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D3.2 REPORT ON CURRICULUM STRUCTURING

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Building BIM digital competences

101183239 – BIM4WB – ERASMUS- EDU-2024-CB-VET

PROJECT INFO

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The project aims to design and develop a Building Information Modeling (BIM) curriculum and training materials, focusing on innovating teaching and learning through learner-centered and real problem-based approaches. It includes the training of teaching staff to acquire new practical skills and the establishment of the BIM4WB platform, a user-friendly online resource for sharing knowledge, resources, and best practices related to BIM. The project targets enrolling at least 40 students/professionals in the training course and involves at least 15 teaching staff in personal and professional development skills training. It seeks to align academic offerings with the labor market to enhance student employability, with curriculum content reviewed by stakeholders to ensure it meets industry standards. Bim4WB is co-funded by the Erasmus+ Programme of the European Union during the period January 2025 – December 2027

PROJECT PARTNERS:

1. **IES RIBEIRA DO LOURO**
2. **BALIKESIR UNIVERSITY**
3. **EUROPEAN UNIVERSITY OF TIRANA**
4. **QENDRA PROTIK**
5. **UNIVERSUM INTERNATIONAL COLLEGE**
6. **AGENCY FOR VOCATIONAL EDUCATION AND TRAINING AND ADULT EDUCATION**

DOCUMENT CONTROL SHEET

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Author(s)	Tuncay Sarıtaş, Serkan Palabıyık, F.Süphan Somalı, Derya Demircan
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DELIVERABLE EXECUTIVE SUMMARY

This deliverable stands as an electronic report that consolidates the agreed curriculum structure for the BIM4WB programme, developed collaboratively by project partners to translate the identified core competencies into a coherent and implementable learning pathway. Building on the outcomes of the curriculum alignment process, the report presents the final modular architecture, outlines the sequencing and internal logic of modules, and clarifies how learning outcomes are distributed across levels to support consistent implementation across partner institutions. The structured curriculum framework was jointly validated through partner consultations and is shared with key stakeholders as the formal basis for the subsequent material development phase.

VERSIONING AND CONTRIBUTION HISTORY

Version	Date	Revision description	Revision description
v.01	20.12.2025		
v.02	23.12.2025	logos	

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EXECUTIVE SUMMARY

D3.2 Curriculum Structuring presents the finalized modular architecture of the BIM4WB programme, developed to support industry-relevant BIM capacity-building in Albania and Kosovo. The report builds on the outcomes of D2.5 (Defining subject content) and D3.1 (Workshop on curriculum alignment with the forefront of industry standards), which confirmed the need to reduce excessive theoretical load, strengthen early 2D foundations, and expand hands-on learning in response to the region's emerging BIM ecosystem and the limited integration of BIM in VET education.

The curriculum is structured into five modules and 21 units, designed as a progressive pathway from introductory BIM literacy to a capstone case study. The sequence starts with Module 1: Introduction to BIM, continues with Module 2: Design Phase (2D) and Module 3: BIM for Design Phase (3D), advances to Module 4: BIM for Construction Phase (4D–5D), and culminates in Module 5: BIM Project Case Study. The total duration is 82 hours, with a strong practice-oriented balance (10 hours theory / 72 hours practice), reflecting partner and expert consensus gathered during the Pristina workshop.

A standardized assessment and learning output framework have been agreed across partners. Modules 2–4 include a self-assessment checklist after each unit, and instructor rubrics will be used to evaluate module submissions. The submission logic is aligned with increasing technical complexity: online quizzes/exams for Module 1; DWG/DXF 2D project outputs for Module 2; RVT discipline-based 3D models for Module 3; and integrated 4D/5D deliverables for Module 4 (including clash analysis, simulation outputs, quantity take-off and cost estimation, supported by RVT/NWD files). Module 5 requires a final integrated capstone project applying all acquired competencies.

