



Development of Startup Projects (Syllabus)

Details of the discipline

<i>Level of higher education</i>	<i>Second (Master)</i>
Field of knowledge	05 Social and behavioral sciences
Specialty	051 Economics
Educational program	International Economics
Discipline status	General training cycle (normative (compulsory) educational components)
Form of study	Full-time
Year of preparation, semester	2021/2022 academic year, 1 course, autumn semester
The volume of the discipline	ECTS 3
Semester control / control measures	Test / control of work on practical classes, performance of educational tasks, test
Class schedule	http://rozklad.kpi.ua/Schedules/ScheduleGroupSelection.aspx
Language of Teaching	English
Information about the teacher	Associate Professor of the Department of Management, Ph.D., Associate Professor Kopishynska Kateryna, kopishynska@ukr.net
Course placement	https://do.ipk.kpi.ua/course/view.php?id=3459

The program of the discipline

1. Description of the discipline, its purpose, subject of study and learning outcomes

The discipline studies the theory, methodology and applied aspects of business project development based on an innovative business idea and building a startup company. It is designed to motivate students to try themselves in the role of entrepreneurs, give them the opportunity to comprehensively and contextually acquire knowledge and skills in management, marketing, psychology, sociology, economics, finance and law, necessary to build their own innovative business or be involved in such a project.

The purpose of the course:

The purpose of the course is to provide students with knowledge on the specifics of development and project management in the field of innovative products, starting from the idea and ending with a project ready for commercialization, taking into account the characteristics of the industrial market and industrial consumer.

Subject of the course:

Studying the course allows you to acquire knowledge and skills for the implementation of a startup project, including investment, business plan development, development of a startup idea, startup marketing, etc.

Why does a student need it?

After graduation, some students can be involved in innovative business, in particular to deal with the development of startup projects, the emergence of which is a recent trend. Accordingly, developing, supporting, marketing, attracting foreign investment and selling a ready-made startup or its products are necessary skills for a modern economist.

The study of the discipline will allow the student to form such **program learning outcomes:**

- ✓ Formulate, analyze and synthesize solutions to scientific and practical problems (PRN 1).
- ✓ Develop, justify and make effective decisions on the development of socio-economic systems and management of economic entities (PRN 2).
- ✓ Develop socio-economic projects and a system of integrated actions for their implementation, taking into account their goals, expected socio-economic consequences, risks, legislative, resource and other constraints (PRN 4).
- ✓ Evaluate the results of their own work, demonstrate leadership skills and ability to manage staff and work in a team (PRN 6).
- ✓ Collect, process and analyze statistical data, scientific and analytical materials needed to solve complex economic problems (PRN 8).
- ✓ Make effective decisions under uncertain conditions and requirements that require the application of new approaches, methods and tools of socio-economic research (PRN9).
- ✓ Apply modern information technologies and specialized software in socio-economic research and in the management of socio-economic systems (PRN 10).
- ✓ Identify and critically assess the state and trends of socio-economic development, form and analyze models of economic systems and processes (PRN 11).
- ✓ Develop scenarios and strategies for the development of socio-economic systems (PRN 14).

2. Prerequisites and post requisites of the discipline (place in the structural and logical scheme of education according to the relevant educational program)

The course is based on such courses as "International Project Management", "Financial Management", "International Business". The discipline further provides such a discipline as "International Trade".

3. The content of the discipline

Topic 1. Startup as a form of innovative business.

Topic 2. Formation and development of a business idea and a startup product.

Topic 3. Marketing of startups.

Topic 4. Business modeling of a startup.

Topic 5. Organization of startups from team to enterprise.

Topic 6. Management of investment support of a startup.

Topic 7. Startup business planning.

Topic 8. Legal features of startups.

Topic 9. Scaling and strategizing startups.

