

## (SYLABUS)

**Name of the department / clinic providing the course:**

Department of Biomedicine and Genetics

**Course title:** Międzynarodowa Szkoła Doktorska

**Course profile:** academic

**Speciality:**

**Level of course unit:** Doctoral School

**Course unit title:** Risk Management in Research and Development Projects

**Course unit code:** 10012866/13/60/126/222/2/2024

**Course aims:**

One important feature of preparing or managing a project is identifying risks and executing actions to reduce the putative losses. We should analyze the risks that may inhibit or slow down our projects throughout the project. Constant monitoring of the risks may enable mitigation of the majority of them.

The objective of the course is to learn to identify risks, prepare risk assessments, and perform risk monitoring; learn to use the SWOT method to look for putative risks and as a tool to identify competitors in R&D projects.

Detailed course objectives:

1. Identification of objectives of risk analysis in R&D project management. Provide the overview of the types of risks in scientific and development projects.
2. Tools and methods for identifying potential risks that may affect a project, both internal (e.g. technical) and external (e.g. regulatory). Use of SWOT technique. Assessment of the likelihood of a risk and its potential impact on the project vs project milestones.
3. Strategies for mitigating, avoiding, accepting, and transferring risks; developing risk response plans (particularly for the project documentation); tools for tracking risks, monitoring their change over time; and analyzing the effectiveness of preventive and corrective actions.

**Form of study:** Stacjonarne

**Year of study:** 1

**Types of educational activities and number of hours allocated:**

Subject	Language course	Self-study	Lecture	Exercises	Laboratory	Seminar	Practical	e-learning	Profession practice	Other (what?)	ECTS points
		5				5					1

## Number of ECTS credits allocated and their structure according to students' from of learning:

Number of ECTS credits (1 point)

The workload of a Ph.D. student to achieve the assumed educational results is approx. 10 hours, including 5 contact hours (0.5 ECTS points) requiring the direct participation in workshops led by an academic teacher and 5 hours not requiring the direct involvement of the teacher (0.5 ECTS points). The range of hours depends on the level of knowledge of the Ph.D. student at the time of commencement of studies, the abilities of the Ph.D. student, and the time devoted to individual and group work needed to complete the course, i.e., collecting and selecting appropriate materials, studying teaching materials, and the time required to prepare a multimedia presentation and an oral presentation.

## Names of course unit's faculty:

Karolina H. Czarnecka-Chrebelska, Ph.D., D.Sc.

## Prerequisites:

Basic information on project planning, project scheduling, and group work.

Computer skills and knowledge of basic graphic editors and computer programs to prepare the SWOT analysis and Risk Mitigation plan (e.g., Microsoft PowerPoint, Microsoft Office).

## Learning activities and teaching methods:

- Verbal presentation
- Multimedia presentation
- Discussion
- Discussion and analysis of exemplary presentations

## Course unit content:

Introduction to risk analysis, definitions of risk types in research and development projects.

1. Identification of objectives and benefits of risk analysis in R&D project management.
2. Assessment of the likelihood of a risk and its potential impact on the project vs project milestones.
3. Overview of the essential criteria and types of risks in scientific and development projects.

- Technical risk
- Financial risk
- Regulatory and legal risks
- Organizational risks related to people and resources

- Market-related and commercialization risk.
4. Identification of objectives and benefits of risk analysis in R&D project management.
- Tools and methods for qualitative and quantitative analysis risk assessment, identification of internal (e.g., technical) and external (e.g., regulatory) potential risks that may affect a project. Use of SWOT technique.
  - Strategies for mitigating, avoiding, accepting, and transferring risks; developing risk response plans (particularly for the project documentation); tools for tracking risks, monitoring their change over time; and analyzing the effectiveness of preventive and corrective actions.

## **Course objectives:**

### **Knowledge:**

#### **Knowledge:**

After completing the course: " Risk Management in Research and Development Projects", the Ph.D. student should acquire knowledge about:

- essential criteria and types of risk that presentation;
- recognizing the risk in the planned and ongoing project
- principles of planning and preparing the risk assessment plan
- developing risk management strategies, including mitigation, avoidance and monitoring of risks during the project.
- the importance of risk to the success of commercialization of research results and market implementation

### **Skills:**

#### **Skills:**

After completing the course: "Risk Management in Research and Development Projects", the Ph.D. student should acquire the following skills:

- searching and selecting information to perform risk analysis
- to identify and assess the risks associated with implementing scientific and R&D projects, whether technical, financial, or regulatory.
- will gain the ability to develop risk management strategies, including mitigation, avoidance, and monitoring of risks during the project.
- choosing the method for analysis of the risk.

## **Attitudes and transferrable (generic) competencies:**

### **Social competences:**

After completing the course: "Risk Management in Research and Development Projects" the Ph.D. student should acquire the following social competencies:

- can educate other people
- knows how to cooperate in a group
- raises its professional qualifications through lifelong learning

## **Required and recommended learning resources (readings):**

### **Required:**

Jolanta Walas-Trębacz & Katarzyna Bartusik. Identification of risk types in innovation projects. International Journal of Contemporary Management • 59(4) • 2023 • 74-93 10.2478/ijcm-2023-0013

Crispin George. The Essence of Risk Identification in Project Risk Management: An Overview. International Journal of Science and Research (IJSR) 2018 ISSN: 2319-7064

### **Recommended:**

## **Assessment methods and criteria:**

**KNOWLEDGE:** Attendance, participation in teamwork and discussion, and implementation of tasks during classes are the basis for passing the seminar.

**SKILLS** Assessment of practical activities such as:

- activity at the seminar
- carrying out tasks during classes
- working in a task force - ability to complete a task in a group,

## **Rules for making up absences from classes:**

Preparation of the short presentation on the risk assessment in the ongoing projects in which the PhD candidate is involved.

## **Additional information:**

Contact to the course leader: Karolina H. Czarnecka-Chrebelska Ph.D., D.Sc. :  
karolina.czarnecka@umed.lodz.pl

The class will be held in MolEcoLab (Mazowiecka 5, A-6 building) on February 25th from 16:15 to 20:00 and February 27th from 12:15 to 16:00.

## **Statement and signature of the course leader:**

I hereby state that the content of the curriculum included in the syllabus below is the result of my individual work completed as part of work contract/cooperation resulting from a civil law contract, and that author rights to this title are not the property of a third party.

**Dean's signature:**

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