



# Digital Management: Agile and Scrum Practices

## Curriculum (Syllabus)

### Course details

Level of higher education	<i>Second (Master's)</i>
Field of knowledge	<i>C - social sciences, journalism, information and international relations</i>
Specialisation	<i>C5 Sociology</i>
Educational programme	<i>Social Data Analytics</i>
Status of discipline	<i>Elective</i>
Form of study	<i>Full-time (day)</i>
Year of study, semester	<i>1st year, second semester</i>
Scope of the discipline	<i>5 credits (150 hours): 30 hours of lectures, 30 hours of seminars, 90 hours of independent work</i>
Semester assessment/assessment measures	<i>Exam, Modular control work</i>
Class schedule	<i><a href="https://schedule.kpi.ua/">https://schedule.kpi.ua/</a></i>
Language of instruction	<i>Ukrainian</i>
Information about course coordinator / lecturers	Lecturer: <i>Maksym Naimovich Yenin</i> , PhD in Social Sciences, Associate Professor, email: <a href="mailto:yeninmaksym@gmail.com">yeninmaksym@gmail.com</a> Seminar instructors: <i>Myroslava Pavlivna Kukhta</i> , Doctor of Social Sciences, Associate Professor, email: <a href="mailto:miroslavakukhta@gmail.com">miroslavakukhta@gmail.com</a>
Course location	Link to remote resource (Moodle) <a href="https://do.ipk.kpi.ua/user/index.php?id=8332">https://do.ipk.kpi.ua/user/index.php?id=8332</a>

### 1. Curriculum

#### Description of the course, its purpose, subject matter and learning outcomes

The discipline focuses on the study of modern digital approaches to project management, in particular the flexible methodologies of Agile and Scrum. The course provides an understanding of the principles and tools of digital management in the context of interdisciplinary approaches to teamwork, innovation and change implementation in public, legal and analytical environments.

**The aim of the course** is to develop students' knowledge and skills in applying Agile and Scrum methodologies in digital project management, to promote the ability to effectively organise teamwork, plan, implement and adapt projects in a dynamic environment.

#### The tasks (educational goals) of the discipline are:

- to familiarise students with Agile and Scrum concepts, methodologies and principles;
- to develop digital project management skills using tools such as Notion, Trello, Jira, Miro, etc.;
- to develop an understanding of roles in a Scrum team and the specifics of flexible planning;
- provide experience in creating sprints, backlogs, and retrospectives;
- develop the ability to critically analyse and adapt agile methods to different areas – public administration, legal practice, data analytics, European policies.

## **2. Prerequisites and post-requisites of the discipline (place in the structural-logical scheme of training under the relevant educational programme)**

**Prerequisites (prior learning requirements):** To master the discipline, students must have basic knowledge of project management, organisational management, sociology of organisations and management, as well as basic skills in using digital tools (Google Workspace, Microsoft Teams, Zoom, etc.).

It is desirable to have an understanding of the basics of systems thinking, critical analysis, and modern digital services for collaboration.

**Interdisciplinarity of the discipline:** The course is interdisciplinary in nature, as it integrates project management methods in a digital environment with the principles of public administration, social management, legal practice, and social data analytics. Students from different specialities acquire universal management and digital competencies that can be adapted to their professional field.

## **3. Course content**

### **Section 1. Fundamentals of flexible digital project management**

Topic 1. Introduction to digital management: concepts, trends, implementation environment

Topic 2. Agile methodology: principles, flexible thinking, adaptation tools

Topic 3. Scrum as a project management framework

Topic 4. Planning in Agile. Lean approach and Kanban systems in task management

Topic 5. User Story, product backlog and sprint planning in Agile and Scrum

### **Section 2. Leadership, motivation and strategic interaction in Agile management**

Topic 6. Daily team work in Scrum: sprints and daily meetings (Daily Stand-up)

Topic 7. Public presentation of digital project results

Topic 8. Leadership in agile management: role, models, dynamics

Topic 9. Conflict management in a Scrum team

Topic 10. Managing work motivation: sociological theories

Topic 11. Work motivation in conditions of self-organisation and autonomy

Topic 12. Corporate culture and its development in Agile and Scrum

Topic 13. Digital project management tools

Topic 14. Final discussion: evaluating your own project experience

## **4. Learning materials and resources**

To successfully study the discipline, it is sufficient to work through the educational material presented in lectures and familiarise yourself with the literature.

### **Main literature**

1. Voitenko, O. S. Project Management: Textbook. Kyiv: KNUBA, 2020. 276 p. URL: <https://www.knuba.edu.ua/wp-content/uploads/2023/10/073mag-project-management-voitenko-2020.pdf>. (accessed: 05.06.2025).

2. Dovgan L. E., Mokhonko G. A., Malik I. P. Project Management: Textbook. Kyiv: Igor Sikorsky Kyiv Polytechnic Institute, 2017. 420 p. URL: <https://ela.kpi.ua/server/api/core/bitstreams/cf735d19-339f-44c8-8b5a-42f40468edf4/content> (accessed: 05.06.2025).

3. Project Management. Laboratory Workshop. Textbook. Compiled by: B. Ya. Kornienko. Electronic online educational publication. Kyiv: Igor Sikorsky Kyiv Polytechnic Institute. 2023. 68 p.

