BUILDING INFORMATION MODELING (BIM)

Training Program Guide

Architecture,Structure,MEP,Sustaiable
and Managment.

معهد علوم الهندسة للتدريب
Engineering Science Institute For Training

AUTODESK
Authorized Training Center

رؤية 2030
VISION 2030
المملكة العربية السعودية
KINGDOM OF SAUDI ARABIA

Engineering Science Institute

ESI for Training & Development provide a high quality training in engineering fields via qualified instructors, with all its specializations.
ESI woks under the supervision of the Technical and Vocational Training Corporation (TVTC) & the Saudi Council of engineers (SCE). Esi has internationally accredited from Autodesk, PMI, AACE & VUE.

Benefits of AUTODESK Training and Certification

- Communicate with impact using integrated 3D rendering tools
- Gain mastery of Autodesk applications.
- Graduate with sought-after expertise.
- Demonstrate your knowledge and skill to employers.
- Add a valuable credential to your resume.
- Separate yourself from the comp

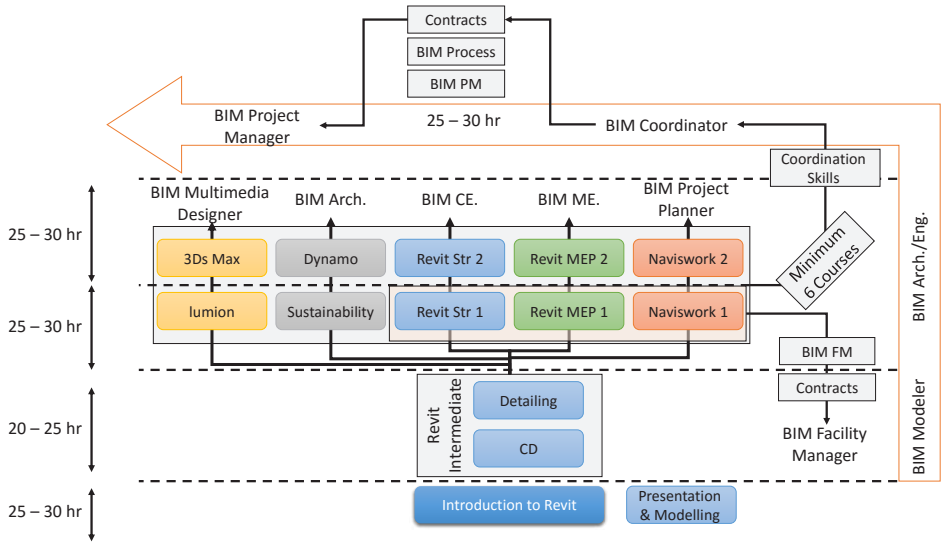
BIM Services

ESI will provide a full consultation service for organizations; that's will include:

- Planning implementation.
- Consultation before and after the implementation
- Training employees.
- Providing BIM software.

BIM Training Roadmap

Along with our expert partners in BIM and from our long experience with training individuals and organizations within construction sector in Saudi Arabia, the BIM training roadmap have developed to help organizations and individuals to implement BIM in order to gain the benefits of BIM. The BIM training roadmap covers the theoretical and technical part of BIM; and it has been accredited by the Saudi Council of Engineers, Technical and Vocational Training Corporation . The BIM training roadmap is developed based on disciplines' background; Modelers, architects, engineers, constructors, multimedia designers, facility managers, quantity surveyors, project planners, project coordinators and Construction manager Two-Way Bilingual Education method, Arabic and English, will be used to train participants. Please see the BIM training roadmap description blow



THE FUTURE IS TODAY

What is BIM?

