

Materials science -module (11 ECTS)

Vastuuhenkilö professori Petri Kärenlampi

3513055 Forest products mechanics 6 ECTS

3513159 Structure and properties of wood-based materials 5 ECTS

The student will be able to analyze, evaluate, and develop an understanding of the mechanical behavior of structures, in particular those made of porous, anisotropic, hygroscopic, and time-dependent materials. He/she will be able to deduce relations between the structure and the properties of such materials.

Puun hankinta ja korjuu -moduuli (12 op)

Vastuuhenkilö professori Teijo Palander

3513186 Puunhankinnan johtaminen, logistiikka ja operaatioanalyysi 6 op

3513177 Puunkorjuun suunnittelu ja harvesterin katkenta 6 op

Moduulin suoritettuaan opiskelija hallitsee metsäteollisuuden puunhankintaan liittyvät suunnittelu-, päätöksenteko- ja johtamismenetelmät, joita tarvitaan johto-, tutkimus- ja kehittämistehtävissä. Lisäksi hän hallitsee ainespuun korjuun ja kuljetuksen sekä tietää puunhankinnassa käytettävän kaluston ja ohjausjärjestelmien perusteet.

Fibrous products and instrumentation -module (10 ECTS)

Vastuuhenkilö professori Petri Kärenlampi

3513057 Fibrous products 5 ECTS

3513058 Measurement, scaling and instrumentation 5 ECTS

The student will be able to analyze, evaluate, and develop an understanding of manufacturing processes and product properties, utilizing high-school level mathematics and physics. The student will have some knowledge regarding techniques and systems for measurement and instrumentation, and consequently an ability to evaluate and sketch measurement applications.

Forest bioenergy -module (12 ECTS)

Vastuuhenkilö apulaisprofessori Blas Mola

3513019 Bioenergy markets and policies 6 ECTS

3513129 Supply and energy use of lignocellulosic biomass 6 ECTS

After completing the studies in this module, the student understands how forest biomass and peat are produced for energy production and he/she is able to apply his/her skills in managing forests for producing energy biomass in the context of sustainable forest management.

Wood materials science and biorefining -module (10-20 ECTS)

Vastuuhenkilö yliopistotutkija Antti Haapala

Valitse seuraavista opintojaksoista vähintään 10 op:

3513142 Basics of wood materials science 4 ECTS

3513135 Innovation management 4 ECTS

3514017 Industrial forest biotechnology and biorefining 6 ECTS

3513147 Perspectives to bioeconomy 6 ECTS

After completing the studies in this module, the student understands the possibilities and challenges of wood as a raw material for traditional and novel bio-based products. In addition, she/he knows how to run a development project and understands the principles of innovation process. Wood science is a perfect module for students who aim at product or process development duties in industries or academia.