Introduction to Autodesk Revit Structures

Aalto University

BIM in Construction Management

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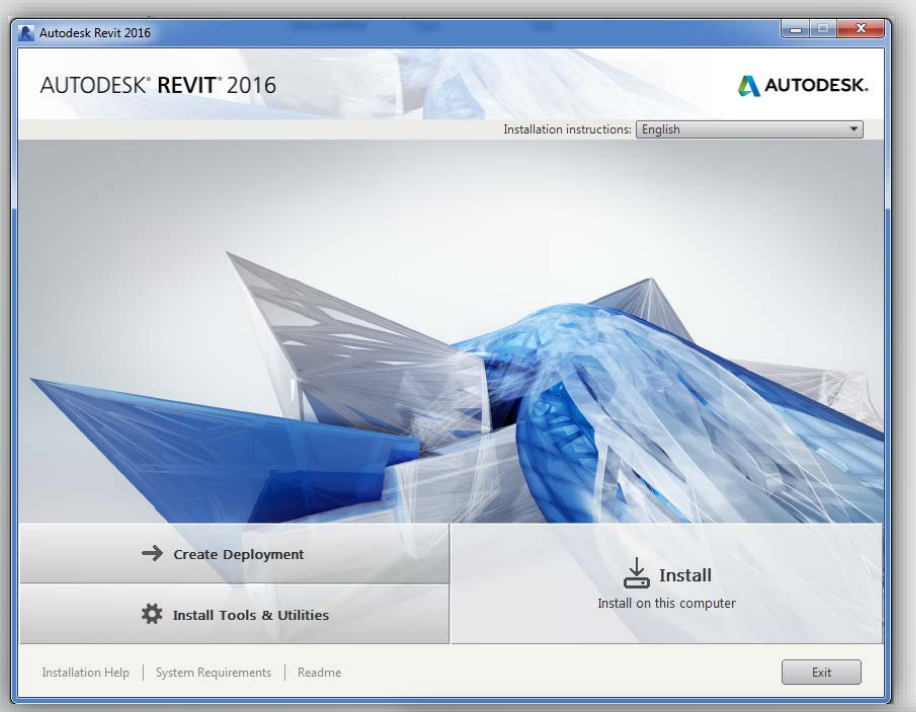
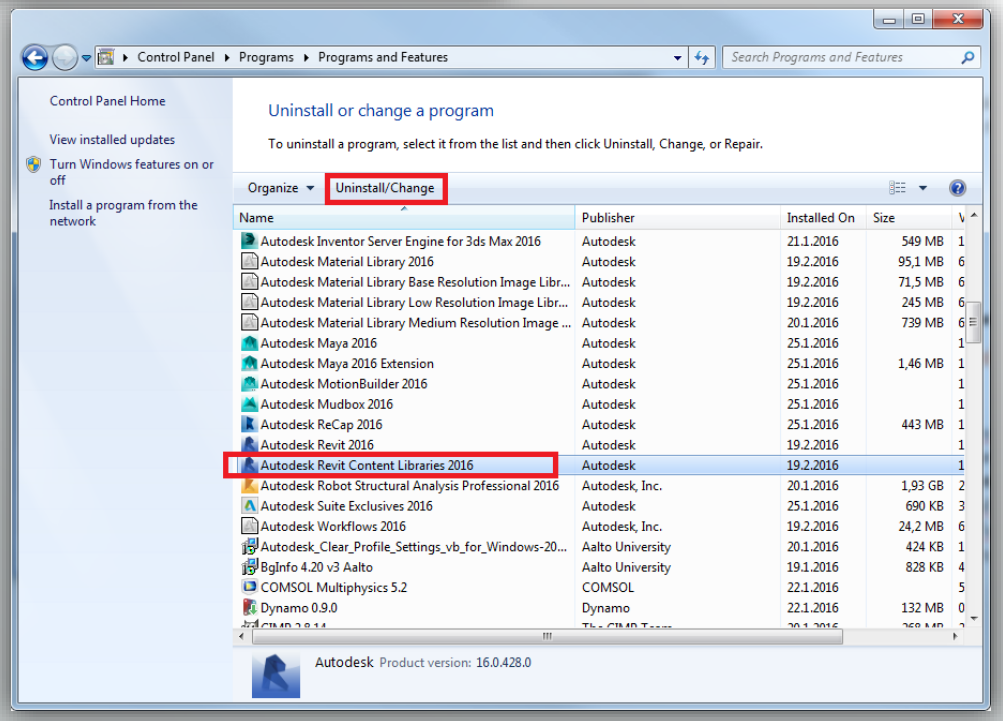




- You can create an Autodesk account and download the latest version of Revit for free from the link below:

- **Free software download for students & educators:**

http://www.autodesk.com/education/free-software/revit

- Please note that after installation, if you receive an error in Revit stating that the Families or Templates are missing you should install **Revit Content Library** again.
- To do that, go to Control Panel > Uninstall a Program > Revit Content Library > Select Add or Remove Features and then, you can select the "Metric" Content Library to be installed again.

