CS30A7391SS Inventive Product Design and Advanced TRIZ Online

TRIZ toolkit for Invention and Systematic Creativity

Aims

After having completed the course you will be able to:

Recognise
- wide range of existing Design Methods with a focus on Design Creativity and Innovation
- recognize evolution patterns and predict the evolution of the product or process.

Model
- and modify the model of a product or process to systematically generate ideas

Apply
- inventive design tools for the product development

Visualise
- and present the generated ideas

Elements

General	Video&Text lectures	Examples	Quizzes	Webinars	Discussions	Assignments and peer-review	Project work
	Theoretical part 24 hours		Activities&Communication 26 hours				Final project work 28 h
Approach	The information is **shared** through learning management system (LMS)- *Thinkific and Facebook group*. **the knowledge is delivered** using the *video, audio, textual materials, and controlled by quizzes*. The **activities arranged** through *quizzes, assignments, webinars, project work and presentation*. The **communication provided** by Webinars, *discussion forum, Facebook group and peer-to-peer reviews*.						
Learning goals	Students familiarize with course structure and understand the basic tools for inventive problem solving within systematic creativity approach «Theory of Inventive Problem Solving» (TRIZ)		Students will check their initial understanding of the topics, cover the gaps in discussions and webinars, therefore extend the understanding of theory. Also in assignment and peer-to-peer reviews students practice learned concepts and construct knowledge, applying to the given problems.				Students learn how to present virtually. They practice TRIZ application to real life problems and try to create innovative solution.

Evaluation Quizzes and Exercises 10% • Peer review 20% • Discussion 15% • Project work 50%

Structure and content

Module 2,3,4

Course consists of 10 main Modules:

Module 1

First Module is introductory, devoted to General framework of design for innovation; the main classification schemes of Design approaches; cognitive studies on designing; design creativity and its influential factors; Patent landscaping
Students familiarize with materials, teachers, instructors and peers through **videos, texts, *discuss,*** brain–surgery ***(quiz)***
Introduction:

Module 2-7

Each module devoted to one topic:
2.. Function modeling
3.. Trimming. System reduction.
4. Cause effect chain analysis
5. Axiomatic design
6. DFMA
7. Trends of Engineering System Evolution (TESE)

- **Each model consists of**
- 1-2 Video lectures
- 1-2 Textual material
- 1 Quiz
- 0-3 Discussion
- 0-5 Examples
- Webinar
- **Within the modules the Project work and visualisation of your model**

Module 8

Last Module contains **summary, and results presentation**

** Course is alternative to the blended course CS30A7390SS Inventive Product design and Advanced TRIZ . If you already completed offline version you can not get credits for it again.*

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