AGU Common Course
GLB 301: Sustainability
2021-2022 Fall

INSTRUCTOR AND ASSISTANT RECORD

Instructors	**Dr. Özgür Balkılıç, Dr. Asım Mustafa Ayten, Dr. İsmail Akçok, Dr. Sibel Sarı, Dr. Bilge Yalçındağ, Dr. Heiko Schuss, Dr. Ömer Faruk Aladağ, Dr. Ali Duran, Dr. Ayşe Gül**
Teaching Assistants	**Berk Kesim, Fevzi Can Gürüz, Miray Ünlü, Mehmet Burak Yiğit, Suat Mumcu, Ömer Faruk Ünlüsoy, Adar Cem Lağap, Hediye Yorulmaz, Hande Marulcuoğlu**
Email	TBA (To be announced)
Office Phone	TBA
Office Hours	Could be arranged by AGU e-mail of the instructors
TA Office Phone	TBA
TA Office Hours	TBA

COURSE RECORD

Code	GLB 301
Name	Sustainability
Hour per week	3 (Theory + Practice)
Credit	3
ECTS	4
Level/Year	Undergraduate
Semester	Fall
Meeting time	Wed (11:20-14:00)
Type	Required
Classroom	Online
Prerequisites	NA
Special Conditions	Access to Zoom and Canvas
Webpage	CANVAS Course Website: You will have access for the course syllabus, materials including lecture notes, links to related websites, assignments, articles, etc. You are responsible to check Canvas on a regular basis. Exam and assignment grades will also be available at this site.
Content	This course will cover different aspects of sustainable development and aim to motivate you to develop tangible solutions with the contemporary problems of our world. In consequence order you will be introduced with the basic concepts of sustainable development and several examples of sustainability (sessions and panels) with the participation of speakers, business firms and NGOs, and local government and at the same time you will proceed to conduct a project with a team covering various aspects of sustainability. During the projects, the mentors from different departments and interest areas will provide their mentorship for your projects.
Objectives	1. Through this course our aim is to assist you to understand the nature and the crucial elements of sustainability 2. To improve your design thinking ability in order to solve real problems that global world faces 3. To assist you to develop a project that is applicable for Kayseri by using design thinking model with your team.
Learning Outcomes	You will able to 1. develop critical thinking skills to identify and evaluate problems and issues related to sustainability through online sessions, panels, workshops 2. illustrate your oral presentation skills through several presentations in expressing the stages of your projects 3. display your team working abilities by conducting a project with a team 4. design a project with a team by using different aspect of sustainability 5. develop a number of important soft skills such as summarizing, analyzing,

	synthesizing and presenting a material
Teaching Methodology	This course will have online by using sync/asynchronous tools and face-to-face sessions.
	This course will introduce you with variety of active teaching and learning methods such as, flipped learning, interactive workshops, peer learning, design thinking model, team-based learning.
	Peer interaction is a crucial element for your learning, with that you will work on a joint team project of your choice. With Your team, you will apply design-thinking model combining with the hackathon approach to conduct a tangible solution for a real problem in the world.
	In this course we will be using CANVAS, ZOOM, and other software programs (e.g. mindmeister, mentimeter and padlet) and websites proactively.
Reading List	TBA
Readings & Websites	TBA

ASSESSMENT

Please don't forget that it is the responsibility of students to read this syllabus carefully and to follow due dates. The course grade will be based on total accumulated points derived from learning activities. Points will be awarded as follows.