To ensure consistency in implementation and material development, partners agreed on shared delivery standards: English and Albanian subtitles for all videos, a short quiz (max. 10 questions) after each unit in addition to self-assessment, a minimum of 10 pages per unit for theoretical content, adoption of a common video template presented by Balikesir University, use of Revit 2026, and development of learning materials based on a common model building supplied by Balıkesir University. The division of module responsibilities was also confirmed: Modules 1, 2, and 4 will be led by IES Ribeira do Louro, while Modules 3 and 5 will be led by Balikesir University.

Overall, D3.2 establishes a shared, implementable, and regionally responsive curriculum framework and provides the formal basis for D3.3 Material Development, ensuring that the next phase can proceed with a unified pedagogical logic, standardized outputs, and aligned quality expectations across partner institutions.

Introduction

This report builds on the outcomes of D2.5 Defining Subject Content Report, and D3.1 Conducting Workshop on Curriculum's Alignment with the Forefront of Industry Standards.

D2.5 consolidated partner input on the core competencies required for BIM professionals and drafted the initial selection of modules, while also signalling the need to reduce excessive theoretical load, strengthen early 2D foundations, and increase hands-on learning.

Workshop held under D3.1 hosted at Universum International College in Pristina (28–29 August 2025) reiterated that BIM use in Albania and Kosovo remains limited and largely concentrated in the private sector, with non-systematic implementation and a notable lack of BIM adoption in VET curricula. Key market challenges were confirmed as the absence of supportive legal frameworks, high software costs, and insufficient infrastructure in VET schools.

The restructured curriculum presented by Balikesir University reflected earlier partner feedback to reduce theory, strengthen hands-on learning, and integrate 2D training as a foundational step. The revised structure was organized into five modules delivered over 82 hours progressing from introductory and 2D skills toward 4D/5D applications and a final integrated case study.

The meeting also clarified the assessment and material strategy, including self-assessment checklists, instructor rubrics, and module-based submissions, while confirming that partners would collectively produce video-based materials aligned with a shared template.

Finally, expert feedback validated the curriculum’s relevance to regional needs and supported no major structural changes, while operational decisions were agreed to enhance consistency across partners: subtitles in English and Albanian, short quizzes after each unit, minimum theoretical content thresholds per unit, adoption of Revit 2026, and the use of a common model building to ensure cohesion across learning materials.

Accordingly, D3.2 Curriculum Structuring Report presents the finalized modular architecture of the BIM4WB programme, clarifying the sequencing and internal logic of learning across

five modules and associated units, and establishing a shared framework for implementation across partner institutions. The structured pathway is designed to support a progressive transition from foundational digital drafting and modelling skills toward integrated BIM applications and a project-based case study, providing a basis for the next stage of D3.3 Material Development.

Curriculum Structure

The BIM4WB curriculum is structured into **five modules** that reflect a progressive learning pathway from fundamentals to integrated application (see figure 1).

5 modules

The modules are:

- Module 1: Introduction to BIM,
- Module 2: Design Phase (2D),
- Module 3: BIM for Design Phase (3D),
- Module 4: BIM for Construction Phase (4D–5D), and
- Module 5: BIM Project Case Study.

This structure operationalizes the shared decision to move systematically from introductory learning and 2D foundations to 4D/5D applications, concluding with a capstone experience.



Figure 1. Structure of BIM4WB Curriculum

21 units

Each module is organized into units, resulting in 21 units in total. The distribution follows the modular logic shown in the figure: Modules 1, 2, and 4 each contain four units, Module 3 contains nine units, and Module 5 is dedicated to a Case Study unit. This unit-based organization supports consistent delivery across partner institutions and provides a clear basis for learning material production. Green indicated units (4 in total) in the figure refer to theoretical ones, the red indicated units (17 in total) refer to practical ones.

21 checklists

In line with the agreed assessment approach, Modules 2–4 include a self-assessment checklist after each unit, leading to 21 checklists aligned with the total unit count. This component reinforces formative learning and allows learners to track competency development progressively across the curriculum.

25 quizzes

Based on the feedback during the workshop; a short quiz (maximum 10 questions) will be prepared for the students after each unit, in addition to the self-assessment checklists.

