HIGHER SCHOOL OF ECONOMICS
NATIONAL RESEARCH UNIVERSITY

ИСИЭЗ
ISSEK
Institute for Statistical Studies
and Economics of Knowledge

Master's Programme

GOVERNANCE OF SCIENCE, TECHNOLOGY AND INNOVATION

Study Guide 2019–2020

ANALYSE ANTICIPATE INNOVATE

Introduction

Welcome

Prof. Leonid Gokhberg

First Vice-Rector of National Research University Higher School of Economics (HSE), Director of HSE Institute for Statistical Studies and Economics of Knowledge (HSE ISSEK), Editor-in-chief of the scientific journal *Foresight and STI Governance*

"It's my sincere pleasure to welcome talented students to study science, technology and innovation from a broad perspective in the Master's Programme "Governance of Science, Technology, and Innovation" at the Higher School of Economics, one of Russia's leading research universities. Students' courage and enthusiasm to take on the challenge of studying in such a new field is highly appreciated. This handbook informs interested readers about the main features of the Master's Programme."

Dr. Dirk Meissner

PhD, Professor, Deputy Head of Laboratory for Economics of Innovation, HSE ISSEK, Academic Director of the Master's Programme

"Analyse, Anticipate and Innovate – these words express what we want to achieve with our programme. We offer you a unique Master's Programme which combines theoretical education, practical experience, and international and Russian academic and industrial expertise and knowledge. The personal qualities and intellectual potential of our students will be enriched and developed, so that they can go on to apply their policy and management skills in science, technology, and innovation in their future careers with companies, organisations and government bodies. We hope that the information that follows interests and inspires you and we welcome you to HSE."

Welcome to the Master's Programme – ISSEK Department of Educational Programmes assists you in all administrative and organisational issues on your way to success!

Dzhamilya Abuzyarova

Coordinator of the Master's Programme

About the Programme

Our Mission

The unique combination of studying Technology and Innovation Management for professionals affiliated with companies and STI policy for policy making professionals pro vides students with an exceptionally broad understanding of science, technology and innovation coupled with a dedicated and targeted specialised education in either field.

Our Ambition

Graduates are trained to detect challenges and problems, generate ideas and develop solutions for companies and policy. The programme's aims are to train students to become highly skilled professional coordinators and managers of STI at policy and company levels, ready to initiate and implement innovative activities in the public and private sectors.

Our Goals

The programme brings together the views and knowledge of science, technology and innovation management and policy perspectives on science, technology and innovation. It has several highly ambitious goals:

To enrich students' professional skills:

- Delivering state of the art theoretical knowledge.
- Training practical skills through the analysis of real cases.
- Broadening horizons beyond science, technology or innovation towards an integrated understanding.
- Training problem solving skills and project management abilities.

To provide a proper educational infrastructure:

- Working with up-to-date international approaches and experiences.
- Combining theoretical education and practical experience.
- Enriching students' personal characteristics.
- Increasing students' intellectual potential for the innovative development of organisations and policy.

Competences and Skills

The interdisciplinary and international nature of the programme gives students a unique opportunity to work in multiple environments.

The programme enables students' systematic thinking and their ability to develop creative solutions. The international and interdisciplinary composition of students and teachers allows graduates to reflect on STI from many different perspectives.

The curriculum is designed to equip students with knowledge and competences which are in demand globally. From the programme, students receive competences in:

- cross disciplinary and interdisciplinary thinking;
- a strong understanding of the nature of science, technology and innovation;
- competences for theoretical and applied research;
- knowledge of history, conditions and tendencies for STI development.

