COURSE DESCRIPTION CARD - SYLLABUS

Course name
Entrepreneurship in IT [S1Inf1>PIT]

Course

Field of study
Computing

Year/Semester
4/7

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
Polish

Form of study
full-time

Requirements
elective

Number of hours

Lecture
16

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
16

Number of credit points

3,00

Coordinators

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Lecturers

Prerequisites

Knowledge and skills: Starting the subject, the student has basic knowledge and skills in the basics of entrepreneurship. Social competencies: In terms of social competence, the student must present such attitudes as honesty, responsibility, perseverance, cognitive curiosity, creativity, personal culture, respect for other people.

Course objective

1. To provide students with the basic knowledge of starting and developing their own IT business. 2.To develop students' entrepreneurial skills, design and quality assurance of a marketable IT product, preparation of a business plan and financial plan, fundraising and other skills necessary in developing a start-up. 3. To develop in students teamwork and creative skills.

Course-related learning outcomes

Knowledge:
1. knows basic concepts of economics related to IT investment and IT projects such as return on investment, fixed costs and variable costs, financial risk, revenue vs. profit, profit vs. cash flow (K1st_W9)

2. has basic knowledge of management and business in the IT industry (K1st_W10)
3. knows the general principles of creation and development of forms of individual entrepreneurship in the IT industry (K1st_W10)
4. has basic knowledge of innovative entrepreneurship with particular emphasis on the IT industry (K1st_W10)
5. has basic knowledge of patents, copyright law and the law on personal data protection (RODO) (K1st_W11)
6. knows the general principles of technology transfer in relation to IT solutions (K1st_W11)

Skills:
1. is able to perceive social, legal and economic aspects in the process of formulating and solving IT tasks (K1st_U5)
2. is able to assess various aspects of the risks associated with an IT venture - project or start-up (K1st_U6)
3. has the skills necessary to work in a business/industrial environment, including the safety of the profession (K1st_U7)
4. is able to prepare a practical business plan for an innovative venture in the IT industry (K1st_U7)

Social competences:
1. is able to think and act in an entrepreneurial manner, including finding commercial applications for the created software, bearing in mind not only the business benefits, but also the social benefits of the conducted activity (K1st_K3)
2. is able to present an innovative project in a clear and transparent manner (K1st_K3)
3. correctly identifies and resolves social and legal dilemmas related to the IT profession (K1st_K5)

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assessment:
In terms of lecture:
- On the basis of activity in class
In terms of project:
- On the basis of systematic presentations on the progress of the work
Summative assessment:
a) in terms of lecture, verification of the established learning outcomes is realized by:
- evaluation of knowledge and skills demonstrated at a written colloquium of a problematic nature;
- discussion of the results of the colloquium;
b) in the scope of the project verification of the assumed educational effects is realized by:
- on the basis of the final presentation and the prepared business plan.

Programme content

As part of the course, students carry out projects in small teams to prepare a business plan for a start-up implementing an innovative product proposed by the students in accordance with Bill Aulet's 24 steps methodology.
The lecture program includes the following topics:
Introduction. Career paths of an IT specialist, life cycle of a start-up. Examples of start-ups, presentation of opportunities offered by start-ups + information on where to look for information, what events to participate in, information on start-up culture.
Exploration of ideas. Analysis and forecasting of market and technology trends. Technology adoption cycle. Ways to foster creativity. Brainstorming.
Lean approach - i.e. first the problem, then the solution. Familiarization with lean cavas, what it is, what it is used for, how to fill it and how to use it. When the lean canvas is ready.
Analysis and segmentation of the market, selection of the beachhead market, definition and description of the persona.
Product design. Product quality criteria. Scope, purpose/benefit, target audience, product context, use scenarios. Prototyping. Design thinking. Design heuristics. Focus studies, surveys. Case studies.
Analytics of user behavior. Data sources, e.g. Google Analytics. Churn. User activity. ARPU. Surveys and focus studies of an existing product. Case studies.
Premium, advertising, freemium business models. Revenue estimation. Case studies.

Financial models. Variable and fixed costs. Margin and mark-up. Financial planning. Cost and revenue categories. Example models. Financial liquidity. Profitability threshold.
Promotion. Marketing. Growth hacking. Traditional and online advertising. CPM, CPC, CPA cost models. Social media. Positioning. Analysis and optimization of effectiveness. Examples of advertising channels (e.g. AdWords, Facebook). Keyword - conversion of promotional activities into actions and sales.
Investments. Sources of capital. Business angels, venture capital, public funds, stock markets, bonds, loans. Types of investments. Financial and strategic investors. Ways to exit investments. Case studies. How to prepare for investment talks, what to pay attention to, how to negotiate, how to choose a good investor.
Rational business decision-making. Risk analysis. Typical psychological mistakes.
Soft aspects of management. Motivating a team. Group cooperation and leadership. The art of negotiation.
Legal aspects. Ways of conducting business. Types of companies. Formal obligations. Elements of accounting. Intellectual property. Protection of personal data. Patents.
Business plan. Elevator pitch. Art of presentation. Investors onepager.
Case studies - detailed analysis of the history of selected companies. Big names (e.g. Google, Facebook). Large Polish start-up. A medium-sized Poznan start-up.
Analysis of the most common mistakes.
The lecture may include working meetings with an experienced entrepreneur or investor.
As part of the project, students prepare and present their own project using the knowledge and skills acquired in lectures and primary literature.

Course topics

Methodology for developing innovative start-ups with a focus on the IT industry

Teaching methods

1. lectures: multimedia presentation, presentation illustrated by examples given on the blackboard.
2. project: multimedia presentation by students, discussion, brainstorming.

Bibliography

Basic:
1. Przedsiębiorczość zdyscyplinowana, Bill Aulet, Helion, 2014.

Additional:
1. Jednym kliknięciem. Historia Jeffa Bezosa i rosnącej potęgi Amazon.com, Richard L. Brandt, Helion, 2012.
2. Google story, David Vise, Wydawnictwo Dolnośląskie, 2007
3. Steve Jobs, Isaacson Walter, Insignis Wydawnictwo, 2011
4. Metoda Lean Startup. Wykorzystaj innowacyjne narzędzia i stwórz firmę, która zdobędzie rynek, Ries Eric, Helion, 2012
5. Inżynieria oprogramowania, Andrzej Jaszkiewicz, Helion, 1997.

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,00
Classes requiring direct contact with the teacher	32	1,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	43	1,50