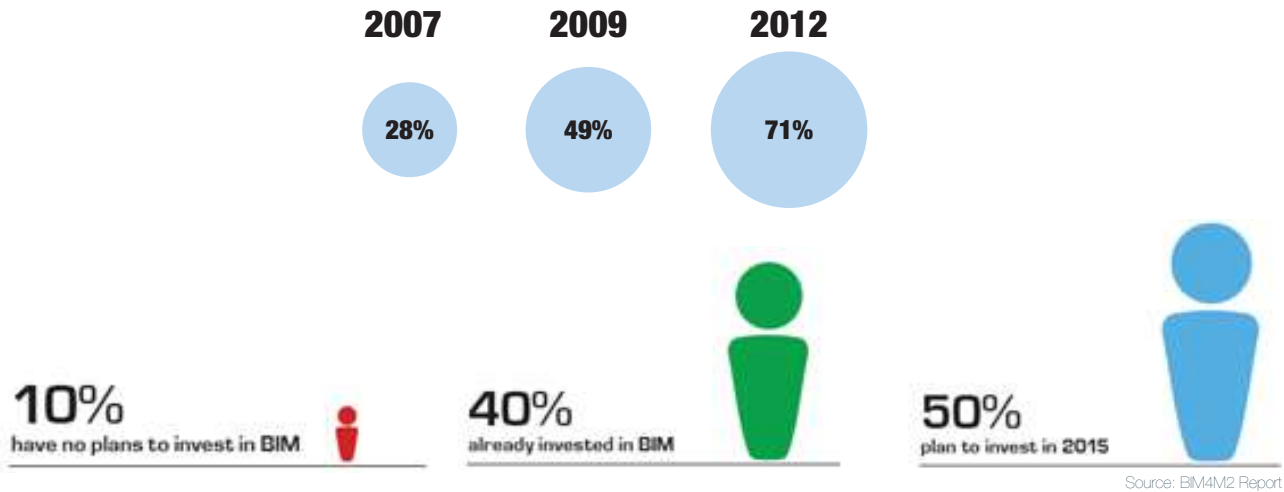
Building Information Modelling is an innovation in design & construction. It is transforming the way of construction projects are designed, constructed and managed; delivering greater return on investment for organizations of all size

BIM Implementation

The uncountable benefits of implementing BIM within construction projects has helped to reduce cost, carbon dioxide, errors and omissions; and improve productivity, building performance with high accuracy. That has motivated more governments to make the implementation of BIM mandatory for all public projects..

LEVELS OF BIM ADOPTION IN NORTH AMERICA

Source: McGraw-Hill Constraction, 2012



Source: BIM4M2 Report


BIM Modeler
BIM 101
BIM 102
BIM Architect
BIM 101
BIM 102
BIM 103
BIM 104
BIM Civil-Eng.
BIM 101
BIM 201
BIM 202
BIM 203
BIM MEP-Eng.
BIM 101
BIM 301
BIM 302
Multimedia Designer
BIM 101
BIM 102
BIM 105
BIM 106
BIM Project Planner
BIM 101
BIM 102
BIM 401
BIM 402
BIM -QS
BIM 101
BIM 501
BIM Facility Manager
BIM 101
BIM 201
BIM 301
BIM 401
BIM 501
BIM Coordinator
BIM 101
BIM 201
BIM 301
BIM 401
BIM 104
BIM 501
BIM 502
BIM 503
+
2 Course Elective
BIM Project Manager
BIM 101
BIM 201
BIM 301
BIM 401
BIM 601
BIM 104
BIM 501
BIM 502
BIM 503
BIM 602

BIM Training Program

Coverd in the Courses

The BIM curriculum is designed to provide students with the skills and technical knowledge requested by employers using Building Information Modeling (BIM) software. The curriculum program focuses on the development of fundamental BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Course Code	Course Name	No. of Hours
BIM 101	Introduction to Revit	25 hr
BIM 102	Revit Intermediate	25 hr
BIM 103	Dynamo Studio	20 hr
BIM 104	Green Stuido	20 hr
BIM 105	3Ds Max Vray	25 hr
BIM 106	Lumion	20 hr
BIM 201	Revit Structure 1	25 hr
BIM 202	Revit Structure 2	25 hr
BIM 203	Dynamo Studio	20 hr
BIM 301	Revit MEP 1	25 hr
BIM 302	Revit MEP 2	20 hr
BIM 401	Navisworks 1	20 hr
BIM 402	Navisworks 2	20 hr
BIM 501	BIM Quantity Survey	16 hr
BIM 502	BIM Facility Managment	16hr
BIM 503	Coordination Skills	16 hr
BIM 601	BIM Construction Managment 1	20 hr
BIM 602	BIM Construction Managment 2	20 hr

BIM Courses for Architecture

Courses Description

Engineering Science Institute BIM Program

BIM 101
Introduatin to Revit

This unit presents many of the fundamental concepts of creating BIM models through the application of the tools in Revit Architecture. The features presented are a small subset of the full range available in the Autodesk® Revit platform, specifically focusing on creating new models and displaying them in ways suitable for various applications.