4 submission milestones

The curriculum integrates four main submission milestones that correspond to the increasing technical complexity of each phase. Module 1 relies on quizzes and exams. Module 2 requires 2D architectural project files (DWG/DXF). Module 3 requires 3D discipline-based BIM models (RVT). Module 4 requires combined 4D/5D outputs, including clash analysis reports, planning/simulation outputs, quantity take-off and cost estimation sheets, and a final analysis/planning report. Module 5 culminates in a final integrated project where learners implement all knowledge acquired across the programme.

5 rubric assessments

To ensure consistent evaluation across learners, instructor rubrics will be prepared relevant to module outputs. This supports standardization of grading and reinforces transparency in performance expectations.

a minimum of 10-page notes for theoretical units

During the workshop, the partners agreed to prepare a minimum of 10-page lecture notes for theoretical units.

The total curriculum duration is 82 hours, with a strong practice orientation. Module-level distribution is: M1 – 6 hours, M2 – 16 hours, M3 – 36 hours, M4 – 14 hours, and M5 – 10 hours. The minutes confirm that the programme is designed as **10 hours of theory and 72 hours of practice**, reflecting earlier partner consensus to reduce theoretical overload and strengthen hands-on learning.

Teaching methods are differentiated by module. In Module 1, instruction is supported by lecture notes, curated links (including Autodesk introductory resources), peer learning, feedback, and discussion activities. For Modules 2–4, partners will produce at least 17 video recordings to be used as core learning resources. The consortium agreed to standardize productions through a shared video template, provide English and Albanian subtitles, adopt Revit 2026, and develop materials around a common model building provided by Balıkesir University to ensure cohesion across outputs.

Introduction of the Modules

WP3.2 aims to develop a structured and comprehensive BIM curriculum reflecting the current demands, technological developments and legal frameworks in the construction sector in Albania and Kosovo. In this context, the curriculum below proposes 5 modules including a case study module along with the objectives, course contents, learning outcomes, assessment methods, teaching methods and materials. (see ANNEX 1)

Module 1: Introduction to BIM (M1)

Module 1 is the entry point of the BIM4WB curriculum and provides the essential conceptual foundation for all subsequent modules. The module consists of 6 hours of theory and aims to equip learners with a general understanding of BIM principles, its historical evolution, and its multi-dimensional structure. A central focus is introducing the logic and purpose of the BIM Execution Plan (BEP) within BIM processes and collaborative workflows.

The content is organized into four units. Unit 1 defines BIM and reviews its challenges, potential, history, and key dimensions (3D–7D). Unit 2 addresses BIM benefits for the construction sector and introduces key references such as ISO 19650 alongside European and national guidance for Albania and Kosovo. Unit 3 familiarizes learners with widely used BIM-compatible software and open BIM standards. Unit 4 explains the purpose, components, roles, goals, and exchange protocols of the BEP.

Assessment is carried out through online quizzes and exams. Teaching is supported by lecture notes, curated video resources, and peer learning/discussion activities, while detailed readings will be provided under D3.3 Material Development. A minimum of 10-page lecture notes will be prepared for theoretical units.

Module 2: Design Phase (2D)

Module 2 strengthens the foundational digital skills of the BIM4WB curriculum by equipping learners with two-dimensional technical drawing competence using AutoCAD. With 16 hours of practice, the module is designed to ensure that learners can produce, organize, and exchange 2D architectural drawings while understanding how these outputs support BIM-based design and digital construction workflows.

The module is structured across four units. Unit 1 introduces the AutoCAD interface and core concepts, followed by basic drawing commands such as line, circle, rectangle, and polyline. Unit 2 focuses on essential editing commands (move, copy, offset, trim, extend). Unit 3 covers the organizational and representational standards of 2D design, including layer management, color and line type settings, dimensioning and text tools, and the creation of hatches and blocks. Unit 4 culminates in applied technical drawing tasks—plan, section, and view production—along with DWG–PDF and DXF import/export operations to support interoperability within digital project environments.

