-type: none"> <li>- Understand PMI's Code of Ethics and Professional Conduct.</li> <li>- Recognize the importance of ethics in project management.</li> <li>- Learn how to apply ethical principles in decision-making.</li> </ul>	<p>Booklets containing PMI's Code of Ethics.</p> <p>Ethical dilemma case studies for group discussion.</p> <p>Guidelines for ethical decision-making provided in a quick-reference format.</p>	<p>Lecture.</p> <p>Case studies.</p> <p>Group Discussions.</p> <p>Role-Playing.</p>
2 h	<p>Identify basic leadership skills:</p> <ul style="list-style-type: none"> <li>- Understand key theories of motivation (Maslow, Herzberg, McGregor);</li> <li>- Learn techniques to motivate team members.</li> <li>- Recognize the impact of motivation on project success.</li> <li>- Learn active listening techniques.</li> <li>- Understand the role of listening in building trust and rapport.</li> <li>- Recognize the importance of feedback in project environments.</li> <li>- Identify types of conflicts in project management.</li> <li>- Learn conflict management strategies (withdraw/avoid,</li> </ul>	<p>Role-playing scripts for leadership scenarios.</p> <p>Leadership assessment tools available for use in training sessions.</p> <p>Case studies on effective leadership examples in project management.</p>	<p>Workshop.</p> <p>Role-Playing.</p>

	<p>smoothing/accommodating, compromise/reconcile, force/direct, collaborate/problem-solve);</p> <ul style="list-style-type: none"> <li>- Understand the impact of conflict resolution on team dynamics and project success.</li> </ul>		
2 h	<p>Outline elements of effective communication:</p> <ul style="list-style-type: none"> <li>- Understand the components of the communication process.</li> <li>- Identify common barriers to effective communication.</li> <li>- Learn strategies to enhance communication within the team.</li> <li>- Learn about different communication methods (email, meetings, reports, dashboards).</li> <li>- Choose the right communication method for different scenarios.</li> <li>- Understand the impact of communication methods on project success.</li> <li>- Recognize the importance of regular status updates for project success.</li> </ul>	<p>A guide on communication processes.</p> <p>Flashcards highlighting communication barriers and strategies.</p> <p>Wall chart of different communication methods suitable for classroom display.</p> <p>Case studies on communication failures and successes in project management.</p>	<p>Lecture.</p> <p>Role-Playing Scenarios.</p> <p>Small Group Activities – workshop.</p> <p>Peer Feedback Exercises.</p>

Name of the lesson: [Starting the Project](#)

Timing	Lesson objectives	Course materials	Pedagogical methods
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1 h	Describe the purpose of a project charter: <ul style="list-style-type: none"> <li>- Understand the purpose and importance of a project charter.</li> <li>- Learn how a project charter authorizes and defines the project.</li> <li>- Recognize the role of the project charter in setting objectives and scope;</li> </ul>	Examples and templates for creating project charters. Workshop materials (e.g. Guided worksheets) for drafting project charters in groups	Lecture. Case Study. Interactive workshop for drafting project charters in teams.
1 h	Outline the elements of a project charter: <ul style="list-style-type: none"> <li>- Identify the key components of a project charter.</li> <li>- Understand the significance of each element in the charter.</li> <li>- Learn how to create a comprehensive project charter.</li> </ul>	Checklists for project charter elements. Templates for creating detailed project charters. Real-world project charter samples for analysis.	Interactive workshop for reviewing and analysing project charters in teams. Discussions.
2 h	Identify stakeholder roles and responsibilities: <ul style="list-style-type: none"> <li>- Understand the roles and responsibilities of project stakeholders.</li> <li>- Learn techniques for stakeholder identification and analysis.</li> <li>- Recognize the importance of stakeholder mapping for project success.</li> </ul>	Materials for stakeholder identification and analysis. Templates for stakeholder mapping. Real-world case studies on stakeholder management.	Group Discussion. Role-Playing. Case studies.
2 h	Explain authority, responsibility, and decision-making concepts: <ul style="list-style-type: none"> <li>- Differentiate between authority, responsibility, and accountability.</li> <li>- Understand decision-making models in project management.</li> </ul>	Case studies on decision-making within projects. Scenarios for role-playing to explore authority and accountability issues in project settings.	Lecture. Case Study Analysis. Group Discussion on Roles and Accountability. Role-Playing Exercises. Decision-Making Simulation.