BIM 102
Revit Intermediate

This introductory course examines how Revit users design 3D models that simultaneously document the project in schedules and 2D architectural drawings. Modifying elements, and presenting the model. By the conclusion of the course, students will gain valuable knowledge building a Revit Architecture (BIM) project fro scratch and presenting multiple views of the model on an architectural sheet.

BIM 103
Dynamo for Visual Programming

Dynamo will enable us to work within a Visual Programming process wherein we connect elements together to define the relationships and the sequences of actions that compose custom algorithms. We can use our algorithms for a wide array of applications- from processing data to generating geometry- all in realtime and without writing a lick of code.

BIM 104
BIM for Sustainable Design

This course explores computer modeling, using Green Building Studio, providing students the skills to learn how Sustainable Design and BIM technologies work together to optimize energy efficiency during the building design process. Students will learn to integrate the building design practice of computer modeling sustiable design incorporating energy efficiency using Green Building Studio.

BIM 105
3Ds MAX Vray

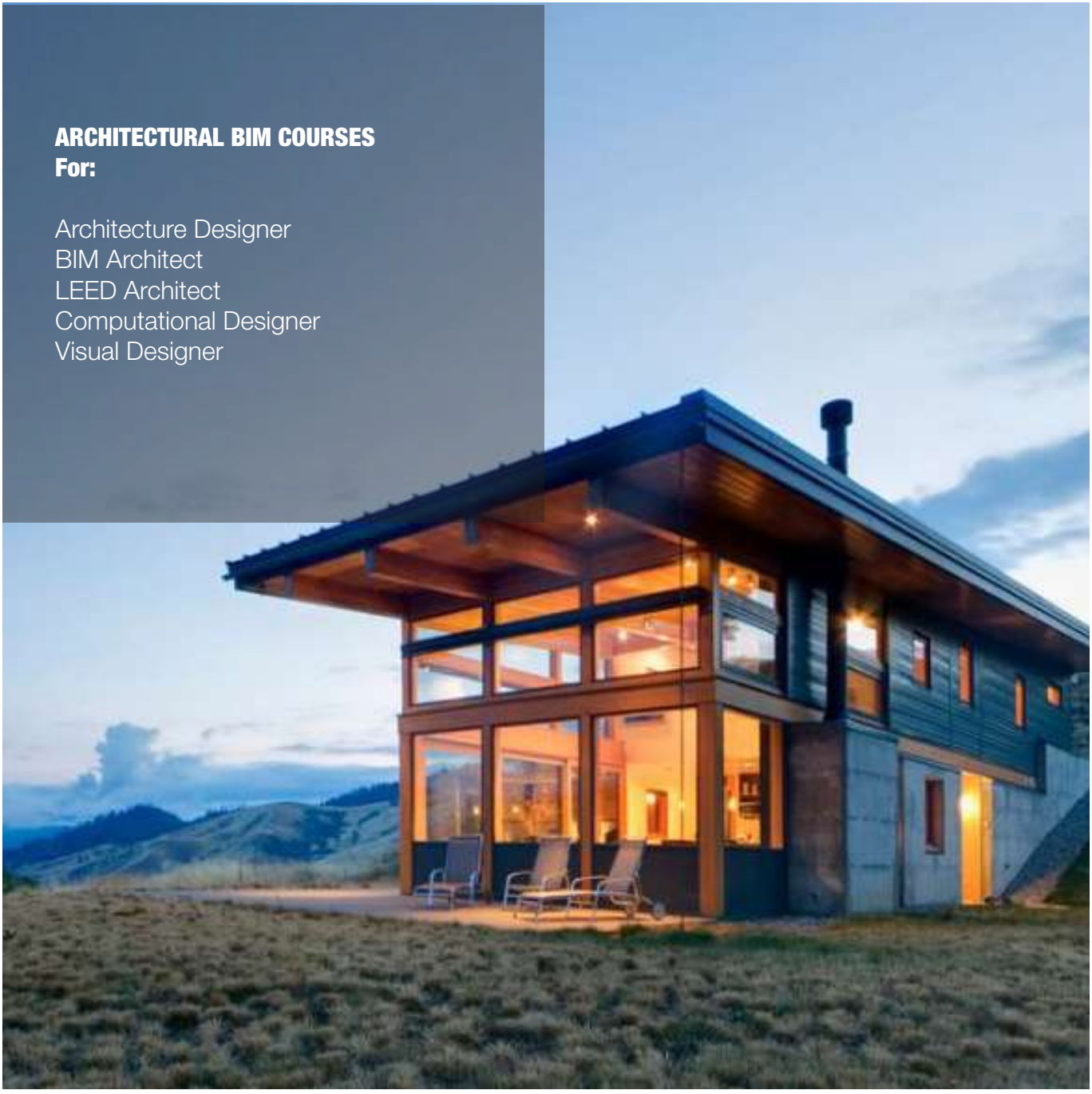
3dsMax – Rendering will focus on rendering 3D models and will also develop the modeling skills learned in DAC 201. The student will learn material mapping and lighting to generate realistic renderings. In addition we will explore creating custom building materials, develop global illumination, radiosity and other lighting techniques

