|  |
| --- |
| **Course Description Form** |
| **Course Code and Name** | TRIZ-Theory of Inventive Problem Solving |
| **Course Semester** | Fall/Spring |
| **Catalog Content** | The logic and tools of TRIZ, Problem solving, Time and Scale, Contradictions, Ideality, Innovation, TRIZ Trends, Contradiction matrix  |
| **Textbook** | TRIZ for Dummies, Lilly Haines-Gadd, John Wiley and Sons, Ltd., 2016.  |
| **Supplementary Textbooks** | TRIZ for Engineers: Enabling Inventive Problem Solving, Karen Gadd, Wiley, 2011.  |
| **Credit**  |  2 |
| **Prerequisites of the Course****( Attendance Requirements)** |  70% Attendance |
| **Type of the Course** |  Elective |
| **Instruction Language** |  English |
| **Course Objectives** | 1. Innovative problem solving
2. TRIZ as a tool
3. Fundamentals of TRIZ Problem solving
4. Contradiction matrix
 |
| **Course Learning Outcomes** | 1. Innovation
2. Problem solving
3. A tool for problem solving
 |
| **Instruction Methods** |  The mode of delivery of this course is “Face to face” |
| **Weekly Schedule** | 1. What is TRIZ? TRIZ tools
2. TRIZ knowledge and examples
3. Fundamentals of TRIZ Problem solving
4. Fundamentals of TRIZ Problem solving
5. Time and Scale
6. The Contradiction Toolkit
7. The Contradiction Toolkit
8. Ideality
9. MIDTERM
10. Innovation
11. Inventing with TRIZ
12. TRIZ system Analysis
13. Semester projects presentations
14. Semester projects presentations
 |
| **Teaching and Learning Methods***(These are examples. Please fill which activities you use in the course)* | Weekly theoretical course hoursWeekly applied course hoursPresentationsPreparation of Midterm and Midterm ExamFinal Exam and Preparation for Final Exam |
| **Assessment Criteria** |

|  |  |  |
| --- | --- | --- |
|  | **Numbers** | **Total Weighting (%)** |
| Midterm Exams | 1 | 30 |
| Assignment |  |  |
| Application |  |  |
| Projects | 1 | 30 |
| Practice |  |  |
| Quiz |  |  |
| Percent of In-term Studies (%) |  | 60 |
| Percentage of Final Exam to Total Score (%) |  | 40 |
| Attendance |  |  |

  |
| **Workload** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Activity** | **Total Number of Weeks**  | **Duration (weekly hour)** | **Total Period Work Load** |
| Weekly Theoretical Course Hours | 15 | 2 | 30 |
| Weekly Tutorial Hours | 14 | 1 | 14 |
| Reading Tasks | 3 | 1 | 3 |
| Studies |  |  |  |
| Material Design and Implementation |  |  |  |
| Report Preparing |  |  |  |
| Preparing a Presentation |  |  |  |
| Presentations |  |  |  |
| Midterm Exam and Preperation for Midterm Exam | 1 | 2 | 2 |
| Final Exam and Preperation for Final Exam  | 1 | 3 | 3 |
| Other ( should be emphasized) |  |  |  |
| Total Workload |  |  | 52 |
| Total Workload / 25 |  |  | 2 |
| Course Credit (ECTS) |  |  | 2 |

 |
| **Contribution Level Between Course Learning Outcomes and Program Outcomes** |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No | Program Outcomes | 1 | 2 | 3 | 4 | 5 |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |
| 12 |  |  |  |  |  |  |

 |
| **The Course’s Lecturer(s) and Contact Informations** |  |