MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION

Federal State Budgetary Educational Institution of Higher Education

«SAINT-PETERSBURG STATE UNIVERSITY OF ECONOMICS» (UNECON)

|  |  |
| --- | --- |
|  | APPROVED  Vice-rector for educational activities  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Veronika.G. Shubaeva  «\_\_\_\_» \_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_\_. |

***Инновации и технологическое предпринимательство / Innovations and technological entrepreneurship***

**Syllabus of the course**

|  |  |
| --- | --- |
| Specialty | *38.04.02 Management* |
| Specialization | *International Business Administration* |
| Level of higher education | *Master's degree* |
| Form of training | *full-time* |
| Year of enrolment | *2024* |

Author(s):

|  |
| --- |
| Ph.D., Aleksankov Andrey Mikhailovich |

|  |  |  |  |
| --- | --- | --- | --- |
| Total number of hours | 108 | **Types of control in semesters:**   |  | | --- | | Exam: Semester 2 | |
| incl: |  |
| contact work | 32 |
| self-study | 40 |
| practical training | 0 |
| control hours | 36 |

**Distribution of discipline hours:**

|  |  |
| --- | --- |
| Semester: | 2 |
| Type of activity | Hours |
| Contact hours | 18 |
| Practical training | 14 |
| Laboratory work |  |
| **Total contact hours** | **32** |
| Self-study | 40 |
| Control hours | 36 |
| **Total academic hours** | **108** |
| **Total credits** | **3** |

Saint Petersburg

2024

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# **1. OBJECTIVES OF MASTERING THE DISCIPLINE**

|  |  |
| --- | --- |
| **Target:** | To form a set of competencies necessary for the economic and social justification of innovations, development and commercialization of technological innovations. |

# **2. PLACE OF THE DISCIPLINE IN THE STRUCTURE OF THE EDUCATIONAL PROGRAM**

Discipline B1.O Innovations and technological entrepreneurship / Innovations and technological entrepreneurship is a mandatory part of Block 1.

# **3. PLANNED LEARNING OUTCOMES IN THE DISCIPLINE**

| **Code and name of graduate competence** | **Code and name of the competency achievement indicator** | **Planned learning outcomes for the discipline** |
| --- | --- | --- |
| PC-5 - Capable of organizing project work on the implementation of innovative solutions in the context of the digital economy | PC-5.1 - Develops projects for the development of the company in international business ecosystems in the context of the digital economy | Know: - the main directions of technological innovations - levels of technology readiness - principles of organizing project work on the commercialization of technological innovations - the main differences in working with technological innovations on the international market  Be able to: - justify the necessity and prospects of technological innovations - manage projects at various stages of technology readiness - organize project work in interdisciplinary teams - present project results on the international market.  Possess: - skills in managing interdisciplinary project teams - skills in planning and implementing a set of measures for the commercialization of technological innovations - skills in project work in an international environment. |

# **4. STRUCTURE AND CONTENT OF THE DISCIPLINE**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Number and name of topics and/or sections/topics** | **Contents of the discipline** | | **Scope of discipline**  **(academic hours)** | | | | |
| **Contact work** | | | | **Self-study** |
| **Lectures** | | **Practices** | **Workshops** |
| Topic 1. The crisis of the economic model of consumption and the need for innovation. | Crisis of the economic model of consumption due to limited resources and potential for physical consumption. Innovations as a tool for development. Technologies as a driver for the development of human society. | | 2 | | 2 |  | 4 |
| Topic 2. Types and kinds of innovations in the technological sphere. | Innovations in various branches of economic activity. Types of innovations and main types. Problems of implementation of innovations | | 2 | | 2 |  | 6 |
| Topic 3. Levels of technology readiness. | Standardized approach to the application of the TRL methodology. Contents of each stage of technology readiness. Specifics of the application of TRL in various areas. Adaptation of TRL to specific areas of economic activity. | | 4 | | 2 |  | 6 |
| Topic 4. Socio-economic justification of innovations. | UNIT-economics of an innovation project. Social consequences of innovation implementation. Possible scenarios for the implementation of technological innovations. | | 3 | | 2 |  | 6 |
| Topic 5. Creation and management of an interdisciplinary project team. | Principles and approaches to project team management. Main problems of interdisciplinary teams and ways to solve them. Conflict management in a project team. | | 3 | | 2 |  | 6 |
| Topic 6. Financing of technological innovation projects. | Sources of project funding at various stages of technology readiness. Review of Russian and international funding sources. Preparation of funding applications. | | 2 | | 2 |  | 6 |
| Topic 7. Promotion of innovative projects on the international market. | Promotion of a technological innovation project at various stages of TRL. Features of international promotion of projects. | | 2 | | 2 |  | 6 |
| **Control:** | | | | | | | **36** |
| **Total for the discipline:** | | **18** | | **14** | |  | **40** |