BIM 106
Lumion

Lumion will focus on animating 3D models. In the process, students will apply the modeling and rendering skills learned earlier in the course sequence to create realistic walk-throughs and fly-bys of 3D models which can be used to present architectural, interior design and urban planning models. The technical aspects of animation will be addressed including key framing and inverse kinematics.

ARCHITECTURAL BIM COURSES
For:

Architecture Designer
BIM Architect
LEED Architect
Computational Designer
Visual Designer



BIM Courses for Structure & MEP

Courses Description

Engineering Science Institute BIM Program

BIM 201
Revit Structure 1

The course participant will use Revit Structure to design and develop the appropriate BIM 3D models and develop the Structural Engineering-based construction documents. In this class, architectural Revit models are provided for the class to develop the structural model and CDs, as would occur in practice.

BIM 202
Revit Structure 2

The course continues where Revit Structure 1 left off, expanding on lessons learned to develop the appropriate BIM 3D models and develop the Structural Engineering-based construction documents. In this class, architectural Revit models are provided for the class to develop the structural model and CDs, as would occur in practice.

BIM 301
Revit MEP 1

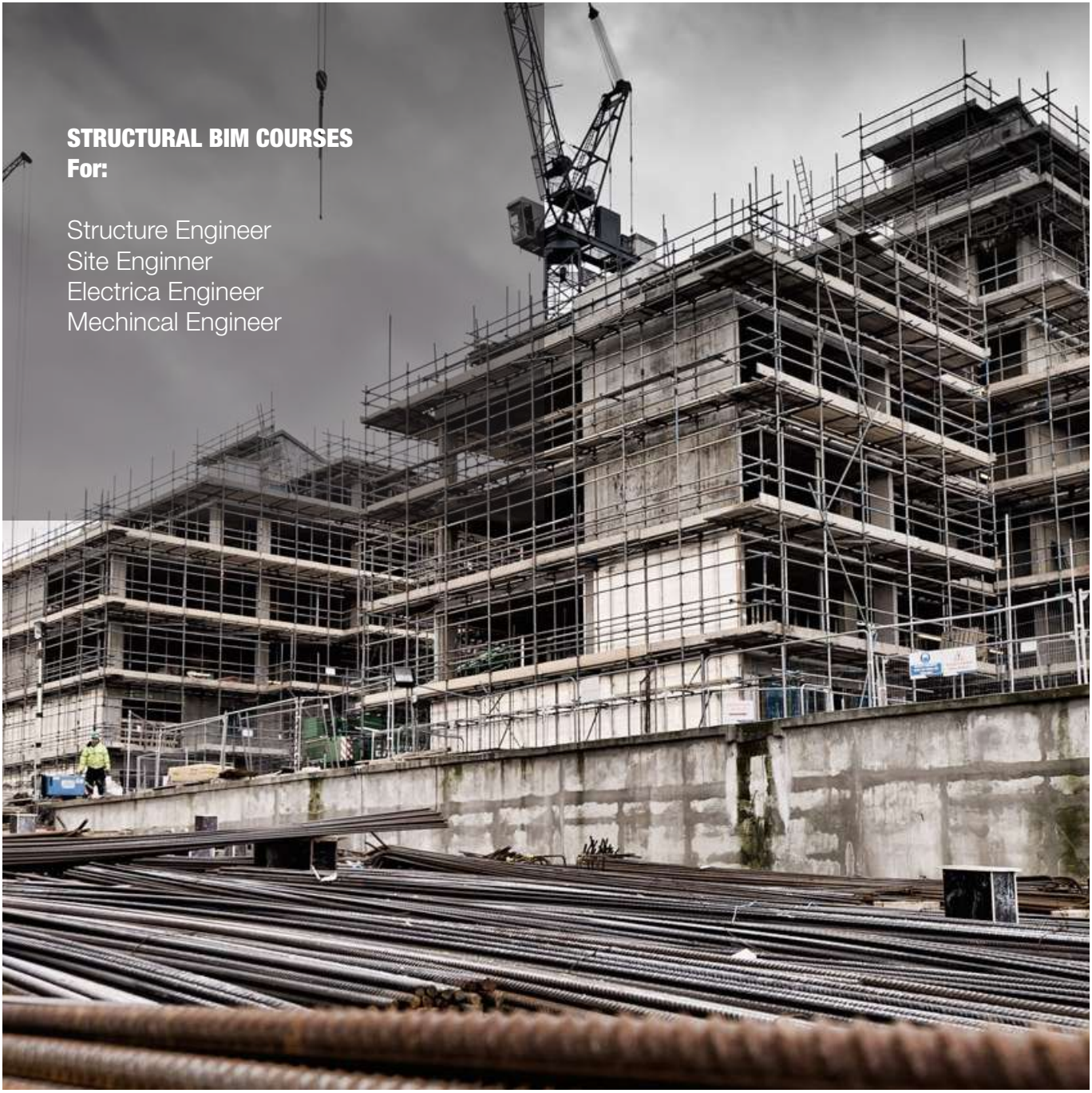