The main course output is the submission of 2D architectural projects developed during the module in DWG and DXF formats. Assessment is based on learner checklists for each video recording, a quiz for each unit and complemented by a module-level evaluation that combines a submission checklist for learners and an instructor rubric for consistent review of submitted drawings. Teaching is delivered through hands-on practice supported by eight video recordings.

Module 3: BIM for Design Phase (3D)

Module 3 is the core design-phase component of the BIM4WB curriculum, providing 36 hours of practice to introduce learners to information modelling with BIM software and to develop hands-on competence in 3D model creation. The module focuses on building a coordinated understanding of how architectural, structural, and MEP elements are represented and managed within a BIM environment, serving as the bridge between 2D foundations and construction-phase BIM applications.

The module is structured across nine units. Unit 1 introduces the software interface and architectural modelling basics. Units 2–7 guide learners through key architectural components and spatial logic, including walls, doors and windows, roofs, staircases and railings, space definition and legends, and site modelling. Unit 8 expands the scope to structural modelling (columns, beams, floors, foundations), while Unit 9 introduces mechanical/HVAC and plumbing elements, enabling a multi-disciplinary modelling perspective aligned with real project requirements.

The main course output is the submission of 3D architectural, structural and (where applicable) mechanical/electrical projects developed during the module in RVT format. Assessment is based on learner checklists for each video recording, a quiz for each unit and a module-level evaluation combining a submission checklist for learners and an instructor rubric for consistent review of project outputs. Teaching is delivered through hands-on practice supported by nine video recordings.

Module 4: BIM for Construction Phase (4D–5D)

Module 4 extends the curriculum into the construction phase by integrating time- and cost-oriented BIM applications. The module comprises 4 hours of theory and 10 hours of practice, introducing core analysis concepts and providing applied training on how to use a completed BIM model for coordination, planning, simulation, and cost-related decision-making. This module strengthens learners' ability to translate design models into construction logic and resource-aware project planning.

Content is organized into four units. Unit 1 introduces analysis concepts, BIM use on construction sites, and model integration and management. Unit 2 focuses on clash analysis, problem detection, and resolution. Unit 3 covers planning and 4D simulation, enabling learners to visualize and organize construction sequencing. Unit 4 introduces 5D construction planning, including quantity take-off and cost estimation using BIM tools such as Revit.

The main course outputs include clash analysis reports, 4D planning/simulation outputs, 5D quantity take-off and cost estimation sheets, and a final analysis and planning report, supported by relevant model files (e.g., RVT, NWD). Assessment follows the shared model of learner checklists for each recording, a quiz for each unit and a module-level evaluation using a submission checklist and instructor rubric. Teaching is supported by hands-on practice and eight video recordings.

Division of Work Among Partners and Common Delivery Standards

The meeting clarified the assessment and material strategy, including self-assessment checklists, instructor rubrics, and module-based submissions, while confirming that partners would collectively produce video-based materials aligned with a shared template. At the end of the meeting it was concluded that Modules 2–4 will include a self-assessment check-list after each unit, and rubrics will be provided to instructors to evaluate student submissions. In addition, the expected submissions for each module were confirmed: Module 1 will be assessed through online exams and quizzes; Module 2 will require 2D architectural project submissions in DWG/DXF; Module 3 will require 3D architectural, structural and (where applicable) MEP models in RVT; Module 4 will require clash analysis reports, 4D planning/simulation outputs, 5D quantity take-off and cost estimation sheets, and a final analysis/planning report (including RVT/NWD files); and Module 5 will culminate in a final integrated project implementing all knowledge acquired.

After consideration of the experts' feedback, partners also agreed that no major changes would be made to the curriculum. To ensure consistency and quality across learning materials, all video recordings will be subtitled in English and Albanian, and after each unit students will complete a short quiz (maximum 10 questions) in addition to the self-assessment checklist. For theoretical units, a minimum length of 10 pages per unit was set. The video sample presented by Balıkesir University will serve as the common template for all recordings. Furthermore, all partners will work with Revit 2026 and develop teaching materials using a common model building provided by Balıkesir University to strengthen cohesion across modules.