- Specifically built for Building Information Modeling (BIM), including features for architectural design, MEP and structural engineering, and construction
- Contains tools for design and documentation, visualization, simulation, and project collaboration

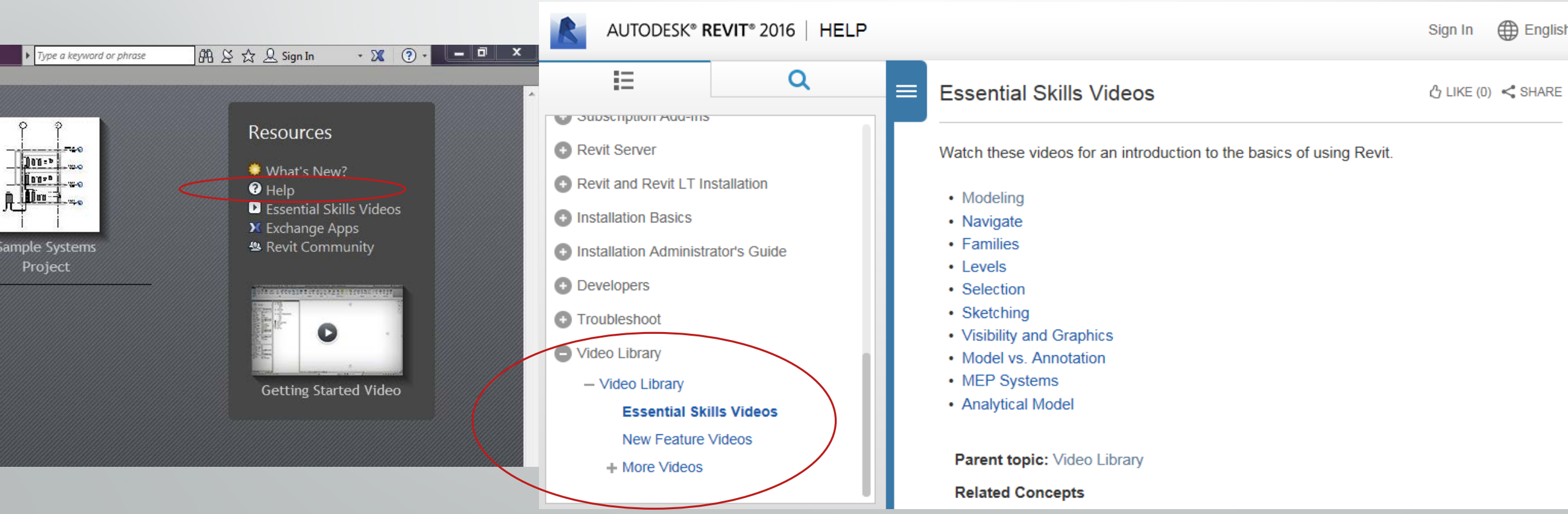
Revit Structures (Contents of the First Session)

- **Introduction to Revit:** Pros & Cons of Using Revit
- **User Interface:** Projects, Templates, Families, Panels, Views, Keyboard Shortcuts, Navigation in 2D and 3D
- **Basic Tools:** Sketching and Editing Tools (Modify Panel), Setting Up the Project
- **Structure Design Tools:** Overview of Structure Tab, Structural Walls, Structural Columns, Structural Beams, Structural Floors

Revit Structures (How to Learn?)

✓ In case you missed the first exercise session, watch the online "Essential Skills Videos".