4. Schwaber K., Sutherland, J. The Scrum Guide. The Definitive Guide to Scrum: The Rules of the Game. Scrum.org. 2020. URL: <https://scrumguides.org> (accessed: 05.06.2025).

### **Additional literature**

1. Berezhenets V., Kovtun O. Social dysfunctions of corporate culture: towards the formulation of the problem. Social technologies: current issues in theory and practice. Collection of scientific works. Publishing house "Helvetica" 2022. P. 61–70.

2. Blyznyukova I. O., Semko S. G., Kiyko S. G. Review of modern methodologies for managing IT project teams // Management of complex systems development. 2020. No. 43. Pp. 60–66.
3. Galushka Z. I. AGILE management as an innovative approach to project management // Economics and Enterprise Management. 2020. Issue 47. Pp. 76–79. URL: [http://market-infr.od.ua/journals/2020/47\\_2020\\_ukr/16.pdf](http://market-infr.od.ua/journals/2020/47_2020_ukr/16.pdf) (accessed: 05.06.2025).
4. Kordunova Yu., Smotr O., Kokotko I., Malets R. Analysis of traditional and flexible approaches to software development in dynamic conditions // Management of complex systems development. 2021. No. 47. Pp. 71–77. URL: <http://mdcs.knuba.edu.ua/article/view/249188/246469> (accessed: 05.06.2025).
5. Pink D. The Enigma of Motivation. TED Talk. URL: <https://www.talent-management.com.ua/2086-de-n-pink-zagadki-motivatsii-ted-lektsiya/>(accessed: 05.06.2025).
6. Ryabokon N.P., Ryabokon A.A., Ryabokon B.A. Implementation of the Agile methodology: a value-oriented approach. Collection of scientific works of ChDTU. Series "Economic Sciences". 2019. Issue 49. P. 34–42. URL: <https://er.chdtu.edu.ua/bitstream/ChSTU/2345/1/6.pdf>(accessed on 05.06.2025).
7. What is Agile and how to apply it in business. URL: <https://brainrain.com.ua/uk/chto-takoe-agile-ua/>(accessed: 05.06.2025).
8. Yakubenko I. M. Agile management as effective project management for goal-oriented teams // Economics. Management. Business. 2017. No. 4 (22). Pp. 167–172. URL: [https://duikt.edu.ua/uploads/p\\_1010\\_33018473.pdf?file=p\\_1010\\_33018473.pdf](https://duikt.edu.ua/uploads/p_1010_33018473.pdf?file=p_1010_33018473.pdf) (accessed: 05.06.2025).
9. Khrapkin O., Kindrat O., Chohey R. Project management in the IT industry: methods, tools and risk management // Economy and Society. 2023. No. 55. URL: [https://www.researchgate.net/publication/375536748\\_UPRAVLINNA\\_PROEKTAMI\\_V\\_IT-GALUZI\\_METODIKI\\_INSTRUMENTI\\_TA\\_KERUVANNA\\_RIZIKAMI](https://www.researchgate.net/publication/375536748_UPRAVLINNA_PROEKTAMI_V_IT-GALUZI_METODIKI_INSTRUMENTI_TA_KERUVANNA_RIZIKAMI) (accessed: 05.06.2025).
10. Yaniev D. The influence of organisational culture on the motivation system of IT sector employees // Innovation and Sustainability. 2022. No. 4. Pp. 186–192.
11. Denning S. The Age of Agile: How Smart Companies Are Transforming the Way Work Gets Done. AMACOM, 2018. 336 p.
12. Introduction to Agile Development and Scrum. URL: <https://www.coursera.org/learn/agile-development-and-scrum/home/module/1>
13. Kerzner H. Project Management: A Systems Approach to Planning, Scheduling, and Controlling (12th ed.). John Wiley & Sons, 2017. 848 p. URL: <https://cmls-global.com/wp-content/uploads/2021/07/Project-Management-A-Systems-Approach-to-Planning-Scheduling-and-Controlling.pdf> (accessed: 05.06.2025).
14. Kniberg H. Scrum and XP from the Trenches (2nd ed.). C4Media. 2015. URL: <https://leanagiletraining.com/wp-content/uploads/2020/03/Scrum-and-XP-from-the-Trenches-2nd-edition.pdf> (accessed: 05.06.2025).
15. Manifesto for Agile Software Development. URL: <https://agilemanifesto.org/>
16. Toyota Production System and what it means for business. URL: <https://www.kth.se/social/upload/511bb0b1f276543fb38d79b8/Toyota%2520Production%2520System%2520Brochure.pdf?utm>
17. Principles behind the Agile Manifesto. URL: <http://agilemanifesto.org/principles.html> (accessed: 05.06.2025).
18. Tredgold G. 5 Challenges Leaders Are Facing Right Now (and How to Overcome Them). 29 March 2023. URL: <https://www.entrepreneur.com/leadership/5-leadership-challenges-for-2023-and-how-to-overcome-them/444656> date of access: 05.06.2025).