The agreed division of module responsibilities is as follows:

Module 1	IES Ribeira do Louro
Module 2	IES Ribeira do Louro
Module 3	Balıkesir University
Module 4	IES Ribeira do Louro
Module 5	Balıkesir University

Conclusions

This deliverable confirms the final structure of the BIM4WB curriculum as a coherent, practice-oriented, and regionally aligned training pathway for Albania and Kosovo. Informed by the subject-content definition process and validated through expert and partner feedback during the Pristina workshop, the programme responds directly to the current limitations of BIM uptake in the region, particularly the absence of systematic BIM integration within VET, by prioritizing early skills development, applied learning, and a clearly staged progression from 2D to 3D and 4D/5D competencies.

The adopted five-module, 21-unit structure and the 82-hour design (with the dominant emphasis on practice) reflect a shared commitment to producing implementable learning outcomes that match industry expectations. The agreed assessment framework—unit-based self-assessments, instructor rubrics, and module-specific submissions—creates transparency, comparability, and quality assurance across partner delivery contexts. Moreover, the decisions on shared production rules (subtitling, unit quizzes, minimum theoretical thresholds, common video template, Revit 2026, and a common model building) provide strong safeguards for consistency and cohesion in forthcoming materials.

With roles and responsibilities distributed across, D3.2 establishes a stable foundation for the development of standardized teaching resources under D3.3.

Annex: Module Description Forms

MODULE 1			
Course Unit Code	**Theory**	**Practice**	**Course Name**
	6 hrs	-	**Introduction to BIM**
Lesson Information			
Course Description and objectives	The main objectives of the course for students are to gain an general understanding of BIM Execution Plan (BEP) within the scope of BIM processes and workflows. This module aims to • introduce the basic concepts, historical development, principles and multi-dimensional structure (2D, 3D, 4D, 5D) of the Building Information Modeling (BIM) methodology; • help learners comprehend the possibilities of BIM applications in the construction sector and public procurement. • provide the ability to recognize widely used software in the sector and to select software solutions suitable for different stages of the BIM life cycle		

Course Content	**Unit 1.**
	• What is BIM, BIM: Challenges and Potential, History and evolution of BIM
	• Principles, dimensions (3D, 4D, 5D, 6D, 7D)
	Unit 2.
	• Benefits for construction sector
	• ISO 19650, EU and national BIM guidelines (Albania/Kosovo), Legal compliance.
	Unit 3.
	• Introduction (Building Information Modeling compatible programs: Revit, ArchiCAD, Navisworks, BIM 360, Autodesk Docs, and open BIM standards),
	Unit 4.
	• BIM Execution Plan overview
	  ○ What is the BIM Execution Plan
	  ○ Why is the BIM Execution Plan done
	  ○ BIM Execution Plan components
	• Project information
	  ○ BIM Execution Plan timeline
	  ○ Key project contacts
	  ○ BIM roles and responsibilities
	  ○ BIM use staffing
	• Project BIM Goals and BIM Uses
	  ○ Major BIM Goals / Objectives
	  ○ BIM Uses
	  ○ Organizational Roles / Staffing
	• BIM exchange protocol and submittal format
	  ○ Electronic communications and BIM data requirement format		

	○ Collaboration Procedures ○ Model content requirements
Assessment Method	online quizzes and exams
Learning outcomes	
•	1. Explains what BIM is, including its history, evolution, challenges, and potential. 2. Understands and describes the principles and multi-dimensional structure of BIM (3D, 4D, 5D, 6D, 7D). 3. Evaluates the benefits that BIM provides to the construction sector. 4. Understands the role of international (ISO 19650), European, and national BIM guidelines in ensuring legal compliance. 5. Recognizes widely used BIM-compatible software (e.g., Revit, ArchiCAD, Navisworks, BIM 360, Autodesk Docs) and open BIM standards. 6. Compares the general functions of different BIM tools in relation to stages of the project life cycle. 7. Explains the purpose and importance of a BIM Execution Plan (BEP) in project workflows. 8. Identifies the key components of a BIM Execution Plan, including project information, timeline, BIM roles, and responsibilities. 9. Understands BIM goals, uses, and organizational staffing requirements within a BEP. 10. Describes the principles of BIM exchange protocols, submittal formats, collaboration procedures, and model content requirements.
Teaching methods and materials	
Teaching Materials and Platforms	A minimum 10 pages of lecture notes for each unit (pdf) Links to Autodesk introduction videos Links to BIM related videos Peer learning, feedback, discussion section
Recommended or Required Reading	*to be prepared during the material development phase*