- In the Resources section in the initial Revit window click on Help and you will be directed to Autodesk Knowledge Network.
- There, scroll down to the end of the help content and look for the Video Library > Essential Skills Videos



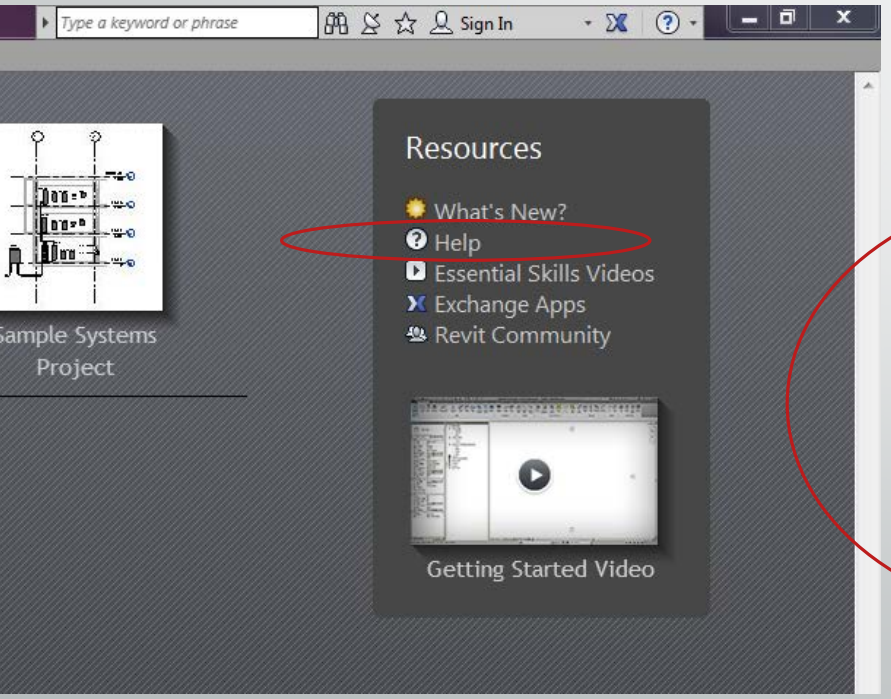
Revit Structures (Contents of the Second Session)

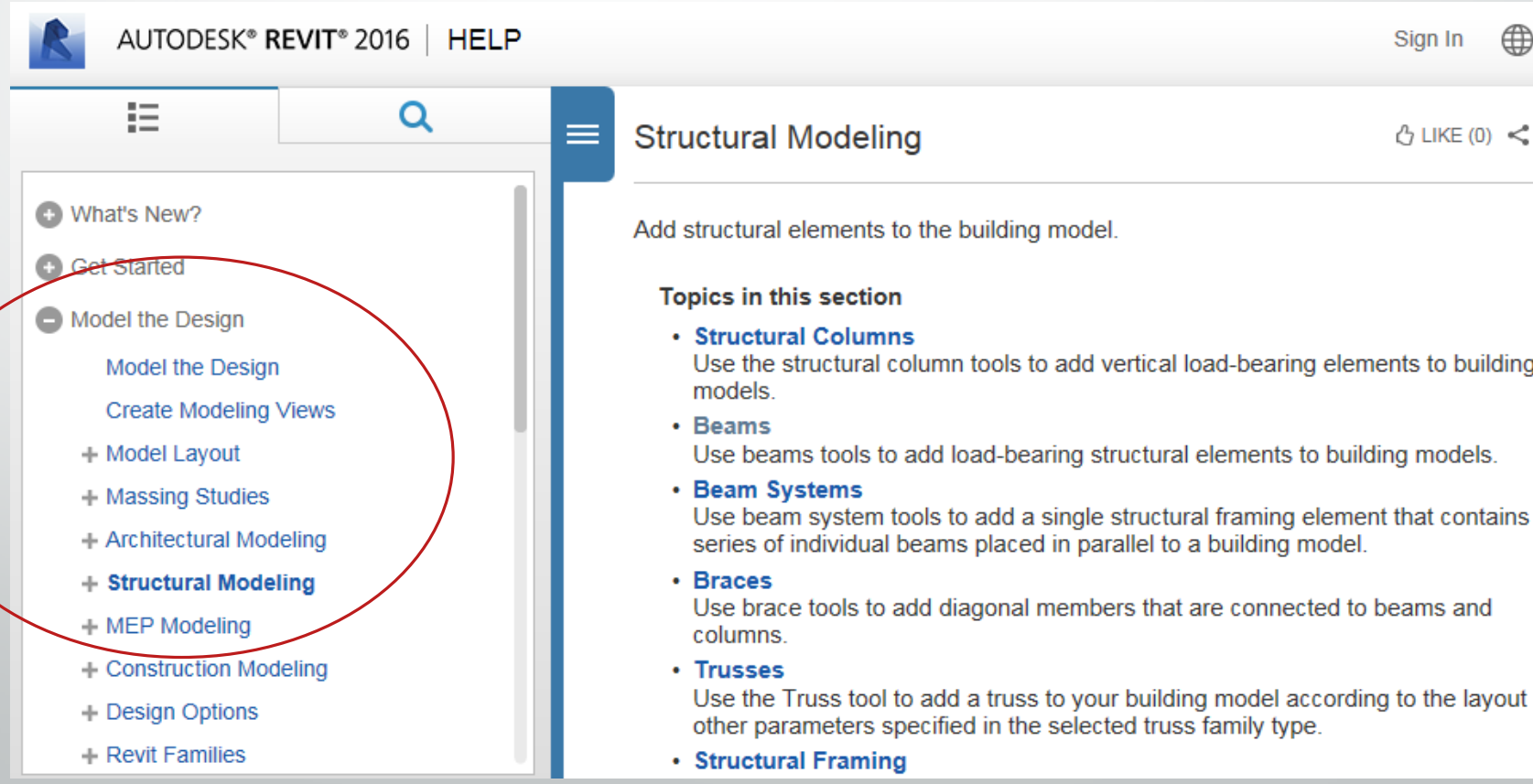
- **Family Editor:** Model in Place, Generic Models
- **Structure Design Tools:** Linking Architectural Models & Other Projects , Foundations, Trusses and Braces, Openings, Reinforcement tools
- **Results and Documentation:** Annotations, Schedules, Exports