4. Training materials and resources

Basic literature:

1. Gavrysh OA., Boiarynova KO., Kravchenko MO., Kopishynska KO. Management of startups: a textbook for applicants for higher education in economic specialties. Kyiv: Igor Sikorsky Kyiv Polytechnic Institute, Polytechnic Publishing House, 2020. 716 p.
2. Gavrysh OA., Dergachova VV., Kravchenko MO. and others. Startup project management: a textbook for students of technical specialties of the second (master's) level of higher education. Kyiv: Igor Sikorsky Kyiv Polytechnic Institute, Polytechnic Publishing House, 2019. 337 p.
3. Solntsev SO., Zozulov OV., Yudina NV., Tsareva TO., Yazvinska NV. Marketing of startup projects: a textbook for all specialties of the second educational degree "master". Igor Sikorsky Kyiv Polytechnic Institute, 2019. 218 p.
4. Development of a startup project: Methodical recommendations for the implementation of the section of master's dissertations. For the general ed. O. A. Gavrysh. Kyiv: NTUU "KPI", 2016. 28 p.
5. Ries, Eric. The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses. Currency, 2011. 336 p..
6. Guillebeau, Chris. The \$100 Startup: Reinvent the Way You Make a Living, Do What You Love, and Create a New Future. Currency, 2012, 304 p.

Supporting literature:

1. Archibald R.D. Management of high-tech programs and projects. Transl. from English Moscow: DMK Press, 2010. 462 p.
2. Kravchenko M.O., Prudky V.V. Business model as a basis for implementing innovations in the enterprise. Economy and state. 2019. №12. Pp. 138 -142.
3. Kravchenko M.O., Gazaryan E.A. Features of the formation of the startup ecosystem in Ukraine. Eastern Europe: Economy, Business and Management. 2019. Vip. 5 (22). Pp. 90 -97.
4. Kravchenko M.O., Kuraev D.O. Prospects for the use of crowdfunding and crowdfunding to finance startup projects. Scientific Bulletin of the International Humanities University. 2017. Vip. 24. pp. 127 -131.
5. Blank S. Dorf B. The Startup Owner's Manual: The Step-By-Step Guide for Building a Great Company. Transl. from English Moscow: Alpina Publisher, 2013. 616 p.
6. Blank S. Four Steps to Enlightenment: Strategies for Creating Successful Startups. Transl. from English Moscow: Alpina Publisher, 2014. 368 p.
7. Brown T. Design thinking in business. From developing new products to designing business models. Transl. from Engl. Moscow: Mann, Ivanov and Ferber, 2013. 256 p.
8. Dovgan L.E., Mokhonko G.A., Malik I.P. Project management: a textbook. Kyiv: Igor Sikorsky Kyiv Polytechnic Institute, 2017. 420 p.
9. Evseychev A.I. Basics of startup management. URL: <http://www.tstu.ru/book/elib3/mm/2014/Evseychev>.
10. Zablotsky B.F., Petrov K.N. How to develop a business plan. A practical guide with examples and templates. Moscow: Williams, 2008. 384 p.
11. Cooper B., Vlaskowitz P. Startup around the client. How to build a business right from the start. Transl. from English Moscow: Mann, Ivanov and Ferber, 2011. 168 p.
12. Kathleen K., Matthews D. Startup Management. How to manage a company at different stages. Transl. from English Moscow: Mann, Ivanov and Ferber, 2011. 176 p.
13. Mullins D., Commissioner R. Business Model Search. How to save a startup by changing the plan in time. Transl. from English Moscow: Mann, Ivanov and Ferber, 2012. 329 p.
14. Management of technological innovations: a textbook. Ed. S.V. Valdaytseva, N.N. Molchanov. St. Petersburg, 2003. 333 p.
15. Mikhailovitz M. Startup without a budget. Transl. from English Moscow: Mann, Ivanov and Ferber, 2012. 200 p.
16. Pigneur Y. Osterwalder A. Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers (The Strategyzer series). John Wiley and Sons, 2010. 288 p.
17. Figure E. Business from scratch: the Lean Startup method for quick testing of ideas and selection of a business model. Per. with English Moscow: Alpina Publisher, 2012. 251 p.
18. Savelyev EV, Chebotar SI, Stefanych DA The latest marketing: a textbook. Kyiv: Znannia, 2008. 420 p.
19. Thiel P., Masters B. Zero to One: Notes on Startups, or How to Build the Future. Currency Publisher, 2014. 224 p.
20. Feld B., Mendelssohn D. Attracting investment in a startup: how to agree with the investor on the terms of financing. Transl. from English Moscow: Mann, Ivanov and Ferber, 2013. 281 p.