This course is designed for engineers looking to explore the more advanced methods of documenting a building's Mechanical, Electrical and Plumbing (MEP) systems using Revit MEP. The class is designed to teach how Revit MEP is used to integrate MEP systems into the building envelope and also how the successful implementation of Revit MEP will facilitate collision detection within Navisworks.

BIM 302
Revit MEP 2

This class enhances the lessons learned in Revit MEP 1 – where the class focuses professional applications using Revit MEP software for either (specifically) Mechanical, Electrical or Plumbing applications. In this class, a number of Revit models are provided with the architectural and structural models already in-progress.

BIM 203
Dynamo for Visual Programming

Dynamo will enable us to work within a Visual Programming process wherein we connect elements together to define the relationships and the sequences of actions that compose custom algorithms. We can use our algorithms for a wide array of applications- from processing data to generating geometry - all in realtime and without writing a lick of code.


STRUCTURAL BIM COURSES
For:
Structure Engineer
Site Enginner
Electrica Engineer
Mechincal Engineer

BIM Courses for Coordination & Managment

Courses Description

Engineering Science Institute BIM Program

BIM 401
Naviswroks 1

This course for professional designers, architects, engineers, contractors and others seeking professional advancement and job transition through acquiring 3D and 4D modeling review skills. By the conclusion of this class, participants will be able to use Navisworks tools to: effectively run object-interference checks on 3D models from multiple disciplines, create 4D simulations, interactive animations.