Assignment	Date	%	Solo/BAT	Rubric/ Explanation
Reflection Paper 1	Oct19	5	Solo	500 words, mention all the guests Similarity index over 20% is given zero.
Reflection Paper 2	Nov2	5	Solo	500 words, mention all the guests Similarity index over 20% is given zero.
Annotated Outline	Nov9	5	BAT	Up to two pages. Include definition of the problem, the literature review, examples, and your field findings.
Team Presentation	Nov10	5	BAT	6-10 minutes. Problem definition 40%, literature review 20%, examples 20%, field surveys 20%.
Individual Solutions	Nov23	5	Solo	Submit your individual solutions to the problem that you defined to discuss in your groups. Word limit 300-500. Briefly introduce the problem, what you learned, what you need to learn. Present at least 3 solutions.
Mini Conference Presentations	Dec 7	10	BAT	Submit your presentation on due date. Present them on Dec 8th in class. There will be more than one juror. Problem definition 20%, literature review 10%, examples 10%, field surveys and their findings 30%, your various solutions 30%
Peer Evaluation-1	Dec 7	5	Solo	Give grades to each BAT member for their effort during the semester.
Preliminary Report	Dec 21	10	BAT	Problem definition 10%, literature review 10%, examples 10%, field surveys 20%, final solution (the solution you chose) 40 %
Peer Evaluation -2	Dec 11	5	SOLO	Give grades to each BAT member for their effort during the semester.
Project Prototype	Jan 11	20	BAT	Field test of prototypes, proofs of the test.
Last Report	Jan 11	10	BAT	Problem definition 10%, literature review 10%, examples 10%, field surveys 20%, final solution 40 % Include feedbacks regarding your prototype from stakeholders.
Project	Jan 11	15	BAT	There will be more than one juror. Poster 50%, presentation 50%

Grading Scale (%)			
A	90-100	C	70-72
A-	87-89	C-	64-69
B+	83-86	D+	56-63
B	80-82	D	50-55
B-	77-79	F	0-49
C+	73-76		

Most grades given during the course of the term will be based on a 100-pt scale. The official decimal class grades (0.0 - 4.0) will be determined from a weighted average of your individual grades. For a detailed description of grading policy and scale of AGU please refer to the website https://oidb-en.agu.edu.tr/uploads/yonetmelik_yonerge/TER%20011421_OIDB_21_Aral%C4%B1k_L%C4%B0SANS_Y%C3%B6netmeli%C4%9Fi_AZG.pdf section 27.

ASSIGNMENTS, PROJECT PRESENTATION AND REPORT

Assignments	There will be assignments throughout the semester. The instructor(s) will announce the instructions and the due dates about assignments through CANVAS. Please, check your email accounts recorded in CANVAS regularly. Please don't forget that it is the responsibility of YOU to read this syllabus carefully and to follow due dates and assignments. It is very important and critical to submit your own work. If your work is found to be a copy from other students work or any sources from the web, it will be considered as plagiarism. The official university policy will be applied to those cases, which include getting zero from all assignments. **For all of your submissions please make sure to include your name and your team members if any name along with your CATXXBATXX numbers.**
Project	With your team, you are expected to develop an idea and make a project. The project is the most important component of this course and students are expected to put effort and develop a good project. Please note that you need to get out of your comfort zone and to conduct a research. In this regard, you need to read materials and talk to and interview people. A final report will be prepared according to a given report format. Selected projects will attend to a competition at the end of the semester. The project will be carried out in teams of **5 to 6 students**. The students will form the teams early in the semester. The teams should follow the specific rules to be formed; the teams should be composed of **at least two different departments** to be interdisciplinary and there should be **at least one international student** and **at most three international students** in a group. All team members should contribute equally to the project. **%10 of your total final grade will depend on the peer evaluation by team members**. Tentative milestones for the project can be seen at the Schedule (at the end of the syllabus). Having formed your teams, you are supposed to choose instructors to work with. While choosing them, you need to persuade each instructor about why you are willing to work with that specific person. *More detailed information about the project steps will be provided later in the class.*
Late submissions	All of the assignments are due at the scheduled dates and times. Please mark your calendar for all due dates (especially project) and follow the