21. Harnish V. Rules of profitable startups. How to grow and make money. Transl. from English Moscow: Mann, Ivanov and Ferber, 2012. 280 p.

22. Hoffman R., Kasnocha B. Life as a startup: Build a career according to the laws of Silicon Valley. Transl. from English Moscow: Alpina Publisher, 2013. 237 p.

Educational content

5. Methods of mastering the discipline (educational component)

Within the framework of studying the discipline during the semester it is planned to conduct lectures and practical classes, write a modular test, solve computational and analytical problems, solve specific economic situations (including case studies) and business games, discussions, tests.

The following basic methods of collective and individual active learning are used during the study of the material: problem-searching, explanatory-illustrative, reproductive, interactive, practical and research during lectures and practical classes, and during independent work. Details of the methods are given in the table with the program learning outcomes. These methods are used in the context of the application of the following educational technologies:

- 1) personality-oriented technologies based on active forms and methods of learning: brainstorming during collective discussions, interactive communication, case solving, etc.
- 2) technologies of problem-based learning (problem-based presentation of material): partial search tasks, analysis of individual situations (cases), performance of calculation and analytical tasks, etc.;
- 3) information and communication technologies that provide problem-solving nature of the learning process and activation of independent work of students (electronic presentations for lectures, use of audio, video support of classes), supplementation of traditional classes by means of interaction based on network communication capabilities (online lectures, online practices during distance learning).

The following topics and structural and logical construction of the course (calendar plan):

Training week	The topic being studied	Teaching and assessment
1-2	Topic 1. Startup as a form of innovative business.	1 lecture and 2 practical classes. Work on practical classes (P), performance of educational tasks (E), testing (T)

2-4	Topic 2. Formation and development of a business idea and a startup product.	1 lecture and 2 practical classes. Work on practical classes (P), performance of educational tasks (E), testing (T)
4-6	Topic 3. Marketing of startups.	1 lecture and 2 practical classes. Work on practical classes (P), performance of educational tasks (E), testing (T), MT-1
6-8	Topic 4. Business modeling of a startup.	1 lecture and 2 practical classes. Work on practical classes (P), performance of educational tasks (E), testing (T)
8-10	Topic 5. Organization of startups from team to enterprise.	1 lecture and 2 practical classes. Work on practical classes (P), performance of educational tasks (E), testing (T)
10-12	Topic 6. Management of investment support of a startup.	1 lecture and 2 practical classes. Work on practical classes (P), performance of educational tasks (E), testing (T)
12-14	Topic 7. Startup business planning.	1 lecture and 2 practical classes. Work on practical classes (P), performance of educational tasks (E), testing (T), MT-2
14-16	Topic 8. Legal features of startups.	1 lecture and 2 practical classes. Work on practical classes (P), performance of educational tasks (E), testing (T)
16-18	Topic 9. Scaling and strategizing startups	1 lecture and 2 practical classes. Work on practical classes (P), performance of educational tasks (E), testing (T) and Test
	Semester control (session, on schedule)	Test

Mastering the discipline will allow the student to implement the program learning outcomes as follows:

Correspondence table of program learning outcomes, teaching methods and assessment

