Finishing Technology of the Building

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The workshop "Finishing technology of the building" is planned to take place in the first semester of the second year. This workshop presents from a construction engineer's point of view several different technologies and applications for building refinishing. In this workshop, different materials and systems are treated in order to increase comfort and techniques for the production of these materials, starting from production to their application in structures.

The workshop program is mainly prepared for construction engineering students, focusing on construction technology. This workshop program in collaboration with the Saint-Gobain company aims to help students acquire enhanced knowledge and skills in this field. Also, importance has been given to the design of these systems through BIM programs. Students will be trained step by step to build a legend system within the program. By demonstrating some examples of innovative systems within the BIM program, the advantages of this method can be clearly understood.

Objectives

This extensive educational module's goal is to provide students with a complete understanding of the practical uses of Building Information Modeling (BIM) in facade design, as well as specific algorithms for optimizing structural elements in construction projects. Students will get a sophisticated understanding of BIM's role in innovative facade design through lectures, factory visits, presentations by Saint Gobain industry professionals, and hands-on training sessions utilizing BIM software and computational tools. The goal is to empower students with practical skills and knowledge

aligned with industry standards, allowing them to implement cutting-edge methodologies in their future architectural endeavors by engaging in tasks such as modeling walls based on Saint Gobain's specifications and employing algorithms to determine optimal sole types and reinforcement sections.

Methodology

Task 1 Methodology: The first step in completing Task 1 is to gain a thorough understanding of the BIM program and its use in facade design. Students will get in-depth lectures and practical workshops on BIM tools, with a focus on wall system modeling and design concepts, based on insights presented by Saint Gobain. This knowledge basis will be reinforced through hands-on training workshops utilizing software like as Revit, in which students will apply what they have learned to model the walls of their chosen projects. Saint Gobain's specifications will serve as a guiding framework, ensuring that students embrace new components emphasized during the presentation.

Methodology for Task 2:

In Task 2, students will be introduced to specific methods used in structural design to optimize the computational section of the sole and surface reinforcement. Students will learn how to apply these algorithms to their respective projects through guided sessions and workshops. Students will engage in practical activities utilizing computational tools or software to build these algorithms after first studying the ideas and factors involved in selecting optimal sections and reinforcement kinds. They will use the algorithm to evaluate and decide the best types of sections and reinforcement for their projects' soles, assuring structural integrity and efficiency.

Conclusions

Finally, this comprehensive training program has given students priceless insights into the crucial importance of Building Information Modeling (BIM) in current facade design and structural element optimization within building projects. Students have developed a thorough grasp of how to use innovative techniques in architectural design through engaging lectures, practical factory visits, presentations by industry leaders such as Saint Gobain, and hands-on exercises with BIM software and specialized algorithms. Students developed their abilities by modeling walls to precise specifications and applying computational tools to optimize sole kinds and reinforcing sections, ensuring they are prepared to face real-world issues in the construction sector.