### **Online resources for self-study**

1. Scrum Guides. URL: <https://scrumguides.org>
2. Agile Alliance. URL: <https://agilealliance.org>
3. Miro. URL: <https://miro.com>
4. Atlassian. URL: <https://www.atlassian.com/agile>
5. Busunessmap. URL: <https://kanbanize.com>
6. Video lectures YouTube channel "Scrum Ukraine". URL: <https://www.youtube.com/@ScrumUkraine>

## 5. Methodology for mastering the academic discipline (educational component)

### Lectures

#### Topic 1. Introduction to digital management: concepts, trends, implementation environment

##### *Lecture 1.*

**Key questions:** The concept of digital management, differences from traditional management. Key components of digital management. Digitalisation and changes in the role of managers.

**IW:** What digital tools do you already use in your own studies or work?

**References:** Voitenko, 2020; Tredgold, 2023; Dovgan, 2017; Kerzner, 2017.

##### *Lecture 2.*

**Key questions:** Artificial intelligence, data analytics, automation: impact on organisational management. Risks and challenges in the digital transformation process.

**IW:** How are digital tools changing your management and self-management style?

**Literature:** Voitenko, 2020; Tredgold, 2023; Dovgan, 2017; Kerzner, 2017.

#### Topic 2. Agile methodology: principles, flexible thinking, adaptation tools

##### *Lecture 3.*

**Key questions:** Agile principles. Agile methodology. Waterfall approach. Extreme Programming approach. Working in Small Batches concept.

**IW:** Pair Programming.

**Literature:** Galushka, 2020; Kordunova, 2021; Ryabokon, 2019; Denning, 2018; Kerzner, 2017. Principles behind the Agile Manifesto.

##### *Lecture 4.*

**Key questions:** Working according to the single piece flow principle. Minimum viable product (MVP). Behaviour-driven development (BDD).

**IW:** Pair Programming.

**Literature:** Galushka, 2020; Kordunova, 2021; Ryabokon, 2019; Denning, 2018; Kerzner, 2017. Principles behind the Agile Manifesto.

#### Topic 3. Scrum as a project management framework

##### *Lecture 5.*

**Key questions:** Agile and Scrum: definitions and differences. Characteristics and roles. Scrum artefacts. Main stages in Scrum. Advantages of using Scrum.

**IW:** History of the Scrum concept.

**Literature:** Project Management. Laboratory Workshop, 2023; Schwaber, 2020; Kniberg, 2015.

#### Topic 4. Planning in Agile. Lean approach and Kanban systems in task management

##### *Lecture 6.*

**Key questions:** Principles of Lean management for organising an effective workflow. The difference between the Lean approach and classic process management. Kanban system.

**IW:** Exercise: preparing a Kanban board. Case study: the team is overloaded with tasks, deadlines are being missed. How can Lean and Kanban principles be applied to resolve the situation?

**References:** Voitenko, 2020; Project Management. Laboratory Workshop, 2023; Blyznyukova, 2020; Yakubenko, 2017; Khrapkin, 2023.

##### *Lecture 7.*

**Key questions:** Kanban board and principles of operation. Rules for applying Kanban. Mistakes when

implementing Kanban in inexperienced teams. Comparison of Scrum and Kanban.

**IW:** Exercise. Evaluating the effectiveness of flexible planning based on your own experience of teamwork (educational project, volunteering, work, etc.).

**Literature:** Voitenko, 2020; Project Management. Laboratory Workshop, 2023; Blyznyukova, 2020; Yakubenko, 2017; Khrapkin, 2023.

## **Topic 5. User Story, Product Backlog, and Sprint Planning in Agile and Scrum**

### **Lecture 8.**

**Key questions:** Concepts, goals, elements of a User Story. A high-quality user story based on the INVEST principle. Epic as a large-scale requirement. Backlog Refinement.

**IW:** Using labels during backlog refinement.

**References:** Voitenko, 2020; Project Management. Laboratory Workshop, 2023; Blyznyukova, 2020; Yakubenko, 2017; Khrapkin, 2023.

### **Lecture 9.**

**Key questions:** Definition of a sprint. Basic rules of daily work. Daily meeting in Scrum (Daily Stand-up / Daily Scrum).

**IW:** Exercise. Identification of obstacles (impediments) in projects.

**Literature:** Voitenko, 2020; Project Management. Laboratory Workshop, 2023; Blyznyukova, 2020; Yakubenko, 2017; Khrapkin, 2023.

## **Topic 6. Leadership in agile management: role, models, dynamics**

### **Lecture 10.**

**Key questions:** The concept of leadership, managerial functions of a leader. Approaches to studying the phenomenon of leadership: the theory of personal qualities of a leader ("great people"); behavioural approach; situational approach. Features of leadership in flexible management methodologies (Agile, Scrum).

**IW:** Analytical tasks. Analyse the case: there is no clear leader in the Scrum team, and this leads to disorganisation. How should the Scrum Master act? Exercise. Develop a short profile of an Agile leader: what competencies, skills and personal traits are key?

**Literature:** Schwaber, 2020; Blyznyukova, 2020; Tredgold, 2023; Denning, 2018; Kerzner, 2017.

### **Lecture 11.**

**Key questions:** The leader in a Scrum team and how they differ from a traditional manager. Models of servant leadership and facilitative leadership according to Agile principles. Leadership throughout the project life cycle.