Program learning outcomes of EP	Teaching methods	Forms of assessment
Formulate, analyze and synthesize solutions to scientific and practical problems (PRN 1).	The following basic teaching methods are used: problem-searching, explanatory-illustrative, reproductive, interactive, during lectures and practical classes, as well as research during independent work. Such specific methods of training management specialists as solving economic situations are also used case method) and preparation of calculation and analytical tasks.	Rating system, which provides points for: discussions and problem solving, calculation and analytical tasks, business games, cases, testing, modular test work. There are two stages of intermediate control - the first and second certification of students, and the final form of control in the form of test.
Develop, justify and make effective decisions on the development of socio-economic systems and management of economic entities (PRN 2).	The following basic teaching methods are used: problem-searching, explanatory-illustrative, reproductive, interactive, during lectures and practical classes, as well as research during independent work. Such specific methods of training management specialists as solving economic situations are also used case method) and preparation of calculation and analytical tasks.	Rating system, which provides points for: discussions and problem solving, calculation and analytical tasks, business games, cases, testing, modular test work. There are two stages of intermediate control - the first and second certification of students, and the final form of control in the form of test.
Develop socio-economic projects and a system of integrated actions for their implementation, taking into account their goals, expected socio-economic consequences, risks, legislative, resource and other constraints (PRN 4).	The following basic teaching methods are used: problem-searching, explanatory-illustrative, reproductive, interactive, during lectures and practical classes, as well as research during independent work. Such specific methods of training management specialists as solving economic situations are also used case method) and preparation of calculation and analytical tasks.	Rating system, which provides points for: discussions and problem solving, calculation and analytical tasks, business games, cases, testing, modular test work. There are two stages of intermediate control - the first and second certification of students, and the final form of control in the form of test.
Evaluate the results of their own work, demonstrate leadership skills and ability to manage staff and work in a team (PRN 6).	The following main teaching methods are used: problem-searching, explanatory-illustrative, reproductive, interactive, during lectures and practical classes, as well as research during independent work.	Rating system, which provides points for: discussions and problem solving, calculation and analytical tasks, business games, cases, testing, modular test work. There are two stages of intermediate control - the first and second certification of students, and the final form of control in the form of test.
Collect, process and analyze statistical data, scientific and analytical materials needed to solve complex economic problems (PRN 8).	The following basic teaching methods are used: problem-searching, explanatory-illustrative, reproductive, interactive, during lectures and practical classes, as well as research during independent work. Such specific methods of training management specialists as solving economic situations are also used case method) and preparation of	Rating system, which provides points for: discussions and problem solving, calculation and analytical tasks, business games, cases, testing, modular test work. There are two stages of intermediate control - the first and second certification of students, and the final form of control in the form of test.

	calculation and analytical tasks.	
Make effective decisions under uncertain conditions and requirements that require the application of new approaches, methods and tools of socio-economic research (PRN9).	The following basic teaching methods are used: problem-searching, explanatory-illustrative, reproductive, interactive, during lectures and practical classes, as well as research during independent work. Such specific methods of training management specialists as solving economic situations are also used case method) and preparation of calculation and analytical tasks.	Rating system, which provides points for: discussions and problem solving, calculation and analytical tasks, business games, cases, testing, modular test work. There are two stages of intermediate control - the first and second certification of students, and the final form of control in the form of test.
Apply modern information technologies and specialized software in socio-economic research and in the management of socio-economic systems (PRN 10).	The following main teaching methods are used: problem-searching, explanatory-illustrative, reproductive, interactive, during lectures and practical classes, as well as research during independent work.	Rating system, which provides points for: discussions and problem solving, calculation and analytical tasks, business games, cases, testing, modular test work. There are two stages of intermediate control - the first and second certification of students, and the final form of control in the form of test.
Identify and critically assess the state and trends of socio-economic development, form and analyze models of economic systems and processes (PRN 11).	The following basic teaching methods are used: problem-searching, explanatory-illustrative, reproductive, interactive, during lectures and practical classes, as well as research during independent work. Such specific methods of training management specialists as solving economic situations are also used case method) and preparation of calculation and analytical tasks.	Rating system, which provides points for: discussions and problem solving, calculation and analytical tasks, business games, cases, testing, modular test work. There are two stages of intermediate control - the first and second certification of students, and the final form of control in the form of test.
Develop scenarios and strategies for the development of socio-economic systems (PRN 14).	The following main teaching methods are used: problem-searching, explanatory-illustrative, reproductive, interactive, during lectures and practical classes, as well as research during independent work.	Rating system, which provides points for: discussions and problem solving, calculation and analytical tasks, business games, cases, testing, modular test work. There are two stages of intermediate control - the first and second certification of students, and the final form of control in the form of test.

