BUILDING INFORMATION MODELING (BIM)
Training Program Guide
Architecture, Structure, MEP, Sustainable and Management.
Engineering Science Institute

ESI for Training & Development provide a high quality training in engineering fields via qualified instructors, with all its specializations. ESI works 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
What is BIM?
Building Information Modeling (BIM) is an intelligent 3D model-based process that equips architecture, engineering, and construction professionals with the insight and tools to more efficiently plan, design, construct, and manage buildings and infrastructure.

BIM benefits your business
Building Information Modeling (BIM) processes have helped countless firms in diverse industries operate more productively, produce higher-quality work, attract more talent, and win new business. With a rising number of government and commercial organizations mandating BIM, now is the time to consider implementing BIM at your firm.

Global BIM policies
Governments worldwide are mandating or recommending BIM, recognizing its value for helping to deliver projects successfully. Find out which BIM policies are affecting your industry, projects or bids.

This list is indicative of the Government BIM programs around the world, and is not intended to be an exhaustive list.

- China
- Hong Kong
- Japan
- Netherlands
- Norway
- South Korea
- Dubai
- European Union
- Germany
- France
- New Zealand
- Singapore
- United Kingdom
- Spain
- United States
- Finland
BIM Curriculum
Coverd in the Training

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 Descriptions

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

### Course Options

- BIM Modeler
  - BIM 101
  - BIM 102
- BIM Architect
  - BIM 103
  - BIM 104
- BIM Civil-Eng.
  - BIM 101
  - BIM 102
- 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 402
- BIM -QS
  - BIM 101
  - BIM 101
  - BIM 401
  - BIM 503
- BIM Facility Manager
  - BIM 101
  - BIM 102
  - BIM 401
  - BIM 501
- BIM Project Manager
  - BIM 101
  - BIM 104
  - BIM 201
  - BIM 301
  - BIM 501
  - BIM 502
  - BIM 401
  - BIM 503
  - BIM 601
  - BIM 602
BIM 101
Introduction 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 from 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 sustainable 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 Diploma for Architecture
Courses Description
 engineering
science Institute
ESI
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.

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.

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.

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 401
Navisworks 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
Navisworks 2
Navisworks 2, “Best Practices,” is a follow-on course 1, 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 501
BIM Quantity Survey
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 Management
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 Management 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.
Why train with ESI?

Great businesses need great people

- We’ve shaped the world’s most Authorized trainings
- 95% of our students score our tutors 9 or 10 out of 10
- 55% of our clients are from public companies
- In 2015, we trained 10,000 people, from SMEs to global organizations
- ESI spend 365 days with clients in a year, so we know what businesses want and understand their needs
- Our tutors have 25 years experience working with engineering training systems
- 83% of people feel that staff are the key to maintaining a competitive edge
- 45% percent of staff say they’d feel more motivated if their organization invested on training

Why training is important

Which course is right for me?

- Electrical Engineering Courses
- Mechanical Engineering Courses
- Civil Engineering Courses
- Architecture Engineering Courses
- Management Engineering Courses