	- Learn techniques for effective stakeholder engagement.		<ul style="list-style-type: none"> <li>• Reflection and Self-Assessment.</li> </ul>
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Name of the lesson: **Planning the Work**

Timing	Lesson objectives	Course materials	Pedagogical methods
1 h	Define components of a project management plan: <ul style="list-style-type: none"> <li>- Identify the components of a project management plan.</li> <li>- Understand the importance of each component.</li> <li>- Learn how to create a comprehensive project management plan.</li> </ul>	PM Plan - Template for developing a comprehensive project management plan.	Lecture. Case Study Analysis. Interactive Workshop. Real-Life Examples.
1 h	Describe interdependence of scope, schedule, and budget: <ul style="list-style-type: none"> <li>- Understand the interdependencies between scope, schedule, and budget.</li> <li>- Learn how to balance the project triangle.</li> <li>- Recognize the impact of changes in one area on the overall project.</li> </ul>	Case studies analysing project case studies to identify scope, schedule, and budget interdependencies. Project management software for dynamic planning.	Case Study. Group Discussion. Hands-on exercises with project management software to simulate scope, schedule, and budget management.
2 h	Define terminology related to project scope: <ul style="list-style-type: none"> <li>- Understand key scope-related terminology.</li> <li>- Learn how to write clear and concise scope statements.</li> <li>- Recognize the importance of defining scope boundaries.</li> <li>- Understand the importance of a Work Breakdown Structure.</li> </ul>	Scope statements and templates for a hypothetical project. Work breakdown structure (WBS) examples and creation tools.	Lecture. Group Activity workshop. Case Study Review. Role-Playing or Scenario-Based Exercise.

	<ul style="list-style-type: none"> <li>- Learn techniques for creating a WBS.</li> <li>- Recognize how a WBS contributes to project planning and control.</li> </ul>		
1 h	<p>Explain impact of resource availability on schedules:</p> <ul style="list-style-type: none"> <li>- Understand key scheduling-related terminology.</li> <li>- Learn the steps and tools for developing a project schedule.</li> <li>- Recognize the importance of milestones and dependencies in scheduling.</li> <li>- Understand the impact of resource availability on project schedules.</li> <li>- Learn techniques for resource allocation and levelling.</li> <li>- Recognize the importance of managing resource constraints</li> </ul>	<p>Tools for developing a project schedule. Gantt Charts examples. Case studies on resource allocation and its impacts on project scheduling.</p>	<p>Lecture. Simulation. Case study to identify resource constraints and propose solutions.</p>
2 h	<p>Discuss methods for budget development:</p> <ul style="list-style-type: none"> <li>- Understand key budgeting-related terminology.</li> <li>- Learn techniques for estimating project costs.</li> <li>- Recognize the importance of managing procurement and contracts.</li> <li>- Learn different methods for budget development.</li> <li>- Understand PMI guidelines on cost management.</li> <li>- Recognize the importance of accurate</li> </ul>	<p>Budgeting tools and techniques for project cost estimation. Case studies comparing budget development methods.</p>	<p>Workshop. Group Discussion.</p>



	cost estimation for project success.		
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Name of the lesson: **Completing the Work**

Timing	Lesson objectives	Course materials	Pedagogical methods
1 h	Describe effects of unplanned changes to scope: <ul style="list-style-type: none"> <li>- Understand the impact of unplanned scope changes.</li> <li>- Learn strategies to prevent scope changes.</li> <li>- Recognize the effects of scope changes on schedule and budget.</li> </ul>	Power Point Presentations detailing how changes can affect a project's scope. Examples of change requests. Management strategies and templates for handling scope modifications.	Lecture. Case Study Analysis. Workshop: Budgeting Exercise. Group Discussion on Budgeting Challenges. Role-Playing Scenario.
1 h	Explain importance of tracking schedules: <ul style="list-style-type: none"> <li>- Learn techniques for tracking and controlling project schedules.</li> <li>- Understand the use of tools for monitoring project timelines.</li> <li>- Recognize the importance of schedule tracking for project success;</li> </ul>	Demonstrations using Gantt charts. Software tools for tracking project timelines. Case studies on managing schedule changes.	Lecture. Case Study Analysis. Hands-On Workshop: Building a Gantt Chart. Group Activity: Schedule Tracking Challenges and Solutions. Role-Playing Exercise.
1 h	Discuss significance of tracking budgets: <ul style="list-style-type: none"> <li>- Learn techniques for tracking and controlling project budgets.</li> <li>- Understand the use of tools for monitoring project costs.</li> <li>- Recognize the importance of budget tracking for project success;</li> </ul>	Templates and examples of budget tracking spreadsheets. Strategies and tools for managing project costs. Illustrations of budget adjustments.	Lecture. Case study analysis. Group Discussion. Simulation.
1 h	Describe the Concept of Quality in Project Work: <ul style="list-style-type: none"> <li>- Understand the importance of quality</li> </ul>	Checklists and guidelines for quality assurance. Tools for defect tracking; Protocols for	Lecture. Case Study Analysis. Workshop.