	announcements about the assignments. **Late assignments** <u>**receive a 10% deduction for each day they are late**</u>. **After three days, the assignments will not be accepted.**
Communication	Please regularly check your CANVAS account for the announcements. All of the messages and announcements will be posted to AGU CANVAS.
Flexibility	A tentative schedule for the entire semester is included in this syllabus. Although much thought and planning was put into the course schedule included in the syllabus, the schedule is tentative and subject to change as necessary to adapt to the specific needs of the class. Occasional departures from the schedule, such as additional readings, assignments, and activities, may be announced in class during the semester. Such announcements will take priority over the printed schedule. Therefore, it is each student's responsibility to be in class, on time, and paying attention in order to keep up-to-date with whatever changes are made in the schedule.
Feedback	Your comments and suggestions are very important and will be taken into consideration during the course. Please do not hesitate to provide feedback about the course. You can give your feedback during the class, at office hours, or through e-mail.
Academic Integrity	You are obliged to refrain from acts that they know or, under the circumstances, have reason to believe, will impair the integrity of the university or others. Violations of academic integrity include, but are not limited to, cheating, plagiarism, unauthorized multiple submissions or copying and using somebody else's paper/assignment. Any of these violations will be investigated by the discipline committee and may cause expulsion of the student from the University.

ETHICAL RULES AND COURSE POLICY

Course Policies	• English should be used at all times to communicate with one another during instruction hours. • Please, respect the allotted times provided for breaks. • Cell phones must be turned off and put away during class. Personal computers are only to be used during in-class activities and only for class assignments. Unless it is part of the lecture time activity assigned by the instructor, do not use the computer. When using the computer do not surf on the web or write personal emails, etc. Consequences include but are not limited to loss of participation points and/or being asked to leave the classroom. • Conducting personal business should be done outside of the classroom, on your own time, where it does not interfere with the learning environment of your fellow students. • Unless the class is working on an exercise, or you are interacting with the instructor, you are asked to refrain from talking after the beginning of the class. • Please be prepared, having read, written, watched and studied the assigned lessons, articles, passages, or videos; • Please be ready to write assignments in class that will be graded; and most importantly work cooperatively with other students. For the AGU Make-up policy, please refer to the website given above.
Attendance Policy	Students are expected to attend all classes. Student absences in excess of 3 weeks (4 or more) will result in automatic <u>failure (NA)</u> in the course. It is your responsibility to come to class **on time**. You will be counted absent for your late arrival (5min). Students with medical reports, you need to submit the paperwork to your deanship of faculty in 5 days following the last day of the sick leave. (refer to: Section 26 at Undergraduate Education and Exam Regulation, link given above).

Absence due to medical reasons cannot exceed 2 weeks.

This is a student-driven course. It is your responsibility to participate actively in class discussions. You are not graded on whether you agree or disagree with the instructor or with each other. Evaluation of class participation will be based on your ability to rise and answer important issues, to contribute ideas or insights, to build upon the ideas of others, ask questions to presenters, etc. By actively participating in the class discussions, you can sharpen your insights, and those of your classmates.

Both the quality and frequency of your participation will count towards your grade. Note, however, that high-quality or relevant contribution will earn you a higher participation grade than frequent but insignificant contribution. Also, you will not get any class participation points for just being present in class. Class attendance is a necessary but not a sufficient condition for scoring highly on the class participation.

It is the responsibility of each student to keep track of how you are doing on class participation by checking CANVAS several times during the semester.

For a detailed description of AGU attendance policy, please refer to the Regulation website section 25.

