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| antalya bilim Ã¼niversitesi ile ilgili gÃ¶rsel sonucu | **ECTS Course Description Form** |
| **PART I ( Senate Approval)** |
| **Offering School**  | **Engineering** |
| **Offering Department** | **Industrial Engineering** |
| **Program(s) Offered to** | **Industrial Engineering** |  |
| **Other Engineering Departments** | **Elective** |
|  |  |
| **Course Code**  | **IE 465** |
| **Course Name** | **Environmental and Social Advancements in Industrial Engineering** |
| **Language of Instruction** | **English** |
| **Type of Course** | **Elective** |
| **Level of Course** | **Undergraduate** |
| **Hours per Week** | **Lecture: 3** | **Laboratory:** | **Recitation:**  | **Practical:**  | **Studio:** | **Other:** |
| **ECTS Credit** | **6** |
| **Grading Mode** | **Letter grade** |
| **Pre-requisites** | **-** |
| **Co-requisites** | **-** |
| **Registration Restriction** | ***-*** |
| **Course Description** | **This course is designed to teach the students recent advancements in social and environmental areas to increase their environmental and social awareness as future engineers. The topics will include currents trends named as sustainability, Clean production, circular economy, collaborative networks, SME collaboration and Renewable Energy, etc. The students will also be taught about Climate Change and global indices on sustainability and development aiming to inspire them to be part of the change.**  |
|  |  |
| **Learning Outcomes**  | **LO1** | 1. **The student will learn sustainability consumptions.**
2. **The student will learn climate change and risk mitigation effects in industrial engineering.**
3. **The student will learn advancements in social and environmental areas to increase their environmental and social awareness as future engineers.**
4. **The students will learn circular economy and sharing economy issues in industrial engineering.**
5. **Students will prepare an effective project about environmental and social advancement in industrial engineering.**
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| **LO2** |
| **LO3** |
| **LO4** |
| **LO5** |
|  |
|  |
| **Basic Outcomes (University-wide)** | **No.** |
| **Basic Outcomes (University-wide)****Faculty Specific Outcomes** | **PO1** | **Program Outcomes** | **LO1** | **LO2** | **LO3** | **LO4** | **LO5** | **LO6** |
| **PO2** | **Ability** to communicate effectively and write and present a report in Turkish and English.  | 🗸 🗸 🗸 🗸 🗸 🗸🗸 🗸 🗸 🗸 🗸 🗸🗸 🗸 🗸 🗸 🗸 🗸🗸 🗸 🗸 🗸 🗸 🗸🗸 🗸 🗸 🗸 🗸 🗸🗸 🗸 🗸 🗸 🗸 🗸 |
| **PO3** | **Ability** to work individually, and in intra-disciplinary and multi-disciplinary teams. |
| **PO4** | **Recognition** of the need for life-long learning and **ability** to access information , follow developments in science and technology, and continually reinvent oneself. |
| **PO5** | **Knowledge** of project management, risk management, innovation and change management, entrepreneurship, and sustainable development. |
| **PO6** | **Awareness** of sectors and **ability** to prepare a business plan. |
| **PO7** | **Understanding** of professional and ethical responsibility and **demonstrating** ethical behavior. |
| **Faculty Specific Outcomes****Discipline Specific Outcomes (program)** | **PO8** |  |
| **PO9** |  |
| **PO10** |  |
| **PO11** |  |
| **PO12** |  |
| **PO13** |  |
| **Discipline Specific Outcomes (program)****PART III ( Department Board Approval)** | **PO14** |  |
| **PO15** |  |
| **PO16** |  |
| **PO17** |  |
| **PO18** |  |
|  |  |
| **Course Subjects, Contribution of Course Subjects to Learning Outcomes, and Methods for Assessing Learning of Course Subjects** | **Subjects** |
| **Course Subjects, Contribution of Course Subjects to Learning Outcomes, and Methods for Assessing Learning of Course Subjects****Assessment Methods, Weight in Course Grade, Implementation and Make-Up Rules**  | **S1** | **Week** |  | **LO1** | **LO2** | **LO3** | **LO4** | **LO5** | **LO6** |
| **S2** | **1** | **Introduction** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** |  |
| **S3** | **2** | **Climate Change and Risk Mtirigation** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** |  |
| **S4** | **3** | **Sustainibility** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** |  |
| **S5** | **4** | **Circular Economy** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** |  |
| **S6** | **5** | **Sharing Economy** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** |  |
| **S7** | **6** | **Sustainable Consumption** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** |  |
| **S8** | **7** | **Sustainable Mobility** | ***A1-A2-A3*** | ***A1-A2-A3***  | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** |  |