6. Independent work of a student / graduate student

The plan provides for 36 hours of independent student work (ISW). It covers the preparation of students for classroom activities and independent performance of educational tasks, as well as preparation for testing. The distribution of independent work of students on the topics of the course is given in the table.

№	Independent work of students	Number of hours of ISW
1	Preparation for practical classes: search and analysis of information, performance of educational tasks, preparation for passing testing	26
2	Preparation for the assembly of modular test work	4
3	Preparation for the test	6
	Total	36

Policy and control

7. Discipline policy

Violation of deadlines and incentive points:

The key measures in teaching the discipline are those that form the semester rating of the student. Students must timely complete tasks in accordance with the conditions of the first and second certification, write modular tests.

Penalty points for the discipline are not provided.

The student may be re-credited points that he received for this or a similar course related to the development and management of startups, in another institution of higher education.

Students can be awarded incentive points (total - no more than 10 points) for the following types of scientific and research work:

- conducting research work on topics submitted for independent study, the results of which are presented in the form of scientific theses, presentations, reviews of scientific papers, etc. (weight score - 5), in the form of a scientific article (weight score - 10);
- participation in Olympiads of I and II levels that correspond to the subject of the discipline (weight score -5);
- participation in competitions of scientific works corresponding to the subject of the discipline (weight score - 5).

Class attendance and classroom behavior:

Attendance is free, points for attendance at lectures and practical classes are not added. However, a main part of the student's rating is formed through active participation in the implementation of educational tasks in practical classes, so in case of their omission, the student will not be able to obtain the appropriate rating points.

The student is allowed to use interactive teaching aids, including go online to search for educational or reference information, if provided by the subject of the task. The student's activity on lessons, his readiness for discussions and participation in the discussion of educational issues can be assessed by incentive points at the discretion of the teacher.

Missed control measures:

If the control measures are missed for serious reasons (illness or other important life circumstances), the student is given an additional opportunity to take them within the next week.

In case of violation of the deadline and non-fulfillment of the conditions of admission to the final certification for non-serious reasons, the student is not allowed to take the test in the main session.

Academic Integrity Policy

The policy on academic integrity is described in detail in the Code of Honor of Igor Sikorsky Kyiv Polytechnic Institute. This implies that the student takes full responsibility for ensuring that all tasks performed by him comply with the principles of academic integrity.