**IW:** Exercise. Compare two approaches: "manager-supervisor" and "leader-mentor" using the example of project work. Exercise. Write a manifesto or "Agile leader's code" for your learning team. What should it include?

**Literature:** Schwaber, 2020; Blyznyukova, 2020; Tredgold, 2023; Denning, 2018; Kerzner, 2017.

## **Topic 7. Conflict management in a Scrum team**

### **Lecture 12.**

**Key questions:** Theoretical approaches to defining conflict. Causes of organisational conflicts, their classification. Stages of conflict development. Conflict resolution styles. General rules for conflict resolution. The role of mediators in conflict resolution. Conflict management in an organisation.

**IW:** When is conflict in a Scrum team constructive, and when is it destructive? How does transparency of processes affect conflict prevention? How can retrospectives be used as a tool for identifying and resolving tension within a team? Task. Describe three basic strategies for dealing with conflict (e.g., avoidance, compromise, cooperation) and evaluate their appropriateness in a Scrum team.

**References:** Dovgan, 2017; Project Management. Laboratory Workshop, 2023; Schwaber, 2020.

### **Lecture 13.**

**Key questions:** Types of conflicts that most often arise in a Scrum team. Sources of conflicts related to roles (Scrum Master, Product Owner, team). Self-organisation and the nature of conflicts. The role of the Scrum Master in conflict resolution. Techniques and methods for resolving conflicts in an Agile environment (facilitation, active listening, retrospectives).

**IW:** Task. Compare conflicts in a hierarchical team and in a self-organised Scrum team: what are the fundamental differences? Task. Create a mini role-play scenario depicting a typical conflict in a Scrum team (task distribution, technical solution, deadlines) and describe ways to resolve it.

**Literature:** Dovgan, 2017; Project Management. Laboratory Workshop, 2023; Schwaber, 2020.

## **Topic 8. Managing Work Motivation**

### **Lecture 14.**

**Key questions:** The essence of motivation, the relationship between motivation and management. Substantive theories of motivation. Maslow's hierarchical theory of motivation. Alderfer's ERG theory. McClelland's achievement theory. Pink's self-determination theory.

**IW:** Methods for increasing employee motivation. How does autonomy at work differ from "freedom without responsibility"? What practices increase motivation in autonomous teams? How can a Scrum Master or team lead maintain high motivation without directive control? How do emotional burnout, lack of recognition, or unclear roles affect motivation in a self-organised team? Explain what self-determination theory (Ryan and Deci) is and how it applies to autonomous teams. Compare approaches to motivation in traditional and self-organised teams. Read up on research on motivation in IT teams or creative industries and give a short overview.

**References:** Yaniyeva, 2022; Denning, 2018; Kerzner, 2017; Kniberg, 2015; Tredgold, 2023.

### **Lecture 15.**

**Key questions:** F. Herzberg's two-factor motivation. Motivation in conditions of autonomy. Process theories of motivation. Employee motivation in the context of self-organised teams. Intrinsic motivation (interest, engagement, meaning) in Agile teams. Risks of demotivation in flexible teams without strict control.

**IW:**

Task. Analyse the case: the team works autonomously, but motivation is falling. What are the possible reasons and how can they be overcome? Create a map of factors that increase or decrease motivation in the absence of direct leadership. Propose strategies for increasing motivation for a team working in a remote or hybrid model. Task. Develop a motivational manifesto for a self-organised team with 5–7 key principles that ensure engagement, initiative and responsibility.

**References:** Yaniyeva, 2022; Denning, 2018; Kerzner, 2017; Kniberg, 2015; Tredgold, 2023.

## **Seminar (practical) classes**

**The main objectives of the seminar (practical) classes cycle are:**

- to develop in students:
- the ability to work with scientific literature;
- actively participate in discussions;
- formulate and defend their position;
- develop and deliver presentations on key topics.

## **Topic 1. Introduction to digital management: concepts, trends, implementation environment**

**Seminar 1. Key issues:** The concept of digital management, differences from traditional management. Key components of digital management. Digitalisation and changing manager roles. Artificial intelligence, data analytics, automation: impact on organisational management.

**IW:** Risks and challenges in the digital transformation process. What digital tools do you already use in your own learning or work? How do they change your management and self-management style?

**Literature:** Voitenko, 2020; Tredgold, 2023; Dovgan, 2017; Kerzner, 2017.

## **Topic 2. Agile methodology: principles, flexible thinking, adaptation tools**

**Seminar 2. Key questions:** Agile principles. Agile methodology. Waterfall approach. Extreme Programming approach. Working in Small Batches concept. Working according to the single piece flow principle. Minimum viable product (MVP). Behaviour-driven development (BDD).

Pair Programming.

**References:** Galushka, 2020; Kordunova, 2021; Ryabokon, 2019; Denning, 2018; Kerzner, 2017. Principles behind the Agile Manifesto.

## **Topic 3. Scrum as a project management framework**

**Seminar 3. Key questions:** Agile and Scrum: definitions and differences. Characteristics and roles. Scrum artefacts. Key stages in Scrum. Advantages of using Scrum.

**IW:** History of the Scrum concept.

**Literature:** Project Management. Laboratory Workshop, 2023; Schwaber, 2020; Kniberg, 2015.

## **Topic 4. Planning in Agile. Lean approach and Kanban systems in task management**

**Seminar 4. Key issues:** Lean management principles for organising an effective workflow. The difference between the Lean approach and classic process management. The Kanban system.

