



ILNAS
HIGHER EDUCATION

University Certificate · Curriculum



OVERVIEW

The curriculum of the university certificate *Smart ICT for Business Innovation* (SICTBI) was developed by ILNAS, the Luxembourg's standards body, in close collaboration with the University of Luxembourg.

The one year programme aims to respond to the growing need for talented and innovative ICT professionals in Luxembourg and worldwide. It is structured into 6 knowledge blocks that introduce essential concepts and tools to implement innovative ideas in the field of Smart ICT and an internship, where students will have the opportunity to develop a project based on their newly learned skills and knowledge.

MODULE 1

SMART ICT CONCEPTS



The objectives of this module are to outline the foundations of Smart ICT and to introduce the global context of the certificate. Additionally, expectations and ideas for the certificate final project will be explored in order to enable the students to shape the problem of the final report and identify challenges.

15 HOURS · 1 ECTS

MODULE 2

BUSINESS INNOVATION



The objective of the module is to acquire fundamental knowledge and tools concerning business innovation and to allow students to develop and assess a business strategy to effectively implement innovation in their own

company.

- Business development
- ICT development and innovation
- Business innovation

15 HOURS · 2 ECTS

MODULE 3

TECHNICAL STANDARDISATION



This module introduces technical standardisation. The first part is dedicated to present standardisation and its environment (definitions, stakeholders, organisations, principles and challenges) and the second part provides a detailed analysis of standardisation activities in Luxembourg, focused on the ICT sector. Finally, the third part describes the Multi-stakeholder platform (an advisory expert group on all matters related to European ICT standardisation).

- Overview of ICT standardisation
- Standards analysis of the ICT sector Luxembourg
- European multi-stakeholder platform on ICT standardisation

18 HOURS · 2 ECTS

MODULE 4

DIGITAL INTELLIGENCE



IT projects require the support and involvement of business leaders. In order to raise awareness for this important issue, this module will focus on essential knowledge concerning ICT governance. It aims to foster the identification of niche markets or new potential economic developments and it provides inputs on technology trends, opportunities, challenges and areas of increased/decreased interest for business in the Smart ICT field.

- ICT prospective
- Development of ICT standardisation
- ICT governance concept

27 HOURS · 3 ECTS



CONTACT ILNAS:
Dr. Jean-Philippe Humbert · Course Director
email: formation@ilnas.etat.lu



CONTACT UNIVERSITY OF LUXEMBOURG:
Prof. Pascal Bouvry · Course Director
email: seve.infos@uni.lu

MODULE 5

SMART PLATFORMS



This module introduces:

- Current practices of Cloud computing and its economic drivers and underlying technologies: cloud characteristics, service models (XaaS), deployment models (private, public, hybrid), and trends in Cloud computing;
- Requirements, challenges and technical options to develop services and infrastructures for Smart cities;
- The Internet of Things (IoT) and its potential for innovative business development.

Green ICT is another important topic covered by this module. Many environmental issues, such as energy consumption or e-waste, are raised due to ICT but also solved by ICT. Students therefore investigate the questions of energy efficiency or sustainability of ICT products and services.

- Cloud computing
- Smart cities
- Internet of Things
- Green ICT and Green by ICT

42 HOURS · 3 ECTS

MODULE 6

SMART INTERACTIONS



During this module, basic concepts and characteristics of sensor networks will be covered and the main types of sensors and associated protocols, architectures and applications will be identified. In addition, development trends and links with Smart cities and Smart grids will be provided.

Big data and analytics is another topic introduced during this module. It investigates several tools and techniques of Big data and analytics to understand how to integrate them in the business environment to create value.

The essential knowledge to understand the significance of Digital trust for the development of digital environments will also be addressed. It details ILNAS supervision activity regarding the supervision of Digital trust providers and presents the current and future regulation developments framing the domain of Digital trust (European regulation of the European Parliament and of the Council on electronic identification and trust services for electronic transactions in the internal market, national e-archiving law).

