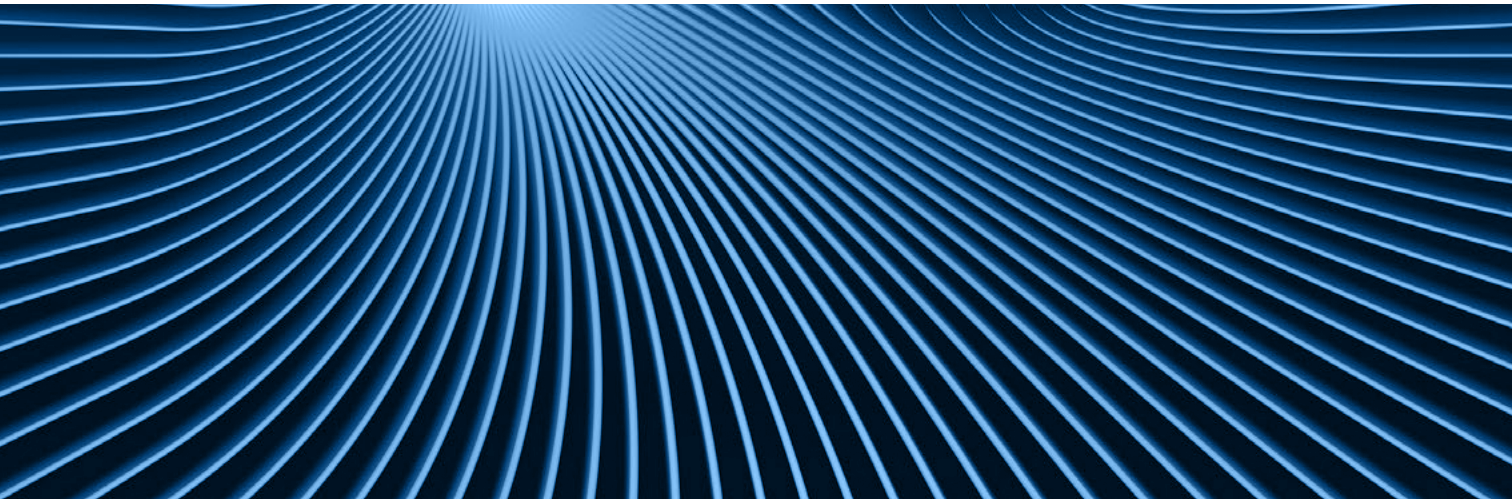
POLYTECH
Peter the Great
St. Petersburg Polytechnic
University

ENGINEERING

CONTINUUM MECHANICS: FUNDAMENTALS AND APPLICATIONS



PROGRAM NAME: Continuum Mechanics: Fundamentals and Applications

AWARD: Master of Science

MODE OF STUDY: full-time

COURSE DURATION: 2 years: 3 semesters at SPbPU + 1 semesters at a partner university (optional)

PROGRAM OUTLINE: The program is aimed to prepare professionals and experts who are able to formulate and solve a wide range of problems arising in various fields of continuum mechanics – both mechanics of solids and fluids. The course is supported by engineering applications in hi-tech and advanced manufacturing technologies.

CURRICULUM (GENERAL MODULES):

MODULES	ECTS
Basic Courses: Mechanics and Thermodynamics of Continua, Elasticity, Plasticity, Computational Solid Mechanics, Fluid Mechanics, etc.	30
Professional Courses: Fracture Mechanics, Micromechanics of Strength and Plasticity, Multiphase Flows, Computational Fluid Dynamics, etc.	30
Advanced knowledge: Mechanics of Rods and Shells, R&D of Mechatronic Systems, Mechanics of Coupled Fields, Micromechanics of heterogeneous media, etc.	30
Master's Thesis and Scientific Research Work	30
Total	120

ENTRY REQUIREMENTS: Bachelor's, Specialist's or Master's degree in a relevant area is required / English language proficiency - B+ (CEFR B2) / Exam Test in a relevant field of studies / Interview in English with a program coordinator (Skype option is available)

PARTNERS:

- The Netherlands — Delft University of Technology
- Germany — Technical University of Berlin
- France — École Polytechnique
- Finland — Aalto University

CAREER OPPORTUNITIES: Our graduates will obtain the skills and develop critical thinking which are necessary to do both fundamental and applied research, using theoretical and computational mechanics of solids, gas and fluids in one pack, and, thus, beneficial for prospective international academic career or career in R&D departments of the aerospace, automotive, mechanical engineering power industries.