Kanban board and principles of operation. Rules for using Kanban. Mistakes when implementing Kanban in inexperienced teams. Comparison of Scrum and Kanban.

**IW:** Exercise: preparing a Kanban board. Case study: the team is overloaded with tasks, deadlines are being missed. How can Lean and Kanban principles be applied to resolve the situation? Exercise. Evaluating the effectiveness of flexible planning based on your own experience of teamwork (educational project, volunteering, work, etc.).

**Literature:** Voitenko, 2020; Project Management. Laboratory Workshop, 2023; Blyznyukova, 2020; Yakubenko, 2017; Khrapkin, 2023.

## **Topic 5. User Story, Product Backlog, and Sprint Planning in Agile and Scrum**

**Seminar 5. Key issues:** Concepts, goals, elements of User Story. Quality user story based on the INVEST principle. Epic as a large-scale requirement. Backlog Refinement. Sprint definition. Basic rules of daily work. Daily meeting in Scrum (Daily Stand-up / Daily Scrum).

**IW:** Using labels during backlog refinement. Exercise. Identifying impediments in projects.

**Literature:** Voitenko, 2020; Project Management. Laboratory Workshop, 2023; Blyznyukova, 2020; Yakubenko, 2017; Khrapkin, 2023.

## **Topic 6. Analysis of project activity effectiveness and corporate governance risk management within Agile and Scrum**

**Seminar 6. Key issues:** Scrum team metrics. Velocity assessment and limitations of this indicator. Burndown Chart and its interpretation. Retrospective: value and effectiveness. Risk management in a Scrum project. Risk management tools adapted to the Agile environment. The role of short iterations, Daily Scrum, and other artefacts in reducing risks.

**IW:** Exercise. Analysis of your own participation in a team project (educational or non-academic). What performance metrics would be useful? What risks were not taken into account? Exercise. Develop a table describing the risks in a team project: type, probability, impact, responsible person, response method. Exercise. Sprint Retrospective scenario after a problematic sprint. How to change the team's work?

**References:** Voitenko, 2020; Project Management. Laboratory Workshop, 2023; Khrapkin 2023; Denning, 2018; Yakubenko, 2017; Kerzner, 2017; Kniberg, 2015; Tredgold, 2023.

## **Topic 7. Public presentation of digital project results**

**Seminar 7. Key questions:** The purpose of a public presentation of digital project results. Elements of an effective project presentation (structure, data, visualisation). Typical visualisation mistakes. Presenting information depending on the target audience (management, team, client, community). Digital tools for preparing a public presentation. Techniques for overcoming fear of public speaking.

**IW:** Task. Prepare a comparative review of tools for creating digital project presentations (at least 2 services). Task. Review an example of a successful public presentation (video or slides) and determine

what was done well and what could be improved. Task. Create a mini-presentation (5–7 slides) about an educational or personal project using visual elements and data. Write a short script for a public speech explaining the value of your project's results to stakeholders.

**References:** Voitenko, 2020; Dovgan, 2017; Project Management. Laboratory Workshop, 2023.

### **Topic 8. Leadership in agile management: role, models, dynamics**

**Seminar 8. Key questions:** The concept of leadership, the managerial functions of a leader. Approaches to studying the phenomenon of leadership: the theory of personal qualities of a leader ("great people"); the behavioural approach; the situational approach. Features of leadership in flexible management methodologies (Agile, Scrum). The leader in a Scrum team and how they differ from a classic manager. Models of servant leadership and facilitative leadership according to Agile principles. Leadership throughout the project life cycle.

**IW:** Analytical tasks. Analyse the case: there is no clear leader in the Scrum team, and this leads to disorganisation. How should the Scrum Master act? Exercise. Develop a short profile of an Agile leader: what competencies, skills and personal traits are key? Exercise. Compare two approaches: "manager-supervisor" and "leader-mentor" — using the example of project work. Exercise. Write a manifesto or "Agile leader code" for your learning team. What should it include?

**References:** Schwaber, 2020; Blyznyukova, 2020; Tredgold, 2023; Denning, 2018; Kerzner, 2017.

### **Topic 9. Conflict management in a Scrum team**

**Seminar 9. Key questions:** Theoretical approaches to defining conflict. Causes of organisational conflicts, their classification. Stages of conflict development. Conflict resolution styles. General rules for conflict resolution. The role of mediators in conflict resolution. Conflict management in an organisation. Types of conflicts that most often arise in a Scrum team. Sources of conflicts related to roles (Scrum Master, Product Owner, team). Self-organisation and the nature of conflicts. The role of the Scrum Master in conflict resolution. Techniques and methods for resolving conflicts in an Agile environment (facilitation, active listening, retrospectives).

**IW:** When is conflict in a Scrum team constructive, and when is it destructive? How does transparency of processes affect conflict prevention? How can retrospectives be used as a tool for identifying and resolving tension within a team? Task. Describe three basic strategies for dealing with conflict (e.g., avoidance, compromise, cooperation) and evaluate their appropriateness in a Scrum team. Task. Compare conflicts in a hierarchical team and in a self-organised Scrum team: what are the fundamental differences? Task. Create a mini role-play scenario depicting a typical conflict in a Scrum team (task distribution, technical solution, deadlines) and describe ways to resolve it.

