MICROBE

Co-funded by the Erasmus+ Programme of the European Union

Minimizing the influence of coronavirus in a built environment

MICROBE

IO1/A5. Development of the MICROBE personalized MOOCs content and teaching materials

Project No: 2020-1-LT01-KA203-078100

Tallinn University of Technology: Construction Management MOOC course

Course title in Estonian
Ehituse juhtimine

Course title in English
Construction Management

ECTS credits
6.0

Assessment form
Examination

Teaching semester
Autumn

Course aims
To give the overview about management and its role in the society, explain the development of an organization, describe the roles and competences of a manager in construction; describe the different applications of management in the construction sector. Develop crucial skills like critical thinking and synthesis in students.
The courses encourage the search for suitable design ideas, trends, and planning theories to provide the required protection from virus attacks. Infectious disease have already transformed our places through architecture, design, and urban planning, therefor build environment professionals should be able to use the retrospective view when proposing future approaches to the post-pandemic era. The courses encourage also a "bounce forward" approach to designing and making public spaces (e.g. offices, meeting rooms, front offices) usable for workers in a post-pandemic era. This approach relies on a more sustainable pathway from an economic, social and environmental point of view. Besides students, possible targets of this course are represented by architects, urban planners, health & safety managers, and public space designers.

Learning outcomes in the course
The student is able to:
- understand the role of a manager in an organization and the principles of developing organizations;
- understand the management process and its major stages;
- understand the necessity of decisions and norms in an organization and compile production norms;
- understand the importance of management and its applications in the construction sector.
- understand what impact infectious diseases had on architecture and urban planning. The examples of diseases are not limited: tuberculosis, typhoid, polio, Spanish flu.
- discuss and propose a vision about the future of the antivirus-built environment.
-analyze potential solutions using interdisciplinary approach: construction technology, digital transformation, psychology, medicine, history, chemical engineering, material engineering, IT.
- understand spatial aspects to be taken into consideration when designing working spaces, according to the tangible and intangible values and role of the different services they can offer.
- analyze new needs in a working environment
- devise innovative ways for a more efficient and effective use of working spaces
- identify strategies to involve stakeholders
- experiment a participatory processes training

Brief description of the course
Scope of management and management science. Theory about organizations. Terminology related to systems. Management system. Motivation. Decision-making, delegation and risk. Strategic management. Organizing: channels of communication, exchange of information, conflict management. Staffing. Division of labor. Controlling, norming, feedback. Quality management in construction. Management structures in the construction sector. Design of an organization. Classification of working time, work-study in construction. Methods of work-study. Labor market. Wage systems. Impact infectious diseases had on architecture and urban planning. Innovation in construction management and technology. Strategies to cope with post-pandemic build environment requirements. Impact of Covid-19 pandemic on the design and organization of the working time & spaces of a Public Administration.
Strategies to cope and communication actions to implement in public working environments.

Study literature
Lincoln H.Forbes; Syed M.Ahmed. Modern Construction. Lean Project Delivery and Integrated Practices. 2011

Daytime study: weekly hours
4.0
lectures
3.0
exercises
1.0
Session-based study workload (in a semester): lectures
1.0

Structural unit teaching the course
EA - Department of Civil Engineering and Architecture

Evaluation criteria

<table>
<tr><td>Grading methods</td><td colspan="3">oral exam</td></tr>
<tr><td>Grading criteria</td><td colspan="3"><table>
<tr><td>0</td><td colspan="2">• poor knowledge of basic criteria</td></tr>
<tr><td>1</td><td colspan="2">• not sufficient knowledge of basic criteria</td></tr>
<tr><td>2</td><td>basic criteria</td><td>• knowledge of basic terms of management
• knowledge of basic principles of management theories
• is able to describe the role of management for the society</td></tr>
<tr><td>3</td><td>additionally to previous</td><td>• is able to give good reasoning to basic criteria
• is able to interrelate management theory to everyday practice</td></tr>
<tr><td>4</td><td>additionally to previous</td><td>• is able to carry out good reasoning on the topics discussed on the exam</td></tr>
<tr><td>5</td><td>additionally to previous</td><td>• has additionally read management related literature and is able to analyse it</td></tr>
</table></td></tr>
<tr><td>Allowance to grading</td><td colspan="3">homeworks have been defended; essay is presented</td></tr>
<tr><td>Forming the final grade</td><td colspan="3">homeworks are the allowance to exam; during the exam the essay has to be defended and the student has to answer three questions</td></tr>
</table>