



Национальный исследовательский университет «Высшая школа экономики»  
Программа дисциплины «**Методология научных исследований в сфере менеджмента науки, технологий и инноваций**» для направления 38.04.02 «Менеджмент» и «Управление в сфере науки, технологии и инноваций», подготовки магистра

**Федеральное государственное автономное образовательное учреждение  
высшего образования  
"Национальный исследовательский университет  
"Высшая школа экономики"**

Институт статистических исследований и экономики знаний

**Рабочая программа дисциплины  
«Методология научных исследований в сфере менеджмента науки, технологий и инноваций»**

для направления 38.04.02 «Менеджмент» подготовки магистра

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«Управление в сфере науки, технологий и инноваций»

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Академический руководитель образовательной программы

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*Настоящая программа не может быть использована другими подразделениями университета и другими вузами без разрешения подразделения-разработчика программы*

## INTRODUCTION TO METHODOLOGIES OF RESEARCH WORK

### 1. Introductory note

**Program authors:** Thomas Thurner and Konstantin Fursov

**Course director:** Konstantin Fursov

#### **General Description of the Program:**

The course is delivered to master students of the National Research University Higher School of Economics (HSE). It is delivered in one module. The course length is 114 academic hours in total of which 32 hours are class room hours for lectures and 82 hours are devoted to self-study.

Academic control forms are essay implemented in a form of research proposal, colloquium and an oral exam. The course contains six sections, which are mutually exclusive but collectively exhaustive to cover the subject.

#### **Pre-requisites:**

- Basic knowledge of the scientific production process
- Interest in research activities

#### **Course Objective**

The course spans one academic module. The teaching is based on selected writings and experiences of faculty members to provide students with the set of knowledge and skills: of using different sources of information and tools for developing original research design.

**Course language:** English

#### **Abstract**

The course addresses the design, preparation and implementation of research projects. The central learning objective is to equip students with the necessary skill-set to independently pursue and plan academic research. To do so, the research activities will be broken down into individual steps and discussed in detail. The course presents an iterative process, by which students will familiarize themselves with the core research processes and their coherent integration in the light of existing academic traditions, research designs and methodologies. It includes the understanding of philosophical assumptions of both qualitative and quantitative research methods. Students will learn to critically reflect on the implications that these assumptions have for the research objective, data collection, analysis, writing, and subsequent dissemination strategies.

#### **Training Objectives:**

- Provide students with basic knowledge on preparation and implementation of research projects in STI.
- Develop basic skill-set to independently pursue and plan academic research to be further developed at Research seminars running in parallel with the course.

**Target audience:** Master students

**Competencies:**

- Understanding research terminology
- Understanding the difference between quantitative, qualitative, and mixed methods and which research questions can be answered by using them
- Ability to use theory and previous research to create research questions and hypotheses
- Skills to identify and apply concepts of variables, operationalization, causality and indicators relevant for answering selected research question
- Ability to independently develop a coherent research proposal

**2. Thematic Plan**

a) Lectures

Topic	Total	Lectures	Self-study
Research theories	16	4	12
Project design: developing question(s) & overall research approach	18	4	14
Literature work: searching strategies and review	16	4	12
Quantitative research methods	24	8	16
Qualitative research methods	24	8	16
Scientific presentation techniques	16	4	12
<b>Total</b>	<b>114</b>	<b>32</b>	<b>82</b>

b) Seminars

Seminars consist of short practical sessions, group discussions and group work (colloquiums) that will provide students indispensable skills for developing main parts of their further research.

**3. Time Plan**

The course covers two modules, starting in early October and lasting until the end of December.

**4. Basic Literature**

Betz, F. (2011). Managing science. Springer.

Goldbort, R. (2006). Writing for science. Yale university press.

Leburn, J. (2007). Scientific writing: a reader and writer's guide. World Scientific Publishing: London.

Thomas, G. (2013). How to do your research project: A guide for students in education and applied social sciences. Sage: London.

Williams, M. (2000). Science and social science. London, New York: Routledge.

## 5. Education Control Forms

Final exam (EX): oral exam.

Colloquium (C): Short presentations, group work.

Essay (ES): A piece of written work implemented in a format of a research proposal in line with the provided guidelines and answering the following criteria:

- 1) Aims and objectives – research question, aims and objectives are concisely elaborated. Significance emerges logically from construction of argument and clearly articulated.
- 2) Background and literature review – creative and organised literature review that outlines the background and context for the research project.
- 3) Methodology – creative and appropriate methodology is clearly articulated and justified.
- 4) Presentation – proposal is logical in its construction with minimal spelling, punctuation or grammatical errors. In-text and reference list consistently adhere to a single Author-date system throughout.

The overall course grade is calculated by formula:  $G = 0.6 ES + 0.2 C + 0.2 EX$ .

The overall course grade  $G$  (10-point scale) includes results achieved by students in their colloquium participation ( $C$ ), an essay ( $ES$ ) and an exam ( $EX$ ), it is rounded up to an integer number of points.

### Summary Table: Correspondence of ten-point to five-point system's marks

Ten-point scale [10]
10 – brilliant 9 – excellent 8 – nearly excellent
7 – very good 6 – good
5 – quite satisfactory 4 – satisfactory
3 – bad 2 – very bad 1 – unsatisfactory

## 6. Programme Contents

### 1. *Research theories*

Topic outline:

- Positivism
- Realism
- Constructivism
- Holistic methods

Main references/books/reading:

- Irwin, A., Michael, M. (2003) Science, Social Theory and Public Knowledge, McGraw-Hill, Philadelphia.
- Thomas, G. (2013). How to do your research project: A guide for students in education and applied social sciences. Sage, London.
- Williams, M. (2000). Science and social science. London, New York, Routledge.

2. *Project design: developing question(s) & overall research approach*

Topic outline:

- Who am I, and if yes, how many?
- What are possible results?
- Where do I start?
- And why is all of that so tricky?
- Structuring research work
- Developing research question and hypothesis

Main references/books/reading:

- Leburn, J. (2007). Scientific writing: a reader and writer's guide, World Scientific Publishing, London.
- Holmes, F. L. (1987). Scientific writing and scientific discovery. Isis: 220-235.
- Thomas, G. (2013). How to do your research project: A guide for students in education and applied social sciences. Sage, London.

3. *Literature work: searching strategies and review*

Topic outline:

- Structured vs. unstructured search strategies
- Databases and scientific search engines
- The white, the black, and the gray literature
- Structuring scientific papers
- Requirements to scientific papers

Main references/books/reading:

- Goldbort, R. (2006). Writing for science. Yale university press.
- Leburn, J. (2007). Scientific writing: a reader and writer's guide. World Scientific Publishing: London.

4. *Quantitative research methods*

Topic outline:

- Statistical analysis...
- ...and what it cannot do

Main references/books/reading:

- Thomas, G. (2013). How to do your research project: A guide for students in education and applied social sciences. Sage: London.
- Williams, M. (2000). Science and social science. London, New York: Routledge.

5. *Qualitative research methods*Topic outline:

- Interviews, case studies and ethnography...
- ...and what it can do

Main references/books/reading:

- Gillham, B. (2010). Case Study Research Methods, Bloomsbury Academic.
- Thomas, G. (2013). How to do your research project: A guide for students in education and applied social sciences. Sage: London.
- Williams, M. (2000). Science and social science. London, New York: Routledge.

6. *Scientific presentation techniques*Topic outline:

- Structuring presentations
- Presentation styles
- Delivering messages
- Question & answer sessions

Main references/books/reading:

- No reading required