# **5. EDUCATIONAL, METHODOLOGICAL AND INFORMATIONAL SUPPORT OF THE DISCIPLINE**

## **5.1 Recommended literature**

|  |  |
| --- | --- |
| **Bibliographic description of the publication (author, title, type, place and year of publication, number of pages)** | **Electronic resources** |
| Overbye, Harald. Digital Economy: How Information and Communication Technologies Affect Markets, Business, and Innovation : a textbook for students studying in economic fields and specialties, as well as for undergraduate, graduate, postgraduate students, and teachers of economic faculties of universities / Harald Overbye, Jan A. Odestad ; trans. from English by I.M. Ageeva and N.V. Shilova ; under the scientific editorship of M.I. Levin ; [Russian Academy of National Economy and Public Administration under the President of the Russian Federation (RANEPA)]. Moscow : Delo, 2022. XXIII, 263 p. : ill. (Series "Academic Book"). ISBN 978-5-85006-391-7. | [https://lib.unecon.ru/pwb/deta ... %5C19013655%5Cfin\_work%5C33626](https://lib.unecon.ru/pwb/detail?db=FIN_BOOKS&id=ru%5C19013655%5Cfin_work%5C33626) |
| Barker, Joel Arthur. Thinking Ahead: How to See the New Trend Before Others: translation from English / Joel Barker. Moscow: Alpina Publisher, 2024. 187 p.: ill., table. ISBN 978-5-9614-4786-6. | [https://lib.unecon.ru/pwb/deta ... %5C19013655%5Cfin\_work%5C34657](https://lib.unecon.ru/pwb/detail?db=FIN_BOOKS&id=ru%5C19013655%5Cfin_work%5C34657) |
| Zukin, Sharon. Innovation complex: cities, technologies and the new economy / Sharon Zukin; lane from English Inna Kushnareva; edited by Vyacheslav Danilov. Moscow: Publishing House of the Gaidar Institute, 2023. 353 p. : ill. ISBN 978-5-93255-644-3. | [https://lib.unecon.ru/pwb/deta ... %5C19013655%5Cfin\_work%5C32790](https://lib.unecon.ru/pwb/detail?db=FIN_BOOKS&id=ru%5C19013655%5Cfin_work%5C32790) |

## **5.2 List of licensed and freely distributed software, including domestically produced**

|  |
| --- |
| - 7-Zip |
| - OS Alt education 10 |
| - LibreOffice Base |
| - LibreOffice Calc |
| - LibreOffice Writer |