- Sensor networks
- Big data and analytics
- Digital trust

36 HOURS · 3 ECTS

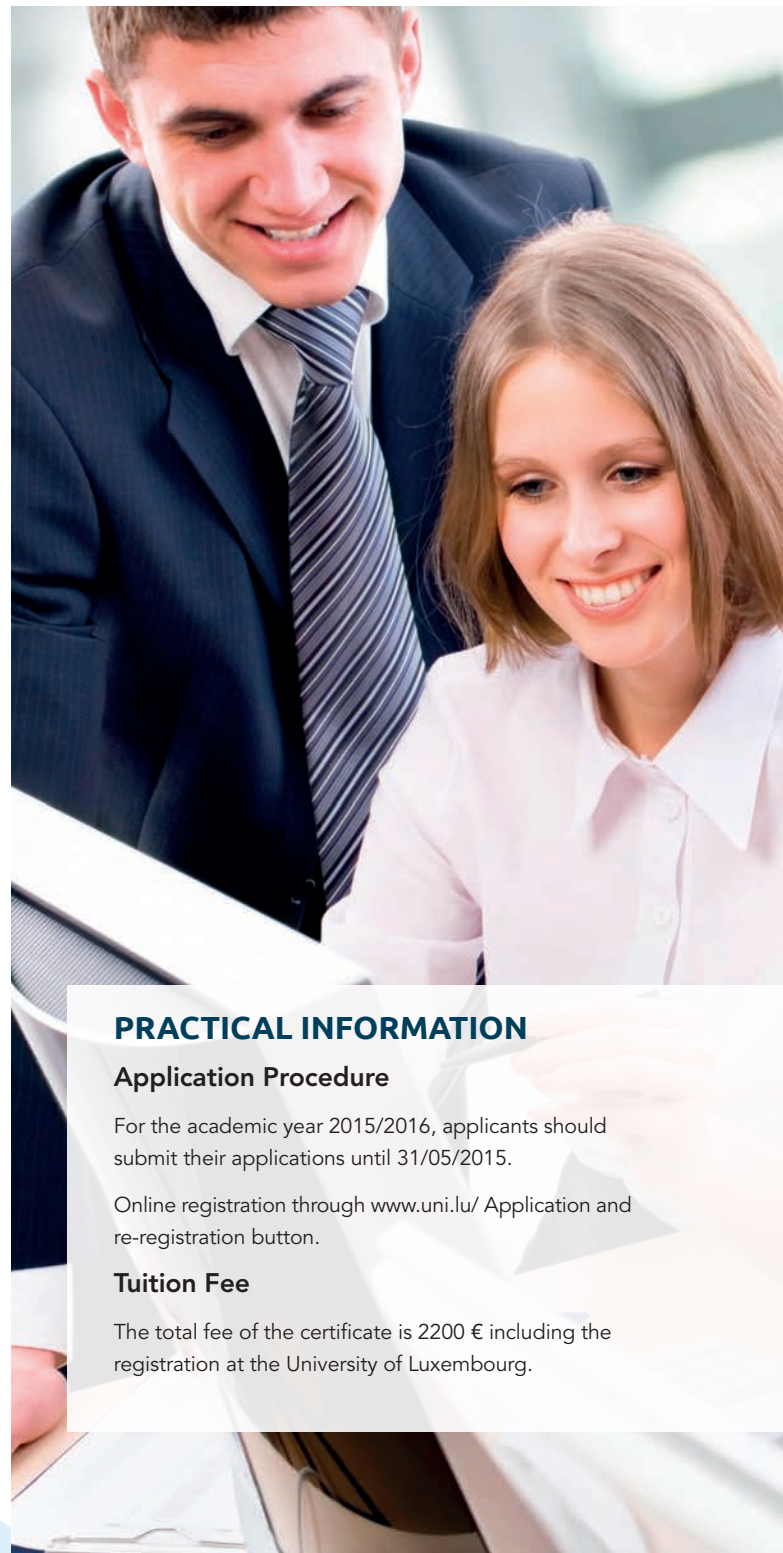
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INTERNSHIP AND CERTIFICATE REPORT



As an integral part of the programme, students are required to perform an internship in a company. The internship is an opportunity for students to apply the ideas and techniques explored during the 1st semester, namely Smart ICT and Technical Standardisation concepts, and to implement new technologies into the working environment. The main research topic will focus on "How to efficiently implement Smart ICT in my company?".

48 HOURS · 4 ECTS



PRACTICAL INFORMATION

Application Procedure

For the academic year 2015/2016, applicants should submit their applications until 31/05/2015.

Online registration through www.uni.lu/ Application and re-registration button.

Tuition Fee

The total fee of the certificate is 2200 € including the registration at the University of Luxembourg.



ILNAS
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SUPPORTING ORGANISATIONS:



LE GOUVERNEMENT
DU GRAND DUCHÉ DE LUXEMBOURG
Ministère de l'Économie



DIAMOND PARTNER - CLASS OF 2015 OFFICIAL SPONSOR:



GOLD PARTNERS:



digital intelligence



SILVER PARTNERS:



THE POWER TO KNOW.



ILNAS
Institut Luxembourgeois de la Normalisation, de l'Accréditation,
de la Sécurité et qualité des produits et services
Southlane Tower I · 1, avenue du Swing · L-4367 Belvaux
tel.: (+352) 24 77 43 70 · email: formation@ilnas.etat.lu

UNIVERSITY OF LUXEMBOURG

Faculty of Science, Technology and Communication

Campus Kirchberg · 6, rue Richard Coudenhove-Kalergi · L-1359 Luxembourg
tel.: (+352) 46 66 44 6617 · email: seve.infos@uni.lu · http://smartict.uni.lu