Students may choose to specialise in one of the two dedicated fields to acquire additional targeted competences in STI policy or STI management.

a) Competences in Technology & Innovation Management:

- organisational and managerial skills for STI in public authorities, private and public institutions and funding agencies;
- skills for selecting and evaluating entrepreneurial ideas, personnel management, team-building, design and presentation of innovative projects;
- knowledge of marketing innovation and business model innovation;
- intellectual property and legal aspects of STI.

b) Competences in STI policy:

- understanding of the role of STI in economic growth and how different social, economic and spatial contexts influence processes of innovation and entrepreneurship;
- global perspectives and perceptions of science, technology and innovation and the ability to make respective assessments taking into account relevant scientific, social and ethical aspects;
- knowledge of international STI cooperations and the related frameworks;
- knowledge of contemporary theories of STI;
- skills for evidence-based policy making.

Curriculum

Academic calendar

A Module is a time unit of the academic year at HSE. The academic year is split into 4 modules. The dates of modules are set by HSE every year. Examinations are taken at the end of each module according to the HSE general academic calendar schedule.

2019

1st module	16 September – 03 November	7 weeks (including the exam period)
2nd module	05 November – 22 December	7 weeks (including the exam period)

2020

Winter holidays	23 December – 08 January	2 weeks
3rd module	09 January – 05 April	12 weeks (including the exam period)
4th module	06 April – 30 June	12 weeks* (including the exam period)
Spring holidays*	01 May – 10 May	1 week
Summer holidays	01 July – 31 August	9 weeks
Total:		38 academic weeks

** Spring holidays are not included in the number of weeks in module 4.*

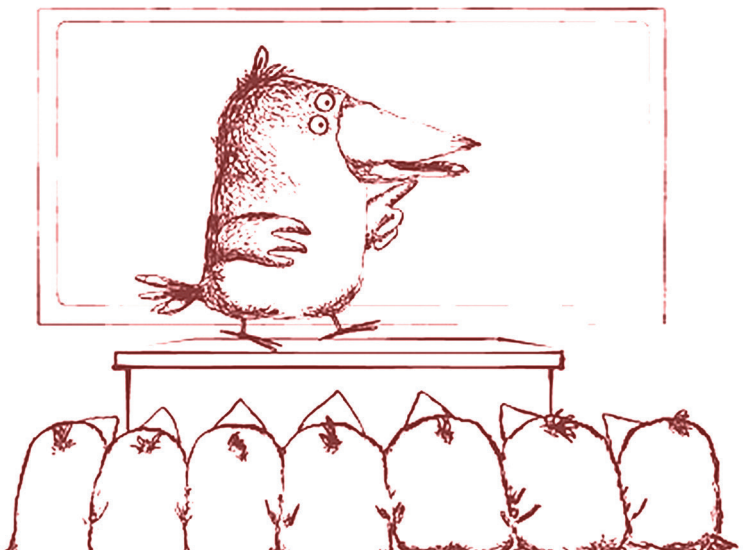
Courses

All courses involve theroretical and interactive lectures or seminars. As a general rule, lectures and seminars count equally for the final course grade. Typically lectures are concluded with examinations, interactive lectures and seminars involve essays or project work and the assessment of essay or project work.

Core courses

Core courses are preparatory in nature and help to set the ground for further specialisation. Core courses include lectures, seminars and self study. During lectures assignments are given to students. Seminars are topic specific; each student writes essays on a chosen topic and gives a presentation or engages in targeted project work.

- Economics of Innovation
- Foresight
- Innovation Strategies
- Measurement of STI
- Scientific Research Methods for STI
- STI Policy
- Innovation Project Management and Competitive Intelligence



Elective courses

Elective courses are courses for specialised education in STI management or STI policy that deepen the knowledge gained from the core courses. Elective courses are given at classrooms, and students have to choose at least 3 elective courses which must be completed to meet the final degree requirements.