**Literature:** Dovgan, 2017; Project Management. Laboratory Workshop, 2023; Schwaber, 2020.

### **Topic 10. Managing Work Motivation**

**Seminar 10. Key questions:** The essence of motivation, the relationship between motivation and management. Substantive theories of motivation. Maslow's hierarchical theory of motivation. Alderfer's ERG theory. McClelland's achievement theory. Pink's self-determination theory. Herzberg's two-factor theory of motivation. Process theories of motivation. Vroom's expectancy theory. Adams' equity theory. Comprehensive theory of motivation (Porter-Lawler model). Methods for increasing employee motivation.

**IW:** Read up on research about motivation in IT teams or creative industries and write a short review. Research task. Create a questionnaire for a sociological survey on the topic "Motivation of an organisation's staff: problems and prospects" (up to 12 questions). The questionnaire questions should reveal the level of employee satisfaction with various working conditions and relationships within the team. Use sociological theories of motivation and various types of scales in sociology (nominal, rank, interval) to formulate questions.

**References:** Yaniyeva, 2022; Denning, 2018; Kerzner, 2017; Kniberg, 2015; Tredgold, 2023.

### **Topic 11. Work motivation in conditions of self-organisation and autonomy**

**Seminar 11. Key questions:** Motivation in conditions of autonomy. Employee motivation in the context of self-organised teams. Internal motivation (interest, engagement, meaning) in Agile teams. Risks of demotivation in flexible teams without strict control.

**IW:** How does autonomy at work differ from "freedom without responsibility"? What practices increase

motivation in autonomous teams? How can a Scrum Master or team lead maintain high motivation without directive control? How do emotional burnout, lack of recognition, or unclear roles affect motivation in a self-organised team? Explain what self-determination theory (Ryan and Deci) is and how it applies to autonomous teams. Compare approaches to motivation in a traditional and a self-organised team. Task. Analyse the case: the team works autonomously, but motivation is falling. What are the possible reasons and how can they be overcome? Create a map of factors that increase or decrease motivation in the absence of direct leadership. Propose strategies for increasing motivation for a team working in a remote or hybrid model. Task. Develop a motivational manifesto for a self-organised team with 5–7 key principles that ensure engagement, initiative and responsibility.

**References:** Yaniyeva, 2022; Denning, 2018; Kerzner, 2017; Kniberg, 2015; Tredgold, 2023.

## **Topic 12. Corporate culture and its development in Agile and Scrum**

**Seminar 12. Key issues:** Concepts, elements, and functions of organisational culture. Types of organisational cultures. Individualistic and collectivist cultures. Democratic and authoritarian cultures. Web culture or club culture. Temple culture. Target culture. Personality culture. Strong-weak, functional-dysfunctional, innovative-traditional culture. Managerial culture. The peculiarity of the corporate culture of agile organisations. Scrum and its impact on the style of team interaction. Behavioural patterns of Agile culture. Scrum Master in shaping team culture. Barriers to shaping Agile culture.

**IW:** Research task. Assess the organisational culture of the company or firm where you work or have previously worked using the typologies discussed in the topic. Describe which elements of organisational culture are present, how they influence employee behaviour, and what problems may arise due to existing cultural characteristics. Prepare a presentation (3-5 slides). Task. Create a values map for the Scrum team. How are these values manifested in daily work? Task. Write a team manifesto that reflects its culture, principles of interaction, leadership styles, and priorities. Role-playing game #1. Divide into groups of 3-5 people and assign each group the role of a department within a virtual company. Each department must develop its own set of corporate values and rules of conduct that will contribute to the effective work of their department. After that, discuss how different departments can interact based on the cultures they have created (up to 10 minutes). Role-playing game #2. Divide into groups of 3-5 people. Imagine a situation where you need to develop the "ideal" organisational culture for a start-up in a company of your choice. What values and norms of behaviour will promote innovation, productivity and a good atmosphere in your company (up to 10 minutes).

**References:** Schwaber, 2020; Berezenets, 2022; Yaniyeva, 2022; Denning, 2018; Kerzner, 2017.

## **Topic 13. Digital project management tools**

**Seminar 13. Key questions:** Digital project management tools and their key functions. Advantages of using digital tools compared to traditional project management methods? Overview of tools: Trello, Jira, Miro, etc. Visualising project progress using digital tools

**IW:** Review three popular digital project management platforms. Identify their strengths and weaknesses.

**Literature:** Online resources for self-study. Scrum Guides. Agile Alliance. Miro. Atlassian. Busuinessmap. Video lectures YouTube channel "Scrum Ukraine".

## **Topic 14. Final discussion: evaluating your own project experience**

**Seminar 14. Key questions:** Reflective and analytical tasks. Write a short reflective essay (1–2 pages) about your experience participating in the project. Focus on the lessons you have learned. Assess the team dynamics: what stages of development has your team gone through? Fill in the SWOT matrix for your project: strengths, weaknesses, opportunities, threats.