Email Policy	When contacting the instructor or the course assistant, please use the Canvas email feature. Only use the official university mail service if Canvas is not accessible (server down, etc.). Include in the subject line the course code GLB 301. If this information is not included, your email may not be answered. All announcements or warnings will be sent to your official university email address. Therefore it is the responsibility of every student to read his/her official university email address and check the CANVAS regularly.
Cheating & Plagiarism	You are responsible for knowing the University policies on cheating and plagiarism. Not giving credit to a person for their intellectual work and passing it off as your own is stealing. Specifically: • Copying or allowing someone to copy your work on an exam, homework, or in class assignment is cheating. • Cutting and pasting material from the web or any other electronic source is plagiarism. • Copying and turning in the same assignment as someone else, from this class or from another class, is cheating. Unless explicitly told otherwise, you can discuss and problem- solve on homework together but the final product has to be your own – not just your own handwriting but your own way of explaining and organizing your ideas. • Making superficial changes (minor additions, deletions, word changes, tense changes, etc.) to material obtained from another person, the web, a book, magazine, song, etc. and not citing the work, is plagiarism. The idea is the intellectual property, not the specific format in which it appears (e.g., you wouldn't reword Einstein's theory of relativity and imply that relativity was your own idea, would you?) • If you find material and it is exactly what you are trying to say, or you want to discuss someone's idea, give the person credit and cite it appropriately. Don't overuse citations and quotes: instructors want to know how you think and reason, not how some one else does. • If you have any questions or concerns about whether your behavior could be interpreted as plagiarism, please ask the assistants or instructors before you submit the work. For a detailed description of AGU policies, please refer to the Regulation website

whose link given above.

COVID-19 RULES

Course Policies	- DO NOT remove your mask in the studio! - DO NOT change the positions of the tables and chairs! They are placed according to social distance rules. - DO NOT eat or drink in the studio! - Please be careful about the social distance and keep at least 1 m distance to each other. - Please leave the studio after 40 mins for fresh air and ventilation. - Please collect all of your belongings (models, papers, personal belongings etc.) at the end of each studio and clean your table. - Please contact to your instructors or TAs if you have any symptoms such as fever, cough, backache. - Please inform your instructor if you are in a contact with a Covid-19 patient and within the knowledge of him/her, you may attend the lesson remotely.

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W	Date	Topic	Assignments/Activities
1	Oct 6	11.20 Introduction (online-synchronous) 12.00-The Presentations of Instructors (online-asynchronous)	
2	Oct 13	11.20-The E-Panel: The Sustainable Development (online-synchronous) Participants **Dr. Hale Demirtepe (İYTE, The Department of Environmental Engineering)** **Damla Taşkın (UNHCR, Senior Livelihoods and Economic Inclusion Officer)** **Ezgi Gedik Güneş (Eskişehir Tepebaşı Municipality, Local Expert for the Municipial Partnership)** Moderator **Dr. Özgür Balkılıç (AGU, Department of Sociology)**	-Upload a 500-word reflection on the assigned paper to Canvas (due date: Oct 19th, 02.00) -Submit google forms (Oct 18th, 10.00-24.00)
3	Oct 20	11.20-Team Dynamic Exercise and Forming of Teams (online-asynchronous) 12.20-The Wallet Design Activity (face-to-face) 13.20-How to conduct field surveys (online-asynchronous)	
4	Oct 27	11.20-The E-Panel: The Sustainable Development in the City of Kayseri (online-synchronous) Participants **Şafak Çivici (SEFES FURNITURE)** **Mustafa Nebi Doğan (KAYSERI CHAMBER OF INDUSTRY)** **Ahmet Şeref BAHÇECİOĞLU (KAYSERI METROPOLITAN MUNICIPALITY)** Moderator **Dr. Ali Duran (AGU, Department of Nanotechnology Engineering)**	-Upload a 500-word reflection on the assigned paper to Canvas (due date: Nov 2nd, 02.00)
5	Nov 3	11.20-Overview of the second reflection papers (online-synchronous) Definition of the Project Problem Within Groups (online-synchronous) Conducting Field Surveys (Out of Classes)	-Submit a brief description of your project with an annotated outline of your paper and selected references (up to two pages). Your paper must include the definition of your problems, the literature review, examples and your field findings (due date: Nov 9th, 02.00)

