Didactic and content-based planning of the course "Innovation Management"

Qualification program "Research-based learning at the TUHH"

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Description of the project

Recent scientific literature on innovation management and the practices in modern organizations highlight the growing role of creativity in innovation process and the importance of team management competences for a successful management of entire innovation projects. This points out to the need of introducing new topics, such as "Creativity in Innovation Process" and "Innovation Team Management" to the existing module "Innovation Management". As a result in this project the improvements on both the content and the didactic levels for the module are proposed.

Course aims

The course aims to provide students with an understanding of key principles in innovation management and the necessary skills that are needed to manage innovation at both strategic and operational levels.
Nowadays innovation management is one of the most critical yet challenging aspects of modern organization. As a fundamental driver of competitiveness, innovation, and particularly technological innovation, is inherently difficult, uncertain and risky, and most new technologies fail to be transformed into successful products or services. Therefore it is essential for students to understand the strategies, tools and techniques for managing innovation, which often require a different set of management knowledge and skills compared to those employed in everyday business administration.

Course objectives

Knowledge Objectives:

1. Understand definitions and concepts of innovation
2. Explore major models and theories of innovation
3. Use and apply tools for innovation management

Skill Objectives:

1. Diagnostic and analytical skills
2. Improve verbal skills through class and group discussions
3. Build up critical thinking and interpretation skills
4. Learn how to evaluate different options and make argumentation for taken decisions
5. Formulate, develop and organize innovation management
6. Assess and resolve managerial challenges

Learning outcomes

At the end of the course students will be able to demonstrate understanding, and make critical assessments of the following:

- The role of innovation for the competitive advantage of the firm and industries
- Basic concepts, models and tools for the management of technology and innovation
- Managerial, organizational, and budget allocating-related issues

Newly introduced teaching units will lead to the following specific learning outcomes:

- Assess and interpret innovation process
- Develop and formulate managerial strategies to shape innovative performance and innovative outcomes of innovation teams
- Diagnose different challenges in innovation team management and make recommendations for resolving them

General information

The module "Innovation Management" is based on 2 hour lectures with the total workload of 60 hours and is attended by 30-40 students in the summer semester.
It is intended for the students from MSc Programs in International Management and Engineering (IWI), Logistics, Infrastructure and Mobility (LIM), Biomedical Engineering (MEDING), Global Technology and Innovation Management & Entrepreneurship (GTIME), Global Innovation Management (GIM).
Recommended Previous Knowledge: Good basic knowledge of Business Administration
Examination is based on a written exam. With additional activities introduced in this project it will be possible to gain a bonus of max. 20% for the exam. However, the bonus will be only valid if the exam is passed without the bonus.

Content-based improvement suggestions

Responding to the described area for improvement of the course the refined contents of the module include:

- The role of Innovation
- Developing the Innovation Strategy
- ***Creativity in Innovation Process***
- Developing and managing Portfolios
- Implementing new products and services
- ***Innovation Team Management***
- How to measure and increase innovation performance
- The future of innovation management

Two new teaching units, i.e. "Creativity in Innovation Process" and "Innovation Team Management" (marked in bold italic in the list), have been conceptualized to be implemented in addition to the existing course topics.

Didactic-based improvement suggestions

Introduction of problem-based and research-based learning to otherwise theoretical lecture-based course is at the core of the suggested didactic improvements to the module. It will be implemented by dividing the 2 hour long lectures that cover newly introduced teaching units into two interconnected parts, i.e. theoretical presentation by the lecturer and more practice-oriented problem and research-based learning.
The table below details theoretical part of each lecture content wise, that will be delivered as a presentation and will include open discussion in the class. The problem and research-based learning is represented by learning activities, which include mini-case analysis, participation in the in-class group experiment, working in peers, group work, peer-evaluation in terms of the involvement of the group members and final presentations of other groups.
On the basis of peer-evaluations the bonus points will be calculated for each student as the assessment for the activities and outputs presented during the newly introduced teaching units. These bonus points will be added to the total bonus points available of being collected during the whole course.
The wrap-up lecture at the end of the course will enable to assess whether the goals set by introducing these new teaching units are reached and the learning outcomes are actually achieved. This will also indicate what updates content wise are necessary.

Didactic planning for the newly introduced teaching units:

Topics	**Creativity in Innovation Process**	**Innovation Team Management**	
Presence	1st lecture	1st lecture	2nd lecture
Content	- Innovation process and its stages - The role of creativity in innovation process	- The influence of team composition on its performance and the outcomes	- Managing team composition in innovation process
Methods	Presentation, Open discussion	Presentation, Open discussion, Work in peers	Presentation, Open discussion, Group work, Peer-evaluation
Learning activities	Analyzing the case	Participating in the group experiment, Working in peers to present personality types and roles in the team	Group work to analyze potential challenges their team could face in terms of their composition and strategies on how to manage such team
Materials and Media	Presentation, video, literature, the case, working sheets	Presentation, personality type descriptions, canvas	Presentation, canvas, peer-evaluation sheets
Self-study time	***Pre-lecture preparation***	***Pre-lecture preparation***	***Pre-lecture preparation***
Learning activities	-	-Taking Big Five personality test -Taking Belbin team role test	- Evaluating the potential innovativeness of their team with online AI tool
Resources and Tools	-	Online personality tests	- Online AI tool for team performance prediction - Active presenter software
Assessment		- The presentation (video) on their team and strategies on how to manage it for the optimal results - Peer evaluation of strategies presented by other groups - Anonymous evaluation of each other's contribution to the group work	