- Business Model Innovation
- Corporate Entrepreneurship
- Corporate Foresight
- Managing Creativity and Innovation
- Entrepreneurship & Digital Information Management
- Finance for Innovation
- IP Management
- Marketing Innovation
- Regional STI Policy
- Strategic R&D Partnerships
- Technology Assessment
- The Future of Energy
- User Innovation

University elective component (course)

- University Pool Discipline*
  (Any elective course in English language
  from the HSE university wide pool of electives)

** The course History of Technological Development in Society is offered by our Master's Programme.*

Massive Open Online Courses (MOOCs)

MOOCs are blended online courses followed by classroom examination. Students have to choose two MOOC from the list recommended by the programme, one for each year.

1st year

- Econometrics: Methods and Applications
- Marketing analytics
- Social Media Data Analytics
- Combining and Analyzing Complex Data
- Questionnaire Design for Social Surveys
- Writing in the Sciences
- Understanding Research Methods
- Innovation Management
- Design Thinking for Innovation
- Crafting Strategies for Innovation Initiatives for Corporate Entrepreneurs

2nd year

- The Impact of Technology
- Innovation for Entrepreneurs: from Idea to Marketplace
- Leading innovation in Arts and Culture
- Strategic Innovation Toolkit for Managers
- Innovation Strategy: Developing Your Fintech strategy
- Patenting in Biotechnology
- Digital Transformation
- Digital Product Management: Modern Fundamentals
- Innovating in a Digital World
- Innovation & Entrepreneurship – From Basics to Open Innovation

Academic, project and practical work

Term paper

Mandatory term paper deepens students' competences in analysing and structuring given problems, and develops capabilities in structured writing, oral presentation, and creative thinking. Term paper concludes with an oral defence (assessment) of the written piece of work. Admission to defence requires that the written piece of work is given a 'pass' grade at the minimum. Student's term paper is supervised by one faculty member, while the term paper remains the individual work carried out by students.

Research seminar

Research Seminars combine traditional educational activities and students' self- initiated and conducted work on selected problems. The seminars mainly serve as a platform for discussion of scientific works. The aim is to give students early stage guidance for the publication and presentation of their research in light of future Term Paper in first year and Master's Thesis in second year.

Master thesis

The thesis is prepared during the final 2 modules of the second year (modules 3 and 4). By writing the thesis students show their ability to independently produce a coherent and scientific piece of work. To qualify for admission to the thesis students have to prove that credits from core courses, elective courses, research seminar and internship have successfully been obtained. The thesis involves the written thesis and defence. Written thesis and defence are graded separately.

Project

During the second year students develop, submit and defend an innovation project plan, including competitive and market analysis, financial and resource planning or an equivalent business plan. The project or business plan is presented to a jury involving professors and practitioners.

Project seminar

The project seminar equips students with practical skills for planning innovation projects and business ideas to support the development of innovation project plans they work on during the study year 2. Throughout the preparation of the projects, experienced professors and practitioners continuously supervise the project teams.

Internship

During the second year students take internship positions. Internships involve dedicated projects which the students undertake while employed as an intern in a company, public organisation, research institute or university. It is the students' sole responsibility to agree the internship project with the hosting organisation in advance of the internship. The internship project proposal is approved by the programme internship council. After the internship the students prepare an internship report which is again subject to approval by the internship council.

Performance assessment and quality assurance

Performance assessment

The degree programme follows a credit system which is aligned with the European Credit Transfer System (ECTS). The workload is designed that full-time students may obtain an average of 60 credits per year. This workload comprises all of the study-related activities required to obtain credits. 1 credit allocated equals 38 academic hours of work including classroom work and self study.

Performance is considered on a 10 point scale with 1 – fail, 2 – fail, 3 – fail, 4 – satisfactory, 5 – satisfactory, 6 – good, 7 – good, 8 – very good, 9 – very good, 10 – excellent.

Credits are issued for satisfactory performance. Performance is considered satisfactory if it has been awarded a grade of at least a 4. No credits are issued for failed performance.

Quality Assurance

To assure all activities in the programme meet high quality standards, a continuous evaluation procedure is applied. Courses are typically assessed twice by students and once by a peer reviewer from one of the programme faculty and / or the Academic Council.

