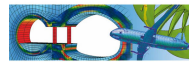


Computational Science: Mechanics

Department of Mathematics, University of Oslo

Planned start: Fall 2018



Why Computational Mechanics

Did you know that the largest waves along the Norwegian coast can be more than 100 meters high and are located on the interface between light and heavy water far below the sea surface? How much damage can a flood wave - tsunami - cause along the coast? Can gigantic waves in the ocean explain mysterious shipwrecks? Are you interested in safety or the environment for ships and oil platforms in stormy or arctic environments? Do you wish to work with industrial flow problems such as simultaneous transport of oil and gas in the same pipeline, so-called multiphase flow? Or do you want to learn about how biomechanics is used to understand the mechanisms behind heart failure, strokes or Alzheimer's disease.

The Computational Mechanics study option. The Computational Mechanics study option gives practical experience with basic scientific methodology and thinking, and it teaches you how to develop various tools based on mathematics, computer science and mechanics and to use these tools for solving important problems within science, industry and society. Computational Mechanics includes both fluid and solid state mechanics with a common basis from continuum mechanics.

Study environment. This is new program at the University of Oslo and through various activities, spanning from common meetings and field trips to various social gatherings, we will gradually build up a top learning environment where you will thrive as a student and learn to develop your scientific creativity. The University of Oslo offers a rich and active student environment with more than 200 student led activities and organizations.

Studies abroad. All study options offer possibilities for stays abroad. Planning a semester or more abroad or performing parts of your thesis at a collaborating institution is something we highly recommend. As a student in this program you have a number of interesting international exchange possibilities. The involved researchers have extensive collaborations with other researchers worldwide. These exchange possibilities range from top universities in the USA, Asia and Europe as well as leading National Laboratories in the USA. Don't hesitate to get in touch with the contact person of your study option in case you plan to spend some time abroad. Studies at other institutions can be planned from the very first semester of this Master of Science program.

Students at the University of Oslo may choose to [take parts of their degrees at a university abroad](#). The University of Oslo has exchange agreements with other universities in different parts of the world. [The MN Faculty has additional exchange agreements with many universities abroad](#).

Career prospect. A significant aspect of this program is the ability to offer new educational opportunities that are aligned with the needs of a 21st century workforce. Many companies are seeking individuals who have knowledge of both a specific discipline and computational modeling. And candidates who are capable of modeling and understanding complicated systems in natural science, are in short supply in society. The computational methods and approaches to scientific problems that you will learn when working on your thesis project are very similar to the methods you will use in later stages of your career. To handle large numerical projects demands structured thinking and good analytical skills and a thorough understanding of the problems to be solved. This knowledge makes you unique on the labor market.

Career opportunities are many, from research institutes, universities and university colleges and a multitude of companies. The program gives an excellent background for further studies, with a PhD as one possible goal.

The program has also a strong international element which allows students to gain important experience from international collaborations in science, with the opportunity to spend parts of the time spent on thesis work at research institutions abroad.