

## **23<sup>rd</sup> International Project Week** **12<sup>th</sup> – 16<sup>th</sup> July 2021**

**Lecturer:** Andrey Nikishin

**University/Company:** Kaliningrad State Technical University

**Country:** Russia

---

### **Development of small energy source for individual household electricity supply using design thinking method**

**Content:**

The idea of the project is to inspire students to develop a prototype of a small energy source for individual household electricity supply using the design thinking method. We encourage the team to be multidisciplinary so we can take into account different aspects of the problem (physics of electricity production, development of product key properties, engineering of the prototype, economics of the product, market assessment of the product, sociological aspects of product acceptance, etc). The study process will be organized in form of facilitation sessions, provided by the project moderator, which can also take the role of electrical engineer expert if needed. During the sessions, students in teams will go through all 5 stages of design thinking method: empathize, define, ideate, prototype and test the product developed by the team. Based on team competence and dynamics we will complete one or two iterations of the process and provide a prototype of the product for presentation.

**Methods:**

Team project work using design thinking method. The teamwork will be facilitated by the moderator. The optimal team size for educational purposes is 5-7 people. If there are more student, multiple teams can be created.

**Competences and skills to be acquired:**

Students will be able to:

- work in cross/multi-disciplinary team|
- define their role as a team member|
- develop and use strong sides of identity as a team member|
- use creative and innovative potential|
- provide arguments, based on available data|
- assess resources and data credibility and quality|
- develop communication skills|
- interview people out of the team|
- develop and test a product model and prototype|
- adapt parameters on demand in a short amount of time for the project|
- recognize opportunities for innovative decisions based on research|
- define the importance of available data from a project development point of view|
- make decisions based on available data.

**Prerequisites:**

Team for DT should be a cross/multi-disciplinary team, consisting of a mix of specialists, including some associated with problem areas, contributing but not dominating. No other special requirements.

**Language of instruction:**

English

**Recommended for:**

Engineering