BIM 402
Naviswroks 2

Navisworks 2, “Best Practices,” is a follow-on course 1, participants will be able to use Navisworks tools to: create database links, scripts, improved 4D scheduling and improved renderings and 4D construction animations.

BIM 501
BIM Quantity Survay

This course participants will be able to understand the model-based quantity take-off process in 3D modelling and how it comprises trade-based standards of measurement rules in BIM to improve productivity through model-based quantity take-off compared to traditional methods and accelerate cost estimation and decision making on resources planning.

BIM 502
BIM Facility Managment

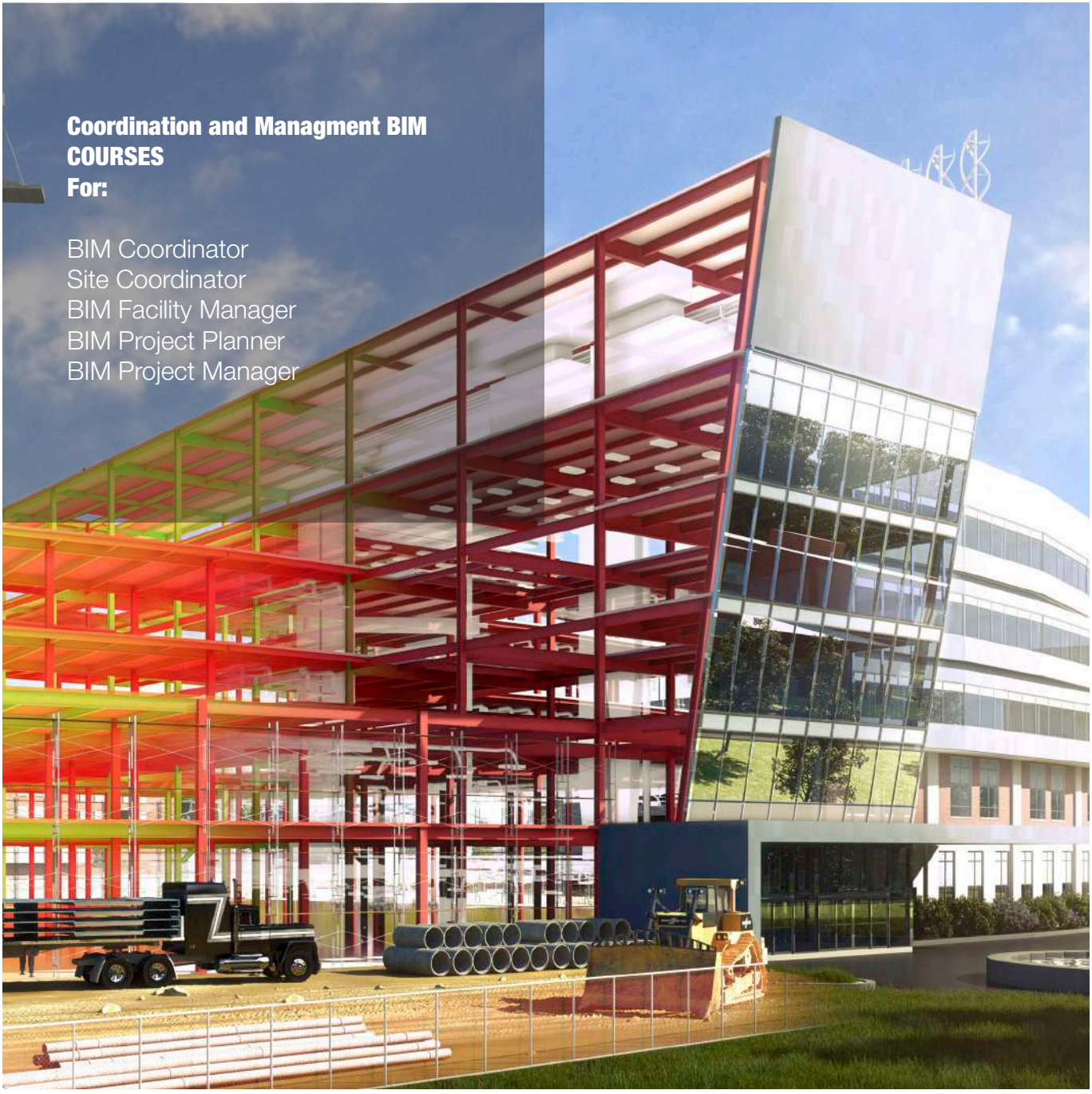
In this course the engineers explore how the powerful tools available in the BIM platform can be used to track, update, and maintain facilities management information to support better planning,operations, and maintenance decision-making throughout a building’s lifecycle