The courses are delivered in modules, some courses span 1 module, some span 2 modules.

1st Year

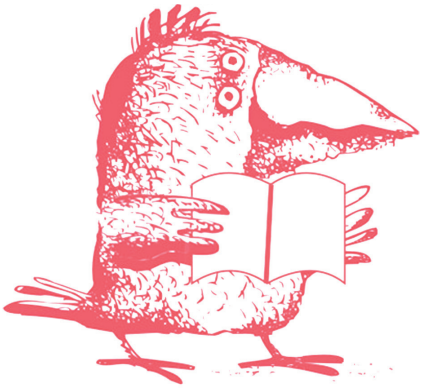
1st module	***Core courses*** ↗ Scientific Research Methods For STI ↗ Innovation Strategies ↗ Economics Of Innovation
2nd module	***Core courses*** ↗ Innovation Project Management and Competitive Intelligence ↗ Economics Of Innovation
3rd module	***Research Seminar*** ***Core courses*** ↗ STI Policy ↗ Measurement of STI ***Elective courses*** ↗ University Pool Discipline (MAGOLEGO)* ***Term Paper***
4th module	***Core courses*** ↗ Foresight ***Elective courses*** ↗ Business Model Innovation ↗ Corporate Entrepreneurship ↗ Finance For Innovation ↗ Regional STI Policy ***MOOC Exam***

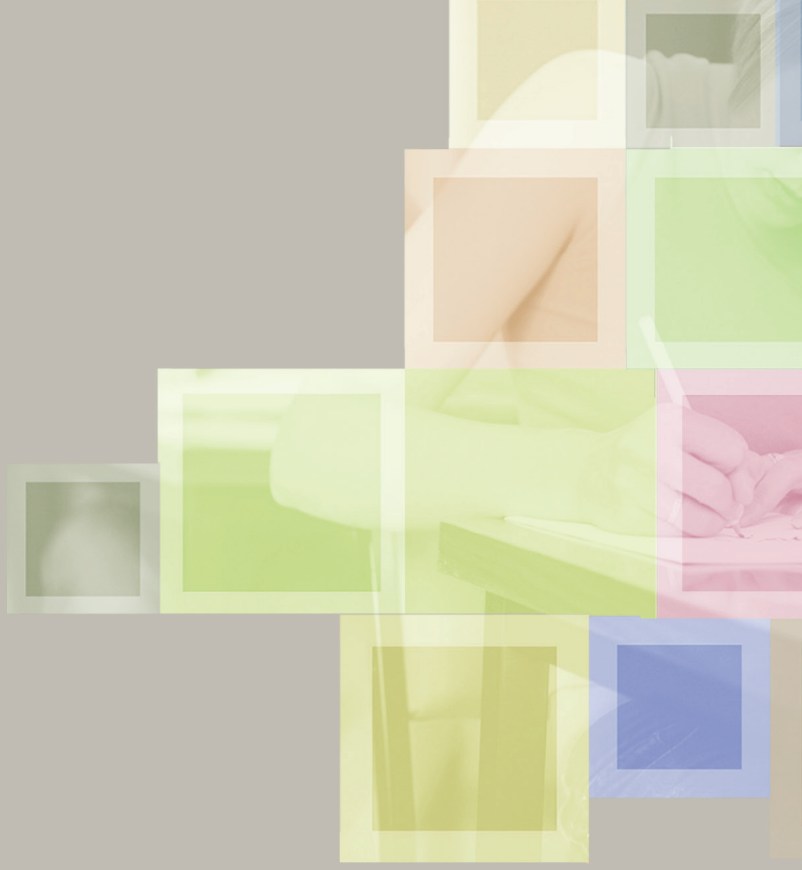
**Can be also taken in module 4 or span 3 and 4 modules according to the chosen University Pool Discipline programme*