	<p>assurance in project management.</p> <ul style="list-style-type: none"> <li>- Learn PMI guidelines on quality management.</li> <li>- Recognize techniques for ensuring project quality.</li> <li>- Learn how to identify quality issues and defects.</li> <li>- Understand techniques for quality control and improvement.</li> <li>- Recognize the importance of responding to quality issues.</li> </ul>	<p>conducting quality audits.</p>	<p>Role-Playing for quality management simulations. Group Discussions.</p>
1 h	<p>Describe the Change Management Process:</p> <ul style="list-style-type: none"> <li>- Understand the importance of change management in projects.</li> <li>- Learn PMI guidelines on change management.</li> <li>- Recognize successful change management practices.</li> <li>- Learn techniques for evaluating change requests.</li> <li>- Understand the impact of changes on project scope, schedule, and budget.</li> <li>- Recognize the importance of informed decision-making in change management.</li> </ul>	<p>Guides on change management procedures. Templates for documenting and approving changes. Case studies on successful change implementations.</p>	<p>Lecture. Discussion. Case Study Analysis. Role-Playing. Workshops.</p>
1 h	<p>Describe Risk Management Methods:</p> <ul style="list-style-type: none"> <li>- Understand the importance of risk management in projects.</li> <li>- Learn PMI guidelines on risk management.</li> </ul>	<p>Risk management frameworks. Risk register templates. Workshops on risk identification and mitigation strategies.</p>	<p>Lecture. Group Discussion. Case Study Analysis. Workshops. Simulation. Group Discussions.</p>

	<ul style="list-style-type: none"> <li>- Recognize techniques for identifying and mitigating risks.</li> <li>- Learn how to create a risk management plan.</li> <li>- Understand the steps of risk identification, analysis, response planning, and monitoring.</li> <li>- Recognize the importance of proactive risk management.</li> </ul>		
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Name of the lesson: **Ending the Project**

Timing	Lesson objectives	Course materials	Pedagogical methods
1 h	<p><b>Obtain Final Stakeholder Acceptance:</b></p> <ul style="list-style-type: none"> <li>- Understand the importance of final stakeholder acceptance.</li> <li>- Learn the processes and criteria for obtaining stakeholder approval.</li> <li>- Recognize the impact of stakeholder acceptance on project closure.</li> <li>- Learn techniques for obtaining stakeholder acceptance and sign-off.</li> <li>- Understand the importance of clear communication and documentation.</li> <li>- Recognize the role of negotiation skills in stakeholder acceptance.</li> </ul>	<p>Templates and checklists for stakeholder acceptance.</p> <p>Guidelines for presenting final project deliverables.</p> <p>Role-play scenarios to practice stakeholder discussions.</p>	<p>Lecture.</p> <p>Group Discussions.</p> <p>Role-Playing scenarios.</p> <p>Workshops.</p>

1 h	<p>Explain purpose of closing all contracts:</p> <ul style="list-style-type: none"> <li>- Understand the importance of contract closure in projects.</li> <li>- Learn the processes for closing contracts.</li> <li>- Recognize the importance of verifying deliverables and resolving outstanding issues;</li> </ul>	<p>Overview of contract closure processes.</p> <p>Sample contract closure documents.</p> <p>Best practices for ensuring all contractual terms are met and documented.</p>	<p>Lecture.</p> <p>Role-Playing Exercises.</p> <p>Group Discussions.</p> <p>Case Study Analysis.</p>
1 h	<p>Discuss Processes for Closing Contracts:</p> <ul style="list-style-type: none"> <li>- Learn the processes for closing contracts effectively.</li> <li>- Understand the importance of documentation and final payments.</li> <li>- Recognize legal considerations in contract closure.</li> </ul>	<p>Checklists for closing contracts.</p> <p>Case studies on effective contract closures.</p> <p>Templates for finalizing all project-related contractual obligations.</p>	<p>Lecture.</p> <p>Group Discussion.</p> <p>Case Studies.</p>
1 h	<p>Describe project closing activities related to documentation:</p> <ul style="list-style-type: none"> <li>- Understand the importance of a final project report.</li> <li>- Learn the components of a final report.</li> <li>- Recognize the role of the final report in project closure and lessons learned.</li> <li>- Identify the key components of a final project report.</li> <li>- Understand the significance of each component.</li> <li>- Learn how to create a comprehensive final report.</li> </ul>	<p>Examples of project closure reports.</p> <p>Guidelines on compiling and archiving project documentation.</p> <p>Templates for lessons learned and project handover documents.</p>	<p>Lecture.</p> <p>Workshop Scenarios</p> <p>Case studies.</p>

## Assessments methods

We will use the following assessment methods during the module:

- Practical Exercises: Hands-on tasks to apply project management techniques.
- Participation: Engagement in group discussions, workshops, and role-playing activities.
- Case Study Analysis: Evaluating application of concepts in real-world scenarios.
- Final Project Presentation: A comprehensive presentation covering all module content, demonstrating the application of learned skills and knowledge.
- Internationally recognised certification exam: The [PMI Project Management Ready®](#) certification is designed to test and validate foundational concepts and knowledge in project management.

## Additional learning resources

Links to additional learning resources like recommended readings, online resources, video tutorials, ...

Link	Contents description
<a href="#">PMI.org</a>	Articles, webinars, and whitepapers on project management.
<a href="#">Coursera Project Management Courses</a>	Online courses on various project management topics
<a href="#">Project Management Journal</a>	Research articles and case studies.
<a href="#">PMBOK Guide</a>	Guide to the Project Management Body of Knowledge.

## Equipment needed

The equipment needed to deliver this module is:

- Projector,
- Whiteboard,
- Markers,
- Flip Charts,
- Project management software (e.g., MS Project, Trello),
- PMBOK Guide,
- Case Study Materials,
- Templates and Checklists

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