MODULE 2			
Course Unit Code	**Theory**	**Practice**	**Course Name**
		16hrs	**Design Phase (2D)**
Lesson Information			
Course Description and objective	This module aims to enable students to gain two-dimensional technical drawing competence with AutoCAD software and to understand the place of these drawings in BIM-based digital construction processes.		
Course Content	**Unit 1.** V1 Interface Introduction and Basic Concepts V2 Basic Drawing Commands (Line, Circle, Rectangle, Polyline) **Unit 2.** V.3 Editing Commands (Move, Copy, Offset, Trim, Extend) **Unit 3.** V4. Layers, Color and Line Type Settings V5.Dimensioning and Writing Text (Text, Mtext, Dimension) V6.Hatch and Block Creation **Unit 4.** V7. Technical Drawing Application/ Plan, Section and View Drawing V8. DWG – PDF, DXF – Import/Export Operations		
Course output	Submission of 2D architectural projects developed during the module/ dwg and dxf files		
Assessment Method	1. Checlist for learners for each video recording 2. Module Assessment • Check list of submission for the learner • Rubric assessment for the lecturer to control the submitted projects		
Learning outcomes			
	1. Understands the AutoCAD interface and explains basic concepts of two-dimensional technical drawing. 2. Applies basic drawing commands (line, circle, rectangle, polyline) to create technical drawings. 3. Uses editing commands (move, copy, offset, trim, extend) to modify and improve drawings. 4. Organizes drawings through layers, color, and line type settings. 5. Applies dimensioning and text tools (Text, Mtext, Dimension) accurately in technical drawings. 6. Creates hatches and blocks to enrich and standardize drawing content. 7. Produces technical drawings of plans, sections, and views according to architectural and engineering requirements. 8. Performs DWG–PDF and DXF import/export operations to support information exchange in digital construction workflows. 9. Understands the role of 2D drawings within BIM-based digital construction processes.		
Teaching methods and materials			
Teaching methods	Hands on practice during the lesson		
Teaching	8 Video recordings subtitled in EN and ALB		

Materials	
Recommended or Required Reading	*to be prepared during the material development phase*

MODULE 3			
Course Unit Code	**Theory**	**Practice**	**Course Name**
	-	36 hrs	**BIM for Design Phase (3D)**
Lesson Information			
Course Description and Objectives	This module aims to introduce "information modeling with BIM software" and provide practical training with the software used in BIM		
Course Content	**Unit 1.**V1.Software interface V2.Architectural modelling **Unit 2.** V3.Wall design and placement **Unit 3.** V3.Door and window design and placement **Unit 4.** V4.Roof design and placement **Unit 5.** V5.Staircases and railings **Unit 6.** V6.Space definition and legends **Unit 7** .V7. Site modeling **Unit 8.** V8.Structural modelling/structural elements/column, beam, floor, foundation **Unit 9.** V9.Mechanical modelling/ HVAC subsystem elements/ Plumbing system		
Course output	Submission of 3D architecturel, structural, (mechanical, electrical) projects developed during the module/ rvt files		
Assessment Method	1. Checlist for learners for each video recording 2. Module Assessment • Check list of submission for the learner • Rubric assessment for the lecturer to control the submitted projects		
Learning outcomes			
	1. Experiences the concept of BIM at the software level and understands the meaning of information modeling. 2. Learns how to integrate CAD drawings into BIM models for data entry, preliminary design documentation, and plan transfer. 3. Understands the interfaces, functions of modeling tools, and the processes required for preliminary preparation for modeling. 4. Acquires basic modeling skills using BIM software (e.g., Autodesk Revit, ArchiCAD, Allplan). 5. Understands how to model a building with architectural, structural, mechanical, electrical, and plumbing elements. 6. Learns the processes of creating, editing, and associating model elements in BIM software in a practical way. 7. Uses tools such as view creation, sectioning, and sheet production effectively in BIM software		
Teaching methods and materials			
Teaching methods	Hands on practice during the lesson		
Teaching Materials	9 Video recordings subtitled in EN and ALB		
Recommended or Required Reading	*to be prepared during the material development phase*		