**IW:** Task. Prepare a mini-presentation (3–5 slides) with your conclusions about participating in the project, including examples and visualisations. Task. Create a roadmap for your own professional development, taking into account the skills and challenges you encountered in the project.

**Literature:** Voitenko, 2020; Dovgan, 2017; Project Management. Laboratory Workshop, 2023.

## **Seminar 15. Modular control work**

## 6. Independent work by students

Independent work includes:

- preparation for classroom sessions – 56 hours;
  - preparation for the Modular control work– 4 hours;
  - preparation for the exam – 30 hours.
- Total – 90 hours.

### Forms of independent work include:

- Familiarisation with literature (scientific, methodological and case studies)
- Analysis of video lectures and online materials (Scrum.org, Agile Alliance)
- Preparation for seminars (reading articles, completing mini-tasks)
- Teamwork on a digital project
- Preparation for Modular control work
- Development and defence of an individual project

**The Modular control work is performed in the form of an individual assignment (chosen by the teacher or the student):**

The student completes one of the following individual assignments, which allows them to apply the knowledge they have gained in practice:

#### Option 1. Analytical essay (8–10 pages)

##### Topic (to be chosen):

- Implementation of Scrum in public administration: challenges and prospects
- Agile in the legal sphere: the example of LegalTech
- Interdisciplinary team in social data analytics: how Scrum works
- Comparative analysis: Scrum vs. Waterfall in government IT projects

#### Option 2. Development of interactive training material (for other students)

- Microvideo (up to 5 minutes) about a Scrum element (Daily, Sprint, Retrospective)
- Creation of a Miro board for a training workshop
- Preparation of exercises or cards for a team-facilitated session

## Policy and control

### 7. Academic discipline policy (educational component)

#### Class attendance

Attendance at lectures is not mandatory but recommended due to the importance of lively discussion, case studies and team interaction. Seminars are practical in nature, and students are encouraged to attend in order to fully complete the assignments.

#### Recognition of informal education

Students have the right to submit the following for consideration by the instructor:

- certificates of completion of online courses (e.g., Scrum Fundamentals Certified, Atlassian course, Coursera, edX);
- documented practical experience of participation in projects (certificates, open portfolio, etc.).

If the teacher approves, the results can be **counted as part of independent work or an individual assignment**.

### **Policy on missed classes**

There are no penalty points for missed classes. Missed assignments can be made up within a timeframe agreed upon with the teacher. It is important to ensure high-quality completion of assignments, regardless of the format of participation.

### **University policy**

#### **Academic integrity**

The policy and principles of academic integrity are defined in Section 3 of the Code of Honour of the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute". For more information, please visit: <https://kpi.ua/code>. (other necessary information regarding academic integrity).

The completion of all individual and team tasks must be based on the following principles:

- independence in work;
- compliance with citation rules;
- no plagiarism;
- prohibition of impersonation when submitting work or undergoing assessment;
- open and honest presentation of results.

Violations of academic integrity will result in the cancellation of the relevant type of work.

#### **Standards of ethical behaviour**

The standards of ethical conduct for students and employees are set out in Section 2 of the Code of Honour of the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute". For more details, see: <https://kpi.ua/code>.

#### **Artificial intelligence policy**

The policy on the use of artificial intelligence and its principles are regulated by the order "Policy on the use of artificial intelligence for academic activities at Igor Sikorsky Kyiv Polytechnic Institute". For more information: <https://osvita.kpi.ua/node/1225>.

## **7. Types of control and rating system for assessing learning outcomes (RSO)**

**Ongoing assessment:** quizzes on the topic of the lesson, completion of assignments

**Calendar control:** conducted twice per semester as monitoring of the current status of syllabus requirements.

**Semester assessment:** exam.

### **The student's rating consists of points awarded for:**

1. Work in seminars
2. Modular control work
3. Exam

### **Calculation of weighted points**

The RSO for an academic discipline consists of the sum of the student's points for all completed control measures during the semester ( $R_D$ ).

#### **1. Answers in seminars.**

Weighting points – points for answering most questions or completing tasks. The maximum number of points for all practical classes is  $r_{sem} = 3 \text{ points} * 14 = 42 \text{ points}$ .

3 points – the student receives for answering most of the questions or completing the tasks of the seminar. An answer is considered complete if the student demonstrates a deep knowledge of the material, presents it logically and consistently, gives reasoned conclusions, freely uses specific data, provides mostly

complete and reasoned answers, expresses their own position on controversial issues, and demonstrates signs of theoretical thinking and sociological imagination.

2 points – the student participates in the discussion of individual issues of the seminar plan, demonstrates a good level of knowledge of the material.

1 point – the student participates in the discussion of one issue on the seminar plan or demonstrates rather superficial knowledge, does not express their own position on the issues.

## **2. Modular control work – 8 points** (essay/project/presentation/educational resource).

Assessment is based on the following criteria:

"excellent" – 7-8 points – the student formulates accurate definitions, provides theoretically sound arguments on the issue, and demonstrates their own reasoned position;

"good" – 5–6 points – the essence of the issue is reflected, but there are inaccuracies in the answer;

"satisfactory" – 3-4 points – incomplete answer, significant errors present;

"unsatisfactory" – less than 3 points – no answer or incorrect answer.