6	Nov 10	11.20-The Team Presentations (online-synchronous) Feedback Sessions (online-synchronous)	
7	Nov 17	Fall Break	-Submit your individual solutions to the problem that you defined to discuss in your groups (due date: Nov. 23th, 02.00)
8	Nov 24	11.20-The Game (online-synchronous)	
9	Dec 1	11.20-Video: How to Create Many Ideas for a Problem (online-synchronous) Ideating: Creating many ideas in ideation sessions within teams (online-synchronous)	-Submit mini-conference presentations (due date: Dec 7th, 02.00) -1. Peer evaluation
10	Dec 8	11.20 The Mini-Conference by students (online-synchronous) Feedback Sessions (online-synchronous)	
11	Dec 15	11.20- Idea presentations in teams (online-synchronous) Feedback Sessions in classes (online-synchronous)	-Submit your detailed preliminary report including solutions (due date: Dec. 21nd, 02.00) -2. Peer evaluation
12	Dec 21	09.10- Prototype (face-to-face)	
13	Dec 28	09.10- Prototype (face-to-face)	
14	Jan 04	09.10- Field Test (online-asynchronous)	-Submit your last report including the feedbacks and your final solution (due date: Jan 11th, 02.00)
15	Jan 11	09.10- The Competition (online-synchronous)	

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Dr. Özgür Balkılıç
Title: Social and Cultural Sustainability in Kayseri

Although social and cultural sustainability has drawn less attention than economic and environmental ones, main actors such as states, civil society organizations, business circles who involve in various sustainable projects has recently begun to emphasize that social dimension together with the environmental and economic are the indispensable part of sustainable development. Moreover, last debates emphasize a need to include a forth dimension, that is cultural, to the general definition of sustainability. Including the social and cultural dimensions to the sustainable development, the agenda of sustainability reaches a more comprehensive approach. Social and cultural sustainability can be defined as supporting the capacity of current and future generations to create a more healthy and livable communities and maintaining of cultural beliefs, practices and heritage conservation. Having such an approach, social and cultural sustainability encompasses various topics; such as, social equity, human rights, labor rights, social justice, cultural and religious beliefs, ceremonies, practices. In this regard, the students who choose to involve in this group will deal with several projects aiming to create a more livable society and maintaining different cultural beliefs and practices in Kayseri.

Dr. Bilge Yalçındağ
Title: Creating Pro-sustainable Change in Individuals and Institutions

Most of the difficulties our world faces today results from human behavior. Not only our behaviors, but also values, social norms or attitudes also contribute to these problems. Sustainability, as a preventive approach aims to lengthen the life of the world and increase the quality of it. Sustainability is a multifaceted concept in today's world with its economic, social, environmental, cultural, and security (peace, stability) related point of views. Once we aim to achieve a sustainable future, we may determine our problem area and then work on the attitudes, values, actions, or social norms to change it. Throughout this course we will try to understand sustainable and unsustainable behaviors. We will work on how we can implement pro-sustainable attitudes, values, actions, and behaviors by the individuals or institutions.

Dr. Ayşe GÜL
Title: Environmental Sustainability

Environmental sustainability refers to the responsibility to conserve natural resources and protect global ecosystems in order to support health and well-being now and in the future. Water availability and quality, as well as greenhouse gas-related climate change, are some of the twenty-first century's super challenges. There are various approaches to dealing with these super challenges, some of which save energy and recover water. In this regard, students who choose to participate in this group will work on a variety of projects aimed at creating a more sustainable environment. The projects' topics include renewable energy, water reuse and recycling, composting, water and wastewater treatment.

Dr. Mustafa Asım Ayten
MAIN TITLE/FOCUS:
SDG 11: SUSTAINABLE CITIES AND COMMUNITIES
MOTTO: "Clean environment for a healthy world"
SUBTITLE:
SDG 13: CLIMATE ACTION
SDG 3: GOOD HEALTH AND WELLBEING
There are many different components within the scope of sustainable planning and design in cities. Geography of Settlements, Social life and quality of life, Transportation (Accessibility and Mobility), Urban policies and management (Rational and Sustainable Urban Managements), Cultural and Architectural Heritage and Urban Technical infrastructure. In this context, the main goal is to create Healthy and Livable Cities and Living environments. In this context, (SDG 11: Sustainable Cities and Communities, SDG 13: Climate Action, SDG 3: Good Health and Wellbeing) aims to reach the objectives of SDG 13, which are stated by analyzing where the cities of the future are evolving in the period We enter the 21st century, together with their social, cultural, political and spatial situations and conditions.

