

**Curriculum at Lahti University of Applied Sciences  
2017-2018**

**Master's Degree Programme in Smart Industries and New  
Business Concepts 17**

Code	Name	1 y	ECTS total
<b>TEYATL17-1000 CORE COMPETENCE</b>			<b>50</b>
<b>TEYATL17-1001 Advanced Professional Studies</b>			<b>20</b>
<b>TEYATL17-1004 User-centred Approach and Innovation Capability</b>			<b>10</b>
TE00BB78	Product and Service Concepts in Smart Industries	5	5
TE00BB79	Managing Networks	5	5
<b>TEYATL17-1005 Robotisation and Industrial Symbioses</b>			<b>10</b>
TE00BB80	Potentials of Digitalisation and Robotisation	5	5
TE00BB81	Resource Efficiency and Industrial Symbioses	5	5
<b>TEYATL17-1002 Thesis</b>			<b>30</b>
LA00BF06	Thesis	30	30
<b>TEYATL17-1003 COMPLEMENTARY COMPETENCE</b>			<b>10</b>

**TEYATL17-1000 CORE COMPETENCE: 50 ECTS**

**TEYATL17-1001 Advanced Professional Studies: 20 ECTS**

**TEYATL17-1004 User-centred Approach and Innovation Capability: 10 ECTS**

**TE00BB78 Product and Service Concepts in Smart Industries: 5 ECTS**

**Learning outcomes**

The students is able to

- apply design thinking in their work
- acquire and utilise user data in development work
- describe what service design is
- utilise user-oriented methods in solution business
- evaluate product and service solutions critically
- evaluate the added value brought by design thinking in production processes

**TE00BB79 Managing Networks: 5 ECTS**

**Learning outcomes**

The student is able to

- develop an organization's innovation capability

- utilise different networks and information channels when improving operation
- describe an open innovation environment
- identify the opportunity of using weak links in creating innovations
- lead virtual teams

## **TEYATL17-1005 Robotisation and Industrial Symbioses: 10 ECTS**

## **TE00BB80 Potentials of Digitalisation and Robotisation: 5 ECTS**

### **Learning outcomes**

The student

- can identify the potentials of digitalisation in the development of technology industry
- can describe the significance of the industrial internet in the smart factories of the future
- knows the main principles of the flexible manufacturing system (FMS), including what technologies are required
- knows the structures and programming methods of industrial robots, and identifies possible applications for them
- can apply identification technologies in industrial digitalisation
- knows how to take usability into account when developing technical applications

## **TE00BB81 Resource Efficiency and Industrial Symbioses: 5 ECTS**

### **Learning outcomes**

The student is able to

- describe the main principles of circular economy and understand the significance of resource efficiency as part of the wider concept of circular economy
- name different industrial symbioses
- explain the main principles of life cycle analysis methods
- assess the environmental impacts during the life cycle of products and processes, as well as the possibilities to reduce them
- identify methods to improve material and energy efficiency in different environments
- plan recycling possibilities for different material and by-product flows
- utilise Lean thinking

## **TEYATL17-1002 Thesis: 30 ECTS**

## **LA00BF06 Thesis: 30 ECTS**

### **Learning outcomes**

The student is able to

- generate new knowledge and renew ways of working combining competencies from various sectors
- manage research, development and innovation projects and apply research and development methods
- utilise the research data in operational management and development
- critically analyse, reflect on and combine different approaches to operational development

## **TEYATL17-1003 COMPLEMENTARY COMPETENCE: 10 ECTS**

### **Courses included in the study module**

You can find Complementary competence courses from separate "Complementary competence courses taught in English, Master's Degree, 17S-" Curriculum.

In addition, you can choose Professional Core Competence courses of other Master's Degree Programmes as Complementary competence courses.