MODULE 4			
Course Unit Code	**Theory**	**Practice**	**Course Name**
	4 hrs	10 hrs	**BIM for Construction Phase(4D-5D)**
Lesson Information			
Course Description and Objectives	This module aims to introduce fundamental analysis concepts and then provide practical training on how to analyze a building with a completed Building Information Model using different tools in different contexts. It also aims to provide training on the logical organization and economic planning of construction works based on available resources.		
Course Content	**Unit 1.** V1.Analysis concept V2. Building Information Modeling for Construction Sites V3. Model integration and management **Unit 2.**V4. Clash Analysis V5. Problem detection and solving **Unit 3.** V6. Planning and 4D simulation **Unit 4.** V7.5D Construction Planning V8. Material quantity calculation and Cost estimation/ Revit		
Course output	Clash analysis reports, 4D planning/simulation outputs, 5D quantity take-off & cost estimation sheets, final analysis & planning report (rvt files, nwd files)		
Assessment Method	1. Checklist for learners for each video recording 2. Module Assessment • Check list of submission for the learner • Rubric assessment for the lecturer to control the submitted projects		
Learning objectives			
	1. Understands the concept of analysis and the basic principles of performing analysis on a BIM model. 2. Explains how the BIM model is used for performance analysis and decision support in construction projects. 3. Recognizes different types of analysis such as energy, daylight, structural, cost, and time (4D/5D) analysis. 4. Understands the processes of integrating the BIM model with other software for analysis purposes. 5. Performs basic analysis on a real BIM model to detect and solve design or construction problems. 6. Applies clash detection methods and evaluates interdisciplinary model coordination. 7. Produces an integrated information model in collaboration with project stakeholders. 8. Reads and interprets data from interdisciplinary BIM models for construction planning. 9. Performs quantity take-off and cost estimation (5D) using BIM tools such as Revit. 10. Applies 4D simulation techniques to plan and visualize construction processes.		
Teaching methods and materials			
Teaching methods	Hands on practice during the lesson		

Teaching Materials	8 Video recordings subtitled in EN and ALB A minimum 10 pages of lecture notes for unit 1 (pdf)
Recommended or Required Reading	*to be prepared during the material development phase*

MODULE 5: CASE STUDY			
Course Unit Code	**Theory**	**Practice**	**Course Name**
		10 hrs	**BIM Project Case Study**
Lesson Information			
Course Description	The objective of Module 5 is to produce discipline-specific models (architecture, structure, mechanical, electrical, etc.) of a sample building project based on the concepts introduced in the first four modules, and to perform various analyses such as clash detection, time simulations, and quantity take-off to support the construction process.		
Course Content	•Application of Building Information Modeling with a sample project •Production of a 3D architectural model •Production of discipline models using the architectural model as a base •Clash Analysis •Production of time planning with 4D models •Production of surveying-quantity surveying with 5D models, cost estimation •Production of cost estimation with 5D models		
Assessment Method	Final capstone project		
Learning objectives			
	1. Creates BIM models of different disciplines (architecture, structure, mechanical, electrical) within the framework of a sample project. 2. Combines discipline-specific models in a BIM environment to enable coordination between different fields. 3. Performs construction-related analyses, including clash analysis, 4D time simulation, and 5D quantity take-off with cost estimation. 4. Demonstrates model-based coordination and collaboration skills in project tasks. 5. Applies BIM modeling tools to produce architectural and engineering models for project-based assignments. 6. Understands in practice how BIM models support project management, construction planning, and cost calculations		
Definition of the case study	*to be prepared during the material development phase*		