Among the aims determined in this direction;

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OBJECTIVES:

1. To learn the planning and projecting processes of cities by discussing them with examples.
2. To apply new visionary approaches and experience their results together with local governments
3. To produce solutions that will reveal their development and resilience in line with different development scenarios related to this area of the city.
LEARNING OUTCOMES:
1. Production of project alternatives (group work) by evaluating together with other sub-topics depending on the main focus of the study (preliminary research, literature and others within the scope of the planning process)
2. Carrying out other scientific studies (articles, papers, etc.)
3. Encouraging the students in terms of trade marks and patents that will reveal and strengthen the entrepreneurial spirit in terms of the originality and innovativeness of the study

Climate change dramatically threatens the world's ecological and social systems. Globally, the growing population and increasing industrial activities create significant pressures on the environment, particularly escalating the climate crisis. A number of countries and international organisations have adopted and prioritised policies aimed at protecting the environment, restoring biodiversity, ceasing pollution of resources and averting climate change.

The road to climate neutrality and minimised risk to human health and biodiversity goes through a wide range of actions extending from increasing environmental awareness in public to the decarbonisation of the markets.

We are taking responsibility for our carbon footprint, involving in various actions to stimulate sustainable development and improve living conditions without compromising the natural system. Putting environmental protection at the core of all our actions, we adopt a multi-stakeholder, inclusive and principled approach; guide and assist decision-makers in policy-making and capacity building.

We also actively participate in awareness-raising, impacting the public's perception of climate change and resulting in a behaviour change with a high level of understanding of the subject.

References:

1. https://www.un.org/en/climatechange/climate-solutions/cities-pollution
2. https://unhabitat.org/topic/climate-change
3. https://www.thelancet.com/action/showPdf?pii=S2542-5196%2821%2900135-2
4. https://www.thelancet.com/action/showPdf?pii=S2542-5196%2821%2900135-2
5. https://www.citiesalliance.org/newsroom/news/results/climate-change-and-cities-infographic
6. https://www.unhcr.org/climate-change-and-disasters.html
7. https://oppla.eu/casestudy/17457, Rotterdam
8. https://www.ilf.com/wp-content/uploads/2018/02/whitepaper_climate_change_ILF-1.pdf
9. https://www.cdc.gov/climateandhealth/effects/default.htm
10. https://www.cdc.gov/climateandhealth/effects/default.htm
11. https://wedocs.unep.org/bitstream/handle/20.500.11822/20629/Resilience_resource_efficiency_cities.pdf?sequence=1&isAllowed=y
12. https://wedocs.unep.org/bitstream/handle/20.500.11822/36586/SSRC.pdf?sequence=1&isAllowed=y
13. https://www.globalgoals.org
14. https://webdosya.csb.gov.tr/db/iklim/editordosya/iklim_degisikligi_stratejisi_EN(2).pdf
15. https://public.wmo.int/en/our-mandate/climate/wmo-statement-state-of-global-climate
16. https://www.uncclearn.org/courses/
17. https://www.ipcc.ch
18. https://www.climatecentral.org/gallery/collections
19. https://uru.niua.org/resources#block-drupal8-zymphonies-theme-content
20. https://cshub.mit.edu/buildings/resilience

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Dr. Heiko Schuss
Title: An Economic View on Sustainability

The production, distribution, and consumption of goods and services is strongly influenced by the prices on local and global markets. The sustainable use of resources like water, soil, energy, petrol, etc. therefore depends on how externalities of the use these resources (e.g. negative effects on the climate) are internalized in the cost calculation of producers and consumers and reflected in the prices. Incentive systems have to be created which solve the dilemmas between individually rational use and the needs of a community or humanity in general, and therefore ensure the sustainable use of these resources. Students who choose this group will study quantities, costs, prices, etc. of water, electricity, heating, transport, garbage, etc. in their daily life and in Kayseri. They will then analyze which price and incentive mechanisms are in place and how they influence consumption. Finally, they will develop suggestions which price and incentive mechanisms might be used to ensure sustainable consumption of those resources.

