



Key Action: Learning Mobility of Individuals
Action Type: Erasmus Mundus Joint Master Degrees

Project Title

Master's programme in Security and Cloud Computing

Project Coordinator

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Project Information

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Partners KUNGLIGA TEKNISKA HOEGSKOLAN (SE) , EURECOM (FR) ,
DANMARKS TEKNISKE UNIVERSITET (DK) , TARTU ULIKOOL (EE) ,
NORGES TEKNISK-NATURVITENSKAPELIGE UNIVERSITET NTNU
(NO)

Project Summary

SECCLO-Master's programme in Security and Cloud Computing (120 ECTS) is a two-year engineering programme which gives students a broad understanding of the latest and future technologies for secure cloud and mobile computing systems. Students will gain both practical engineering knowledge and theoretical insights into secure systems engineering, distributed application development, network and service architectures, and cloud and mobile platforms. SECCLO focuses on two specific aspects of modern computing systems: cloud computing, which in a broad sense means highly distributed and scalable computation and data storage in data centers as well as physically accessible devices, and information security, which means protection of computation, communication and data from unauthorized access. While cloud computing is a highly technical area that directly enables the implementation of modern ICT services, information security is a cross-cutting requirement that encompasses both technical and non-technical issues. The 120 ECTS credits will be divided into two blocks: two semesters of courses (60 ECTS) will be provided by the entry university Aalto. The first year of the program at Aalto covers fundamental concepts, methods and the latest technologies on secure systems engineering, distributed application development, network and service architectures, ubiquitous computing, and cloud and mobile computing platforms. After first year, the student move to their exit university where they are able to specialize (30 ECTS) in communications systems design (KTH), information security (NTNU), reliable distributed systems (DTU), cryptography (UT) or big data security (EURECOM). The fourth semester is dedicated to thesis research and writing (Master's thesis, 30 ECTS). Summer school and internship are included into the programme. The studies are closely linked with research at the partner universities. The graduates are well trained for international industrial R&D jobs, security engineering and consulting, various expert roles, and doctoral studies at the partner universities and internationally. The programme leads into two national Master of Science degrees (double degree) from those universities where the student has completed his/her studies. The universities participating to SECCLO-programme are: Aalto University School of Science – Aalto, Finland (coordinator); The Royal Institute of Technology – KTH, Sweden; The Norwegian University of Science and Technology – NTNU, Norway; The Technical University of Denmark – DTU, Denmark; University of Tartu – UT, Estonia; EURECOM, France. Associate members: F-Secure Corporation, Finland; VTT Technical Research Centre of Finland; Intel Labs Europe, Germany; Nokia Bell Labs, France; Cybernetica AS, Estonia; GuardTime, Estonia.

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