## **3. Exam – 50 points.**

The exam involves oral or written answers to 4 questions, the list of which is given in Appendix 2. The interview lasts from 3 to 5 minutes. The lecturer may ask any questions from the list if the final score and assessment are subject to discussion with the student. Preparation for the exam after receiving the questions – at least 20 minutes (Appendix 1).

Assessment criteria:

40-50 points – the student answers almost all exam questions, demonstrates a deep knowledge of the material, presents it logically and consistently, gives reasoned conclusions, freely uses specific data, expresses their own position on controversial issues, and demonstrates signs of theoretical thinking and sociological imagination.

29-39 points – the student answers most of the exam questions, demonstrates a good level of knowledge of the material.

Less than 29 points – the student answers only some of the exam questions, does not have their own position, and makes significant inaccuracies.

## **4. Bonus points**

Writing abstracts for a conference – 5 points.

Writing and publishing an article on a topic studied within the framework of the academic discipline in a professional journal of at least category B – 10 points.

Participation in the second round of the All-Ukrainian Olympiad – 10 points.

Active participation in lectures: participation in discussions on problematic issues – 1-2 points.

## **Conditions for a positive interim assessment:**

To receive a "pass" on the first interim assessment, a student must have at least 12 points; to receive a "pass" on the second interim assessment, a student must have at least 24 points.

## **Conditions for admission to the exam:**

The condition for admission of a master's student to the exam is to receive a preliminary rating of at least 24 points.

## **Procedure for appealing the results of assessment measures**

A master's student may appeal a teacher's assessment by submitting a complaint to the teacher no later than the day after the master's student has been informed of the assessment given by the teacher. The complaint will be considered in accordance with the procedures established by the university.

**Table of correspondence between rating points and grades on the university scale:**

Rating Applicant (points)	University scale of grades for the level of acquired competencies (learning outcomes)
100-95	Excellent
94	Very good
84	Good
74-65	Satisfactory
64-60	Sufficient
Less than 60	Unsatisfactory

**Possible marks in the semester control report:**

Not admitted	Failure to meet the conditions for admission to semester control
Removed	Violation of the principles of academic integrity or moral and ethical standards of conduct
Did not appear	Applicant was admitted but did not appear for the exam

### **Review of the rating system of assessment during the semester**

The RSA may be reviewed upon a reasoned request from the applicant studying the OK, the student self-government body or the student trade union committee, submitted to the head of the supporting department. The review procedure is defined in Section 7 of the Regulations on the system of assessment of learning outcomes at Igor Sikorsky KPI

[https://osvita.kpi.ua/sites/default/files/downloads/Pologennia\\_RSO\\_2025.pdf](https://osvita.kpi.ua/sites/default/files/downloads/Pologennia_RSO_2025.pdf)

## **8. Additional information on the discipline (educational component)**

### **Distance learning**

Synchronous distance learning is possible using video conferencing platforms and the university's educational platform for distance learning.

### **Inclusive learning**

Permitted

## **Appendix 1.**

### **List of exam questions**

1. Define digital management. How does it differ from traditional management?
2. How does digitalisation change the functions of a manager? Give examples.
3. Describe the basic principles of the Agile methodology. What is flexible thinking?
4. Compare the Agile and Waterfall approaches to project management.
5. What is Scrum? Name its key roles, artefacts and stages.
6. What are the advantages of using Scrum in project activities?
7. What is the essence of the Lean approach? What are its principles and how is it applied in management?
8. What is the Kanban system? Name its basic elements and rules.
9. Compare Scrum and Kanban as approaches to task management.
10. Explain the concept of User Story and the principles of INVEST.
11. What is a sprint and how is sprint planning carried out?
12. What role does the Daily Scrum play in a team?
13. What Scrum team performance metrics do you know? What are Velocity and Burndown Chart?

14. What is the value of Sprint Retrospective for a team?
15. Describe the main approaches to risk management in a Scrum project.
16. What types of leadership work best in agile teams (e.g., servant leadership)?
17. What is the difference between a classic manager and a Scrum team leader?
18. How does leadership change throughout the project lifecycle?
19. What types of conflicts arise in Scrum teams and how can they be managed?
20. What techniques and approaches to conflict resolution are used in an Agile environment?
21. What is work motivation? Explain the content theories of motivation (Maslow, Herzberg, McClelland).
22. How does Deci and Ryan's self-determination theory work? Its role in a highly autonomous team.
23. What factors promote or hinder motivation in self-organised teams?
24. What is corporate culture? What are its types and characteristics in flexible organisations?
25. How does Scrum influence the formation of team culture?
26. Name the advantages of using digital project management tools (Trello, Jira, Miro, etc.).
27. What elements should an effective public presentation of a digital project contain?
28. How can the presentation of results be changed depending on the target audience?
29. How do you evaluate your own project experience using SWOT analysis?
30. What stages of development does a team go through? Explain the Tuckman model (forming – storming – norming – performing).
31. What is a professional development roadmap and how does it help plan for the future?

### **Work programme for the academic discipline (syllabus):**

**Compiled by** Maksym Naimovich Yenin

**Approved by** the Department of Sociology (Minutes No. 14 of 23.06.2025)

**Approved by** the Methodological Commission of the Faculty (Minutes No. 4 of 24 June 2025)