Dr. Sibel SARI
Title: Health and Sustainability

One of the main improvements in socio-economic development has been reflected in the increasing life expectancy and quality in the recent 50 years at the global level. As the Covid-19 pandemic showed, the health problems need to be tackled at the global level. Finding solutions to health challenges facing the world today and the future is one of the targets of sustainable developments. Remarkably, the main goal is promoting healthy lifestyles which can reduce mortality in non-communicable diseases, preventive measures which can be effective for the restriction of communicable diseases and modern, efficient healthcare for everyone. Throughout this course, we will explore how to reduce the major risk factors for communicable and non-communicable diseases. In addition, we will work on healthcare disparities within developing regions and underserved communities and patients to gain insight into "ensure healthy lives and promote well-being for all at all ages".

Dr. Ali Duran
Title: Industry, Innovation and Sustainable Kayseri Infrastructure

Almost all countries around the world face a wide range of economic and political challenges, including high unemployment with slow growth. Additionally, there are sustainability challenges ranging from pollution, climate change and sustainable industry to an ageing population and migration. Innovation based research and development is a key element for a competitive economy. It drives economic growth and job creation. And fixes all the challenges above. Investment in industrial infrastructure is important to achieve sustainable development. Inclusive and sustainable industrial development is the main source for income generation and rises in life standards. Without technology and innovation, industrialization will not happen, and without industrialization, development will not happen. Sustainable innovation is also the basis for environmentally sound industrialization that can lead to inclusive economic development.

Learning objectives for "Industry, Innovation and Sustainable Kayseri Infrastructure" project is to uncover problems dealing Kayseri industry, to identify the forces that drive sustainability, to determine the capabilities needed to respond to those forces, and to build a solution proposal for the innovative industry goals.

Dr. Ömer Faruk Aladağ
Title: Sustainable Strategic Management

In an era of increasing anthropogenic pressures on the Earth system, businesses are facing unprecedented responsibilities for the preservation of natural and human ecosystems. From the business perspective, sustainability has been viewed as a legal compliance issue for a long period. However, the situation is changing. Increasing number of companies are taking a more proactive approach by integrating sustainability into their strategic management processes. During this course, we will examine how sustainability is becoming an integral part of business strategy through exemplary cases. We will work together to understand how businesses are positioned in the sustainability debate. And more

importantly, we will try to devise new ideas on how business strategy can serve a sustainable future for our planet and species.

Dr. İsmail AKÇOK
Title: Sustainable Chemistry

According to OECD's definition "Sustainable chemistry is a scientific concept that seeks to improve the efficiency with which natural resources are used to meet human needs for chemical products and services. Sustainable chemistry encompasses the design, manufacture and use of efficient, effective, safe and more environmentally benign chemical products and processes."
Sustainable chemistry is also a process that encourages cross-sector collaboration to develop and discover new chemicals, manufacturing processes, and product stewardship practices that will improve performance and value while also protecting and enhancing human health and the environment.

The following are some of the environmental and societal advantages of sustainable chemistry:
- Avoiding the use of persistent, bioaccumulative, toxic, and otherwise hazardous materials;
- Using renewable resources and reducing non-renewable resource consumption;
- Minimizing negative environmental impacts of chemical processing and manufacturing;
- Providing economically competitive technologies for chemical processing and manufacturing

In this section, students are expected to design and propose projects such as use of renewable feedstocks, waste prevention, etc.

Ref: https://www.oecd.org/chemicalsafety/risk-management/sustainablechemistry.htm