## **5.3 List of information reference systems (IRS) and modern professional databases (MPDB)**

|  |  |
| --- | --- |
| **No.** | **Name of SPBD/ISS** |
| 1. | Electronic library Grebennikon.ru –[www.grebennikon.ru](http://www.grebennikon.ru) |
| 2. | Scientific electronic library eLIBRARRY – www.elibrary.ru |
| 3. | Scientific electronic library CyberLeninka – www.cyberleninka.ru |
| 4. | Database POLPRED Directories –[www.polpred.com](http://www.polpred.com) |
| 5. | OECD Books, Papers & Statistics database on the OECD iLibrary platform  [www.oecd-ilibrary.org](http://www.oecd-ilibrary.org) |
| 6. | Legal reference system ConsultantPlus (installed resource  SPbGEU or www.consultant.ru) |
| 7. | Reference legal system "GARANT" (installed resource of SPbGEU or www.garant.ru) |
| 8. | Information and reference system "Code" (installed resource  SPbGEU or www.kodeks.ru) |
| 9. | Electronic library system BOOK.ru - www.book.ru |
| 10. | Electronic library system EBS URAYT – www.urait.ru |
| 11. | Electronic library system ZNANIUM (ZNANIUM) –[www.znanium.com](http://www.znanium.com) |
| 12. | Electronic library of SPbGEU – opac.unecon.ru |

# **6. LOGISTIC AND TECHNICAL SUPPORT OF DISCIPLINE**

To implement this discipline, there are special rooms for conducting lecture-type classes, seminar-type classes, course design (completion of coursework), group and individual consultations, ongoing monitoring and midterm assessment, as well as rooms for independent work.

The premises are equipped with equipment and technical teaching aids.

The rooms for independent work of students are equipped with computer equipment with the ability to connect to the Internet and provide access to the electronic information and educational environment of the university.

|  |  |
| --- | --- |
| **Name of classrooms, list** | **Address (location) of classrooms** |
| Room 0007 Computer class (for practical classes, course design (coursework) using computer technology). Equipped with a multimedia complex. Specialized furniture and equipment: Educational furniture for 33 seats, teacher's workplace, chalk board - 1 pc., whiteboard on wheels - 1 pc., hanger stand - 3 pcs., blinds - 3 pcs., Computer Intel Core i3 6100 / MSI H110M PRO-D / RAM DDR4 8GB 2400MHz / SSD SATA III 240Gb / Aerocool Qs-180 400W / Keyboard + mouse Microsoft400 for Business / monitor Asus VS228DE - 24 pcs., Multimedia projector Type 1 Optoma x 400 - 1 pc., Laptop HP 250 G6 1WY58EA - 2 pcs. Sets of demonstration equipment and teaching aids: multimedia applications for lecture courses and practical classes, interactive teaching aids. | 191023, St. Petersburg, st. Griboyedov Canal, 30/32, letters “A”, “B”, “R” |
| Audience 2021 Laboratory "Laboratory Complex" Specialized furniture and equipment: Educational furniture for 22 seats (22 computer desks, 22 black chairs) Educational furniture for 42 seats (21 desks) Teacher's workplace (1 computer desk) 3-section chalk board 1 pc., marker board on wheels 1 pc., clock 1 pc., lectern 1 pc., table 1 pc., nightstand 1 pc., iso chair 4 pcs., hanger stand 2 pcs., blinds 3 pcs. Computer i5-8400/8GB/500GB\_SSD/Viewsonic VA2410-mh - 23 pcs., Installation of demonstration educational films - 1 pc., Computer complete with system unit Intel pentium x2 g3250 keyboard + mouse L (hard drive 500 GB, monitor Philips 21.5 ') - 1 pc. Sets of demonstration equipment and teaching aids: multimedia applications for lecture courses and practical classes, interactive teaching aids. | 191023, St. Petersburg, st. Griboyedov Canal, 30/32, letters “A”, “B”, “R” |
| Audience 2023 Computer class (for conducting practical classes, course design (completing coursework) using computer technology). Equipped with a multimedia complex. Specialized furniture and equipment: Educational furniture for 48 seats, teacher's workplace (computer desk - 1 pc.), whiteboard on wheels - 1 pc., three-section whiteboard - 1 pc., lectern - 1 pc., table - 1 pc., art chair - 7 pcs., chair -1 pc., blinds -3 pcs., i5-8400/8GB/500GB\_SSD/Viewsonic VA2410-mh computer -34 pcs., Cisco Catalyst 2960-48PST-L switch (including SmartNet CON-SNT-2964STL service contract) - 1 pc., Wi-Fi wireless access point Type 1 UBIQUITI UAP-AC-PRO - 1 pc., NEC М350 Х projector - 1 pc., Local area network switch (48 ports) Cisco WS-C2960+48PST-L - 1 pc., ProCurve Switch 2626 - 1 pc., Intel pentium x2 g3250 computer /500gb/Philips 21.5' monitor - 1 pc., Ubiquiti IP video camera - 1 pc., Wireless access point/UNI FI AP PRO/Ubiquiti - 1 pc. Demonstration equipment and teaching aids sets: multimedia applications for lecture courses and practical classes, interactive teaching aids. | 191023, St. Petersburg, st. Griboyedov Canal, 30/32, letters “A”, “B”, “R” |
| Audience 2063 Classroom (for lecture-type classes and seminar-type classes, course design (coursework), group and individual consultations, ongoing monitoring and midterm assessment), equipped with a multimedia complex. Specialized furniture and equipment: Classroom furniture for 50 seats, teacher's workstation, 1 whiteboard, 1 lectern, 1 table, 2 chairs. Computer Intel i3-2100 2.4 Ghz/500/4/Acer V193 19" - 1 pc., Projector Epson EB 410W - 1 pc., Interactive whiteboard Interwrite DualBoard 1285 - 1 pc., Wireless access point Wi-Fi Type 2 UBIQUITI UAP-AC-HD - 1 pc. Sets of demonstration equipment and teaching aids: multimedia applications for lecture courses and practical classes, interactive teaching aids. | 191023, St. Petersburg, st. Griboyedov Canal, 30/32, letters “A”, “B”, “R” |

