Electives “Sustainable Business and Technology” B.Eng.
Winter Semester 2019/2020

Sustainability and Law (Prof. Dr. Kathrin Nitschmann)
The students will gain knowledge about the relationship of sustainability strategies and law and about the analysis of legal textual genres and legal thinking. They will recognize the difficulties of implementing sustainability in positive law and understand legal systems as part of the necessary framework for the implementation of sustainable strategies. The students understand and contextualize relevant legal norms in order to apply them to selected case studies and law projects and to discuss them critically. The acquired knowledge will enable the participants to assess and evaluate sustainable development from a legal point of view.

Remote Sensing (Prof. Dr. Peter Fischer-Stabel)
Students will gain key knowledge in remote sensing technologies. They will be able to analyze various types of remotely sensed data (e.g. optical, radar, lidar etc.), to define appropriate algorithms, and to critically discuss the quality of the results of their analyses. On the basis of the acquired knowledge, students will be able to recognize the benefits remotely sensed data have, especially with view to the recent discussion addressing hot topics such as climate change, loss in biodiversity, natural and technological disaster or atmospheric pollution, to name but a few. On the other hand, the students will be able to deal with the limits of remote sensing technologies compared to In-Situ-Methods.

Environmental Monitoring (Prof. Dr. Stefan Stoll)
Students learn about the objectives and selected methods of environmental monitoring. They will be able to plan and implement monitoring concepts to inform about specific environmental structures and processes, manage monitoring data, perform simple statistical evaluations and present monitoring results adequately.

Energy Informatics (Prof. Dr. Henrik te Heesen)
The students have acquired further knowledge of the structure of modern energy systems and basic knowledge in the transfer of tasks from the energy industry in digital form. They will be able to work out and further develop problem solutions for energy systems and present the results from the energy models.

Sustainable Cities (Prof. Dr. Faezeh Mahichi / Mr. Mahmood Rahimain)
By the end of the course, the students will have a deeper insight on the complexity of urban systems and how every process in the system is interlocked and intertwined with each other. Students will study the urban environmental performances, urban policies in areas such as energy, water and waste management, transportation and buildings in sustainable cities. The lectures, debates and the discussions through the course will improve students’ ability to recognize and understand potential obstacles in developing and applying strategies to improve the current cities towards a more sustainable condition. The application of the skills presented and practiced will enable students to explore the contribution of cities on sustainable development goals (SDGs and apply their insight in designing sustainable cities in their home countries for their research projects.