2nd Year

1st module	***Research Seminar*** ***Project Seminar*** ***Project*** ***Elective courses*** ↗ Technology Assessment ↗ Intellectual Property Management ↗ Strategic R&D Partnerships ↗ Entrepreneurship & Digital Information Management ↗ The Future of Energy
2nd module	***Research Seminar*** ***Project Seminar*** ***Project Submission and Defence*** ***Elective coursese*** ↗ Corporate Foresight ↗ Managing Creativity and Innovation ↗ User Innovation ↗ Marketing Innovation
3rd module	***Research Seminar*** ***Master Thesis*** ***Internship****
4th module	***Master Thesis Submission and Defence***

** Can be taken in summer after Year 1.*





Mobility

The programme offers students the possibility to take studies at foreign universities of their choice. With selected universities HSE has concluded student exchange agreements and double degree agreements which are recommended to students. Still students can look for stays abroad on their own initiative. Expenses related to stays abroad are in principle in the responsibility of students.

Transfer of credits

Students are encouraged to take courses at foreign universities as part of the programme. Courses related to the programme field can be taken at partner universities of HSE or chosen by the students on their own initiative. Prior to enrolling in foreign universities for taking courses, students need to consult with the Programme who will ensure that credits gained at a foreign university can be recognised by the HSE programme. Final grades are included in the official transcript and the diploma with the courses' titles and the number of credits obtained.

Types of mobility

Students have the opportunity to participate in exchange programmes or double degree programmes with foreign partner universities.

Students are considered exchange students if they spend one or two modules at a foreign university and then return to HSE to complete their studies. Students are allowed to obtain up to 30 credits at a foreign university to meet their degree requirements. In order to participate in a student exchange programme, students should be selected and nominated by the Examination, Assessment and Quality Assurance Council. To formally start their studies, students should select and have all of their courses approved by the Programme.

For the double degree programme, students are allowed to obtain 60 credits at a foreign partner university. Not later than in their first year, students can apply for the double degree master programme. Applications are evaluated first by the Examination, Assessment and Quality Assurance Council and the Academic Director and then presented to the partner institution for review and approval. To be admitted to the programme, students must meet all graduate admission policies at both institutions, and must have advisors who agree to advise them at both institutions. After successful completion of the programme at both universities, the students receive a diploma from both universities.

It is also possible to prepare a Master Thesis at a partner institution.

Organisation of the Programme

To assure quality and targeted education the programme has established independent councils, which oversee the programme functions. The councils assure that the regulations given to the programme are followed in line with HSE standard practices and international educational practices, and are continuously developed.

Academic Council

The Academic Council is the main council of the programme. Its members are internationally recognised individuals affiliated to highly reputed institutions and nominated HSE faculty members. The Council monitors the programme composition, assesses selected courses and proposes further development initiatives. The council holds one annual meeting at HSE. Council members will also attend classroom hours and hold peer reviews of lectures and seminars.

Internship Council

The Internship Council is responsible for all matters with regard to students' internships. The Internship Council approves the initial internship plan and the final internship report prepared by students, and the appointment of a qualified specialist as the student's supervisor during the internship.

Examination, Assessment and Quality Assurance Council

The Examination, Assessment and Quality Assurance Council is a steering body which thoroughly monitors the programme to ensure compliance with the rules for examinations and students' performance assessment. It is responsible for deciding in cases of disputes between students and examiners. The Council organises regular student feedback and peer reviews of the programme courses.

Student Assembly and Student Council

Students enrolled in the programme hold one annual assembly at the beginning of the academic year. The Students Assembly elects delegates to represent the interests of students in the programme. Delegates are invited to meetings of the Internship Council, the Examination, Assessment and Quality Assurance Council and the Academic Council.

Institute for Statistical Studies
and Economics of Knowledge,
Higher School of Economics

Address: 101000, Moscow,
9-11 Myasnitskaya Street, room 527
Tel: (495) 772-95-90 (*12494)

Website: http://hse.ru/ma/sti