8. Types of control and rating system for assessing learning outcomes (RSA)

1. Since the semester attestation in the discipline is provided in the form of a test, the rating is formed as the sum of all rating points received by the student during the semester.
2. The student's rating from the credit module is calculated from 100 points. During the semester, the rating consists of the points that the student receives for:
 - work in practical classes (P) - involves participation in the discussion of issues and problem solving (approximate number of student answers during the semester - 10, weight score - 2);
 - performance of educational tasks (E) - provides for the presentation of independently performed and (or) in groups calculation and analytical tasks, business games and cases (approximate number of student answers during the semester - 6, weight score - 5);
 - passing the test (T) - is carried out at the beginning of the practical lesson after the completion of the study of a certain section (number of tests - 6, weight score - 5).
 - performance of modular test work (MTW) - is divided into two parts (two written works) lasting one academic hour each (MTW -1, MTW -2), which are performed in practical classes during the 1st and 2nd certification week (number of works - 2, weight score - 10);
3. Criteria for scoring:
 - Work in practical classes: participation in discussions and problem solving.
 - "excellent": active participation, asking questions and providing answers, no mistakes - 1.9-2 points;
 - "good": active participation, asking questions and providing answers, but there are uncritical errors in judgments and answers - 1.5 - 1.9 points;
 - "satisfactory": moderate participation, asking questions and providing answers, existing errors in judgments and answers - 1.3 - 1.4 points;
 - "sufficiently ": partial participation, occasionally asking questions, existing errors - 1.2 points.
 - "unsatisfactory" - did not take part in the discussion or problem solving..
 - 3.2. Performance of educational tasks, with presentation of results:
 - "excellent": impeccable work, quality design, free answers to questions during the presentation of the work - 4.75-5 points;
 - "very good": good work, quality design, there are certain shortcomings in the preparation and / or performance of work, some issues are not fully covered, defense - 4.25 - 4.74 points;
 - "good": good work, quality design, there are certain shortcomings in the preparation and / or performance of work, there may be no separate structural components, some issues are not fully covered, in defense the student is fluent in the topic, may not answer individual questions or give incorrect answers - 3.75-4.24 points;
 - "satisfactory": there are no individual components of the case, errors in the conclusions, there is no answer to the question in the defense, the student has the material during the defense - 3, 25-3,74 points;
 - "sufficiently": only some issues are covered, and not completely, when defending the student is difficult to navigate the topic, may not answer the question - 3-3.24 points.
 - no work, or less than half of the structural components, no answers to questions - 0 points.
 - 3.3. Passing the test:
 - "excellent": more than 95% of correct answers - 4.75-5 points;
 - "very good": from 85 to 94% of correct answers - 4.25 - 4.74 points;
 - "good": from 75 to 84% of correct answers - 3.75-4.24 points;
 -
 - "satisfactory": from 65 to 74% of correct answers - 3, 25-3,74 points;
 - "sufficiently ": from 60% of correct answers - 3-3.24 points.
 - no work, or less than 60% of correct answers - 0 points.
 - 3.4. Performance of modular test work (MTW):
 - "excellent": creative work, complete correct answer to all questions - 9.5 - 10 points;
 - "very good": the work was performed with minor shortcomings, possible errors of a technical nature, answers to not all questions, or erroneous answers to individual questions - 8.5 - 9.4 points;
 - "good": the work was done with certain errors, the correct answers to more than 85% of questions - 7.5

- 8.4 points:

- "satisfactory": the task is partially completed or there are gross errors, there are more than 65% of answers to questions - 6.5 - 7.4 points.
 - "sufficiently ": there are some components of individual questions, in general there are more than 60% of answers to questions - 6 - 6.5 points.
 - presence of less than 60% of answers, or correctly less than 60% of answers - 0 points.
4. Calendar control is carried out in the form of two certifications. The condition of the first certification is to receive at least 20 points. The condition of the second certification is to receive at least 35 points.
5. Semester control is carried out in the form of test.
6. The condition of admission to the test is the crediting of at least 4 case works, submission of the abstract and the starting rating of at least 36 points.
7. If a student according to the results of the semester certification receives a rating exceeding 60% - he has the right to receive credit automatically, according to the scale of translation of points into grades.
8. If a student is admitted to the test, but has not received a rating for the "machine", he writes a test (makes the test in writing).
9. If a student has received a rating sufficient to obtain a "machine", but wants to increase it - he writes a test (makes a test in writing).
10. A student who has a semester rating of less than 20 points - is not allowed to take the test.
11. If a student writes a test (makes a test in writing) - the final rating he receives based on the results of the test. Previous points are not taken into account.

The test consists of the following tasks:

- disclosure of theoretical issues (number of questions - 4, weight score - 5);
- performance of test tasks (number of tasks - 40, weight score - 1);
- performance of calculation and analytical tasks (number of tasks - 4, weight score - 10). The maximum credit score is 100 points.

The maximum score for the course is 100 points.

7. The points received by the student are translated into a credit assessment according to the table:

Score	Rating
100...95	Excellent
94...85	Very good
84...75	Good
74...65	Satisfactorily
64...60	Sufficiently
Less than 60	Unsatisfactorily
The semester rating is less than 20 points	Not admitted

9. Additional information on the discipline

At the discretion of the teacher, students may be credited with certificates of full-time, distance or online courses on relevant topics.

In the event of quarantine restrictions on university attendance, the course will be taught remotely or online.

The Syllabus was:

Compiled by Doctor of Science, Prof. Kravchenko M. O., PhD, Assoc. Prof. Kopishynska K.O.

Adopted by the Department of International Economics (Protocol № 28 dated 14.06.2021)

Agreed by the Methodical Commission of the Faculty of Management and Marketing (Protocol № 10 dated 15.06.2021)