BIM 503
BIM Coordination Skills

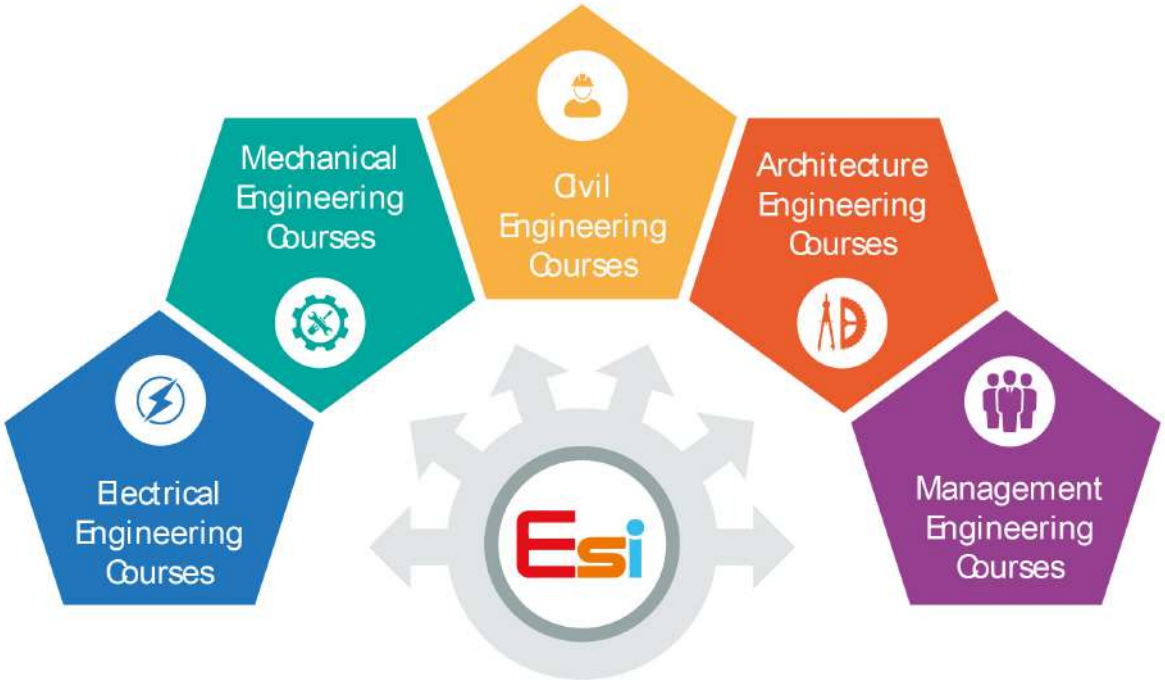
This course participants will learn the best approaches to combine 3D geometry from cross disciplines into one scene to enable effective model reviews. Through new technology like Autodesk BIM 360™
gives project teams the tools to coordinate better, communicate more effectively, and resolve issues quickly, resulting in faster and more efficient project delivery.

BIM 601 - 602
BIM Construction Managment 1,2

These two courses Participants, will be able to understand, theoretically how to manage BIM process, technology and people during construction projects from early stage of design until operation stage. That covers issues related to Contracts, Level of Development (LOD) and BIM implementation strategies within organization. These two courses are accredited by a well-known organization in United Kingdom


Coordination and Managment BIM
COURSES
For:
BIM Coordinator
Site Coordinator
BIM Facility Manager
BIM Project Planner
BIM Project Manager

Which course is right for me?



Why train with ESI?

Great businesses need great people

Engineering Science Institute

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