



ERASMUS+ PROGRAMME
2018-1-R001-KA203-049458
INNOVATIVE EDUCATIONAL INTEGRATION OF URBAN
PLANNINGS BASED ON BIM-GIS TECHNOLOGIES AND FOCUSED
ON CIRCULAR ECONOMY CHALLENGES



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

MULTIPLIER EVENT in Poland by Civil Engineering Faculty Warsaw University of Technology

BIM related courses at the Civil Engineering Faculty of WUT



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Centro Tecnológico
del mármol, piedra y materiales



Warsaw University
of Technology



Mikołajki Gołębiewski, 22nd November 2019



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BIM related courses at CEF WUT

Bachelor's Degree:

- Information Technologies
- Informatics I
- Informatics II
- Technical Drawing II
- Computer Methods in Management
- Design of Building Structures Using 3D+ BIM Model
- Implementation of BIM Design of Structures



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BIM related courses at CEF WUT

Master's Degree:

- Design Methodology of Construction Process
- BIM in Digital Construction
- Application of 3D+ BIM Model in the Design of Building Structures



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Application of 3D+ BIM Model in the Design of Building Structures

Purpose of course:

Understanding and mastering principles of 3D+ BIM modeling of structural systems. Learn the basics of Revit and Robot collaboration in order to carry out fast and easy structural and static calculations.



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Application of 3D+ BIM Model in the Design of Building Structures

Contents of education:

Main topics discussed and practiced during class are: 1. Modeling structural systems with help of parametric 3D model. 2. The detailing and accuracy of the 3D model versus the analytical model applied in structural analysis. 3. Editing and adjusting an analytical model corresponding to structural model. 4. Static analysis and dimensioning with the help of available engineering programs. 5. Worksharing in design team and multidisciplinary coordination with BIM tools.



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BIM in Digital Construction

Purpose of course:

1. Teach students how BIM works.
2. Teach students how to organize the project in different phases of project's lifecycle.
3. Train students how to use different tools for concrete tasks and optimize their work.
4. Exceed the max level of automation with the help of practical experience.



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BIM in Digital Construction

Contents of education:

The subject is based on a realization of the realistic project that was already prepared by teachers. The practical experience provided by teachers and industry representatives (who will be also invited in the course) will help to build a comprehensive picture on a use of state-of-the-art technologies in Design. Moreover, students will learn how to coordinate the project and exceed high level of collaboration for all planning partners.



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Design methodology of construction processes

Contents of education:

1. Determination of the purpose and scope of the construction processes.
2. Methods for determining a set of design solutions (brainstorming; synectic, benchmarking; morphological method).
3. Multi-criteria method of selection and evaluation of design solutions.
4. Limitations appearing in determining a set of design solutions.
5. Optimization solutions realization (value management, value engineering).
6. Design brief.
7. Organisation and management of resources in the implementation of construction processes.



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Design methodology of construction processes

8. Scheduling and monitoring the progress of the construction process.
9. Cost management of construction processes. 10. Risk analysis in the construction process. 11. Permits and approvals required in construction processes. 12. Procurement, contracting, forms of entrepreneurship. 13. Quality control and standards required in construction. 14. Commissioning and acceptance. 15. Post contract activities.



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