



COURSE / MODULE / BLOCK DETAILS

ACADEMIC YEAR / SEMESTER

<b>Offered by:</b> Endüstri Mühendisliği			
<b>Course Title:</b> PRINCIPLES OF SUSTAINABILITY		<b>Course Org. Title:</b> PRINCIPLES OF SUSTAINABILITY	
<b>Course Level:</b> Lisans		<b>Course Code:</b> IND 4912	
<b>Language of Instruction:</b> İngilizce		<b>Form Submitting/Renewal Date</b> 15/06/2012	
<b>Weekly Course Hours:</b> 3		<b>Course Coordinator:</b> YRD.DOÇENT ALİ SERDAR TAŞAN	
<b>Theory</b>	<b>Application</b>	<b>Laboratory</b>	<b>National Credit:</b> 3
3	0	0	<b>ECTS Credit:</b> 4



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FACULTY OF ENGINEERING OFFICE OF THE DEAN

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Offered to:

Course Status: Compulsory/Elective

Name of the Department:

Industrial Engineering

Elective Course

Wire: 0 232 301 72 15

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Access: <http://www.eng.deu.edu.tr>

Address: Dokuz Eylül Üniversitesi Tınaztepe Yerleşkesi 35160 Buca/İZMİR E-mail: [muhendislik@deu.edu.tr](mailto:muhendislik@deu.edu.tr)



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Instructor/s:

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Wire: 0 232 301 72 15

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Access: <http://www.eng.deu.edu.tr>

Address: Dokuz Eylül Üniversitesi Tınaztepe Yerleşkesi 35160 Buca/İZMİR E-mail: [muhendislik@deu.edu.tr](mailto:muhendislik@deu.edu.tr)



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## Course Objective:

To provide an understanding of the main issues in industrial ecology and sustainability based on relevant theories and applications.

## Learning Outcomes:

- 1 Ability to define the main issues in both industrial ecology and sustainability based on relevant theories and cases.
- 2 Ability to explain the importance of industrial ecology and sustainability concepts for industrial engineering activities
- 3 Ability to model the industrial engineering problems considering environmental and sustainability issues
- 4 Ability to solve the industrial engineering problems which considers environmental and sustainability issues
- 5 Ability to follow current sustainability issues in industrial engineering

## Learning and Teaching Strategies:

Instructor notes will be given using blackboard and visual presentations. Additionally, it will be further supported by homework and student presentations.

## Assessment Methods:

Name	Code	Calculation formula
Vize	VZ	
Ödev	OD	
Final	FN	
Bütünleme Notu	BUT	
BNS	BNS	$VZ * 025 + D * 025 + FN * 050$
Bütünleme Sonu Başarı Notu	BBN	$VZ * 025 + D * 025 + BUT * 050$

## Further Notes about Assessment Methods:

## Assessment Criteria:

Midterm (25%) + Assignments (25%) + Final Exam (50%)



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Textbook(s)/References/Materials:

T.E. Graedel and B.R. Allenby, Industrial Ecology and Sustainable Engineering 1st edition, Prentice Hall, 2010, ISBN: 0-13-814034-0

Course Policies and Rules:

Contact Details for the Instructor:

Tel: 301 76 19, e-mail: serdar.tasan@deu.edu.tr

Office Hours:

Course Outline:

Week	Topics:	Notes:
1	Introduction to industrial ecology	
2	Humanity and technology	
3	The concept of sustainability	
4	Industrial ecology and sustainable engineering	
5	Introduction to life cycle assessment	
6	Industrial ecosystems	
7	Material flow analysis	
8	Energy and industrial ecology	
9	Mid-Term Exam	
10	Modeling in industrial ecology	
11	Examples of industrial ecology models	



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12	Scenarios related to industrial ecology
13	Presentations
14	Presentations



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## ECTS Table

Course Activities	Number	Duration (hour)	Total Work Load (hour)
In Class Activities			
Lectures	11	3	33
Tutorials	1	3	3

## Exams

Final	1	2	2
Midterm	1	2	2

## Out Class activities

Preparations before/after weekly lectures	12	1	12
Preparation for midterm exam	1	15	15
Preparation for final exam	1	15	15
Preparing assignments	1	10	10
Preparing presentations	1	10	10
Total Work Load (hour)			102
ECTS Credits of the Course= Total Work Load (hour) / 25			4