

# CS30A7381SS Systematic Creativity and TRIZ basics Online

TRIZ toolkit for Invention and Systematic Creativity

## < Aims

After having completed the course you will be able to:

### Recognise

- the role, place and institutions of invention in innovation process/business
- the trends of technology/technical system evolution
- tools which support the systematic creativity and inventive problem solving

### Formulate

- the model of inventive (to be) solution

### Model

- a problem situation as a contradiction and apply standard methods of their resolving

### Organise

- effective search/adaptation of the inventive solution

## < Elements

General	Video and text lectures	Quizzes and exercise	Discussions	Web-Ex	Assignments and Peer-review
	Theoretical part 24 hours	Activities in the course 46 hours			
Approach	The information is <b>shared</b> through the separate platform (learning management system-LMS) <i>Thinkific and Facebook group</i> , the <b>knowledge are delivered</b> using the <i>video ,audio, textual materials</i> , and controlled by <i>quizzes</i> . The <b>activities arranged</b> through <i>quizzes, assignments, and final project presentation</i> . The <b>communication between teacher and students</b> arranged through the <i>Webex and discussion forum and between students</i> through the <i>peer review</i> .				
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.			

**Evaluation** • Quizzes and exercises 30 % • Open discussion 20% • Assignments 30 % • Peer review 20%

## < Structure

Course consists of 7 main Modules:

### Module 1

First Module is introductory, devoted to creativity, invention, innovation. Thinking inertia and . Tools for creativity, f TRIZ among them. History of TRIZ. Students familiarize with materials, teachers, instructors and peers through **videos, texts, discuss, brain–surgery (quiz)**  
Introduction:

### Module 2, 3, 4, 5, 6

**Each module devoted to one topic:**

- 2- Patents Patens, Patent search, Intellectual property
- 3- Function, function definition
- 4- Function oriented search. Biomimetics
- 5- Axiom of Ideality in TRIZ, Ideal Final Result. Part 5.
- 6- Contradiction analysis and elimination. Invention as contradiction elimination.

**Each model consists of**

- 1-2 Video lectures
- 1-2 Textual material
- 1 Quiz
- 0-3 Discussion
- 0-5 Examples
- Assignments
- Peer-review
- Webinar

### Module 7

Last Module is a summary for whole work. It contains **summary, brain surgery quiz and final survey**