# **7. METHODOLOGICAL INSTRUCTIONS FOR STUDENTS TO MASTER THE DISCIPLINE**

When starting to study the discipline, the student must familiarize themselves with the following documents:

* educational and methodological documentation;
* local regulations governing the main issues of organizing and implementing educational activities, including those regulating the procedure for conducting ongoing monitoring of academic performance and midterm assessment of students;
* schedule of consultations for faculty members.

The level and depth of mastering the discipline are determined by the active and systematic work of students in lectures, seminar-type classes, and independent work, including in terms of identifying the most significant and relevant problems for further study. A special condition for high-quality mastering of the discipline is the effective organization of work, which allows for the even distribution of the academic load in accordance with the schedule of the educational process.

In preparation for classes, students are given the opportunity to attend consultations with the faculty of SPbGEU according to the schedule established in the consultation schedule.

The students’ in-class and out-of-class work should be aimed at developing:

* fundamental foundations of students' worldview and natural science knowledge;
* basic knowledge corresponding to the area of ​​training and the declared professional field, forming a target and professional basis for training personnel;
* professional competencies aimed at meeting the needs of the labor market;
* individual trajectory through the acquisition of a unique set of professional competencies that complement the student’s competency model, due to the focus on specific professional specialized areas of knowledge determined by representatives of the labor market;
* meta-skills of students, such as: teamwork and leadership, data analysis, digital skills, project development and implementation, intercultural interaction.

# **8. FEATURES OF MASTERING THE DISCIPLINE FOR DISABLED PEOPLE AND PERSONS WITH LIMITED HEALTH CAPABILITIES**

The training of students with disabilities, if necessary, is carried out on the basis of an adapted work program using special teaching methods and didactic materials compiled taking into account the characteristics of the psychophysical development, individual capabilities and health status of such students (student).

In order to master the curriculum of the discipline by disabled people and people with limited health capabilities, the University provides:

- for disabled people and people with limited health capabilities due to vision: posting reference information about the schedule of classes in places accessible to students who are blind or visually impaired and in an adapted form; the presence of an assistant providing the student with the necessary assistance; issuing alternative formats of methodological materials (large font or audio files);

– for disabled people and people with limited hearing: reproduction of information using appropriate sound means;

- for disabled people and people with limited health capabilities who have musculoskeletal disorders: the possibility of unimpeded access of students to classrooms, toilets and other premises of the department, as well as staying in the said premises.