| **S9** | **8** | **Midterm project** | ***A1*** | ***A1*** | ***A1*** | ***A1*** | ***A1*** |  |
| **S10** | **9** | **Project Management** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** |  |
| **S11** | **10** | **Clean Production 1** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** |  |
| **S12** | **11** | **Clean Production** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** |  |
| **S13** | **12** | **Renewable Energy** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** |  |
| **S14** | **13** | **Student Presentations** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** |  |
| **No.** | **14** | **Student Presentations** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** | ***A1-A2-A3*** |  |
| **Assessment Methods, Weight in Course Grade, Implementation and Make-Up Rules** **Evidence of Achievement of Learning Outcomes** |  | **Type** | **Weight** | **Implementation Rule** | **Make-Up Rule** |
| **A1** | **Midterm Exam** | ***30%*** | ***No electronic devices are allowed in the examinations except for calculators.*** | **If the reason for not taking the exam is justified by the school, the student is informed about the time of the make-up exam.** |
| **A2** | **Final exam** | ***40%*** | ***No electronic devices are allowed in the examinations except for calculators*** | **If the reason for not taking the exam is justified by the school, the student is informed about the time of the make-up exam.** |
| **A3** | **Project** | ***30%*** | ***Projects are given by announcing deadline. Homework that are submitted after the deadline are not accepted.*** | **There is no compensation for the Project.** |
| **A4** |  |  |  |  |
| **A5** | **Report** |  | - | - |
| **A6** | **Presentation** |  | - | - |
| **A7** | **Attendance/ Interaction** |  | - | - |
| **A8** | **Class/Lab./****Field Work** |  | - | - |
| **TOTAL** | **Other** |  |  |  |
| **Letter grades determined by weighting on the specified percentages on the grades that are taken from exams, quizzes and homework by the students. The teaching staff can make changes in the student's grades.** | **100%** |
| **Method for Determining Letter Grade** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Activities** | **Midterm Exam** | **Final exam** | **Project** |  |
| **Quantity** | **1** | **1** | **1** |  |
| **Effects on Grading, %)** | **30** | **40** | **30** |  |

 |
| **Teaching Methods, Student Work Load** | **No** |
| **Teaching Methods, Student Work Load****IV. PART** | ***Time applied by instructor*** | **Method** | **Explanation** | **Hours** |
| **1** |
| **2** | **Lecture** | **Lecturing and utilizing chalkboard/whiteboard. Sample questions and answers to strengthen learning. In class exams.** | **3x14** |
| **3** | **Interactive Lecture** |  |  |
| **4** | **Recitation** |  | **-** |
| **5** | **Laboratory** |  | **-** |
| **6** | **Practical** |  | **-** |
| ***Time expected to be allocated by student*** | **Field Work** |  |  |
| **7** |
| **8** | **Project** |  | ***65*** |
| **9** | **Homework** |  |  |
| **10** | **Pre-class Learning of Course Material**  | **New subjects are learned by watching videos or reading course notes before class.** | **42** |
| **11** | **Review of Course Material** |  |  |
| **12** | **Studio** |  | **-** |
| **TOTAL** | **Office Hour** |  | **-** |
|  |  ***149*** |
|  **Instructor Şenay Sadıç** | **Name** |
| **Instructor****Course Materials** | **E-mail** | **senay.sadic@antalya.edu.tr** |
| **Phone Number** | **0553 985 35 00** |
| **Office Number** | **A2-84** |
| **Office Hours** | **It will be determined during the semester.** |
| **Mandatory** |  |
| **Course Materials****Other** | **Recommended** | 1. **‘Theis, Tom, and Jonathan Tomkin. "Sustainability: A comprehensive foundation." (2015).**
2. **McDonough, William. Cradle To Cradle : Remaking the Way We Make Things. New York :North Point Press, 2002.**
3. **Werbach, A. (2009). Strategy for sustainability: A business manifesto. Boston, Mass: Harvard Business Press.**
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| **Scholastic Honesty** |  |
| **Other** | **Students with Disabilities** | **Violations of scholastic honesty include, but are not limited to cheating, plagiarizing, fabricating information or citations, facilitating acts of dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. Any for of scholastic dishonesty is a serious academic violation and will result in a disciplinary action.** |
| **Safety Issues**  | **Reasonable accommodations will be made for students with verifiable disabilities.** |
| **Flexibility** | **The course does not require any special safety precautions.** |
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