

Innovation aspects in chemical oriented university education

Innochem

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Introduction

P. Drucker:

“If you want to do something new, you have to stop doing something old”

Innovation

The OECD defines Technological Innovation in the Oslo Manual (1995) as:

Technological product and process innovations (TPPI) comprise implemented technologically new products and processes and significant technological improvements in products and processes. A TPPI have been implemented if it has been introduced on the market (product innovation) or used within a production process (process innovation). TPPI involve a series of scientific, technological, organisational, financial and commercial activities.

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Set of TOP 5 scientific and technical skills
Results of Status Quo Analysis - ČR 2015

Engineers:

- HSE
- Organic chemistry
- Safety engineering
- Inorganic chemistry
- Materials chemistry

Scientists

- Organic chemistry
- Polymer chemistry
- Analytical chemistry
- Product development
- HSE

New requirements

- **Technical knowledge:** basics of inorganic and organic chemistry, analytical chemistry, chemical engineering
- **Managerial knowledge:** Innovation management, Project management, Planning
- **Knowledge of Economy:** Basics of macro- and micro economy, enterprise economics

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Economists



**Innovation
management**

Engineers

Scientists

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Set of TOP 5 chemical-economical skills

Based on initiative of introduction of new skills: chemical economist

Chemical Economists:

Enterprise Economics

Chemical Engineering

Basics of Organic chemistry

Basics of Inorganic chemistry

Industrial Management and Marketing

Innochem: UCT Prague – Association of Chemical Industry of the Czech Republic

UCT: 65 years tradition of Department of Management and Economics of Chemical and Food Industry

Innochem SQA CZ 2015: New program to be assessed and introduced reacting on:

- Companies requirements on a highly specific knowledge in chemistry, language and soft skills
- Decreasing interest in technical studies, worsening quality of the applicants
- Low level of economic knowledge of the students, knowledge from related fields, assertiveness

Innochem: UCT Prague – Asociation of Chemical Industry of the Czech Republic

Innochem SQA CZ 2015: How to increase the interest?

- Analysis of the current needs of industrial enterprises → focusing on required fields: **UCT in cooperation with SČP ČR**
- Increasing the employability of graduates in the labor market may increase the attractiveness of technical fields (analysis of the current needs of industrial enterprises → focusing on required fields): **SČP ČR in cooperation with UCT**
- Increasing the attractiveness of the study: **UCT involving practitioners and new programs**
- Higher degree of communication from major employers to graduates: **SČP ČR through UCT**