Students with disabilities and individuals with special educational needs are provided with printed and/or electronic educational resources in forms adapted to their health limitations. Education of students with special educational needs can be organized both together with other students and in separate groups or in separate organizations.

# **ASSESSMENT TOOLS FUND**

## **1.1 Test questions and assignments for midterm assessment**

|  |  |
| --- | --- |
| 1 | The main features of the modern economy |
| 2 | The content of the crisis of the modern economic model |
| 3 | Innovative business models for organizing technological production |
| 4 | Innovative models and technologies |
| 5 | The content of innovative changes in economics, business, technology |
| 6 | Service as a new type of innovative product |
| 7 | Big Data, Big Data Management and Application |
| 8 | Databases and data lakes |
| 9 | Virtual spaces and digital twins |
| 10 | Technological readiness levels. |
| 11 | Types and kinds of innovations. |
| 12 | Open Innovation |
| 13 | The S-curve of technology development. How technologies replace each other |
| 14 | Gartner Curve: How to Use the Gartner Curve When Planning Investments |
| 15 | Product evolution |
| 16 | Differences in corporate cultures: industry vs. startups. |
| 17 | The process of commercialization of innovations: structure, time, uncertainty |
| 18 | Types of Innovation Commercialization Deals. Assets for Each Deal Type |
| 19 | Startup Ideas and Business Theses: How to Formulate and Research. |
| 20 | Customer Discovery and Verification. In-depth Interview |

## **1.2 Topics of written works**

|  |  |
| --- | --- |
|  | The work program does not provide for this discipline. |

## **1.3 Checkpoints**

|  |  |  |  |
| --- | --- | --- | --- |
| **Checkpoint number** | **Checkpoint type** | **Method of implementation** | **Topic numbers** |
| 1 | Analytical work | in writing | 1-2 |
| 2 | Project and analytical work | in writing | 2-7 |
| 3 | Current control | with the help of technical means and information systems | 1-7 |

## **1.4 Other objects of assessment**

|  |  |
| --- | --- |
|  | The work program does not provide for this discipline. |

## **1.5 Independent work of the student**

|  |  |
| --- | --- |
| **Titles of independent work** | **Topic numbers** |
| Development of individual/group projects | 1-7 |
| Preparation for lectures and practical classes | 1-7 |
| Preparing for the exam | 1-7 |

## **1.6 Result assessment scale**

The assessment scales and procedures for assessing learning outcomes in a discipline are regulated by the Regulation on the current monitoring of academic performance and midterm assessment of students in higher education programs and the Regulation on the point-rating system.

To assess the development of learning outcomes in a discipline, a point-rating system of student performance is used:

The form of final assessment for the discipline is an exam (or differentiated test), the final grade is formed in accordance with the scale given in the table below:

|  |  |
| --- | --- |
| Points | Grade |
| <=54 | unsatisfactory |
| 55-69 | satisfactorily |
| 70-84 | Fine |
| >=85 | Great |

**Result assessment scale**

|  |  |
| --- | --- |
| 2 (score up to 54) | Demonstrates a lack of understanding of the problem. Many of the requirements for the task are not met.  Primary perception of the material is demonstrated. The work is unfinished and/or it is plagiarism. |
| 3 (score 55-69) | Demonstrates partial understanding of the problem. Most of the requirements for the task are met.  Mastery of the elements of the given material. The completed material is generally understandable and holistic. |
| 4 (score 70-84) | Demonstrates significant understanding of the problem in the assigned discipline. All requirements for the assignment have been met.  The content of the completed tasks is disclosed and examined from different points of view. |
| 5 (score 85-100) | Demonstrates a complete understanding of the problem. All requirements for the task are met.  Demonstrated confident mastery of the discipline material. Completed tasks are holistic, completed in full, structured, present different points of view, demonstrated a creative approach. |