Revit Structures (How to Learn?)

✓ In case you missed the second exercise session:

- In the Resources section in the initial Revit window click on Help and you will be directed to Autodesk Knowledge Network.
- There, expand "Model the Design" item and read through the online content for Structural Modeling

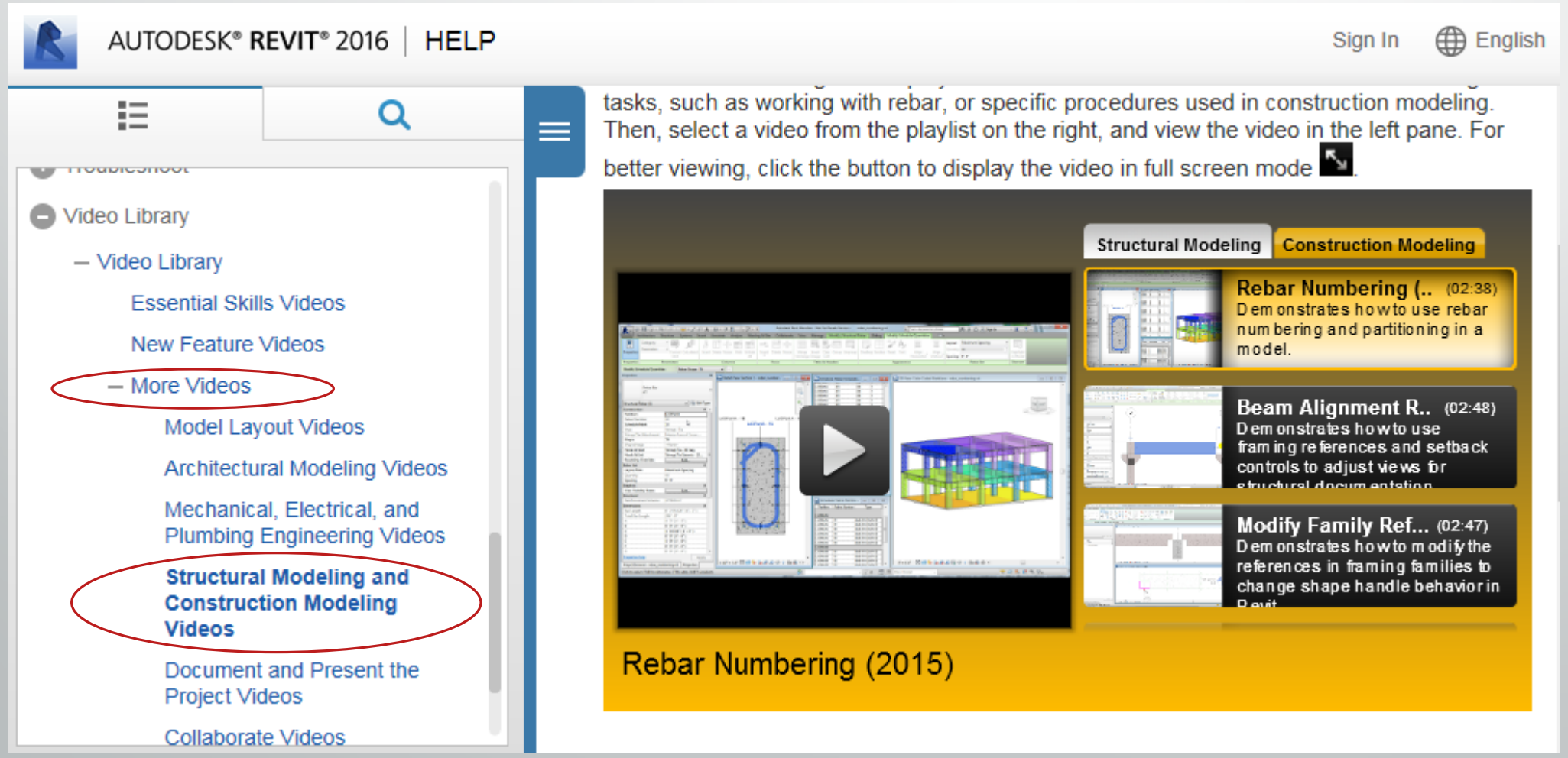




Revit Structures (How to Learn?)

✓ In case you missed the second exercise session:

- You can also watch "Structural Modelling Videos" in the Video Library of Revit Online Help



Revit (More Advanced Skills)

- **Course: YYT-C3002 - Application Programming in Engineering, Aalto University**

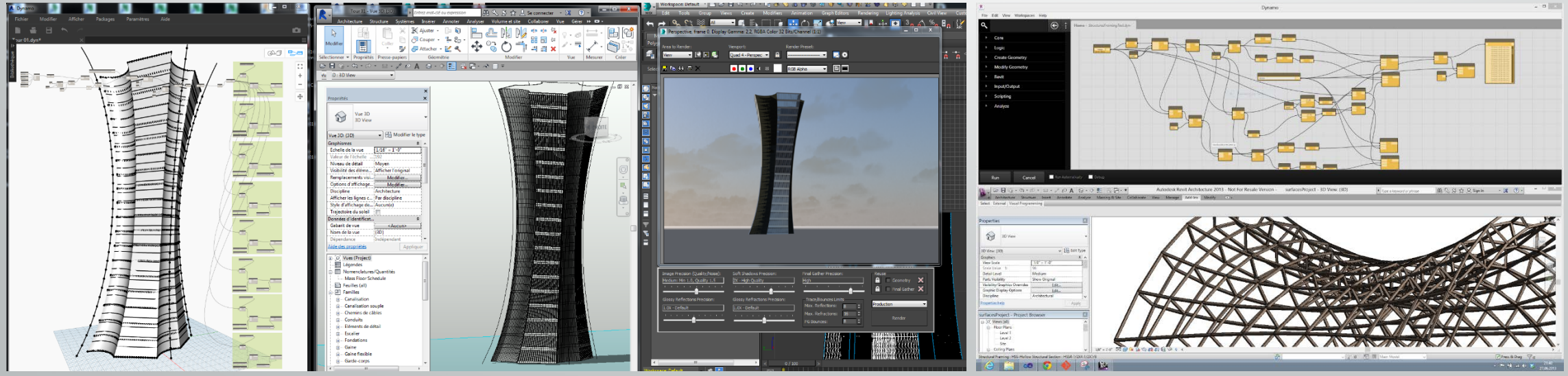
Dynamo

- Open source graphical programming for computational design
- Dynamo extends building information modeling with the data and logic environment of a graphical algorithm editor

Watch the introduction video

Revit API (Application Programming Interface)

- Autodesk Revit provides a rich and powerful .NET API which can be used to automate repetitive tasks, extend the core functionality of Revit in simulation, conceptual design, construction and building management, and much more
- Revit SDK: The Software Development Toolkit (SDK) provides extensive .NET code samples and documentation to help you get started developing with the Revit API



Revit Structures

Assignment:

Link your Architectural model in Revit, draw your structural system, then reinforce one structural beam, one structural column and one structural slab, add tags and annotations, create a drawing sheet containing one plan view, one 3D view and one detail view, print a PDF out of the drawing, and finally export an IFC from your model.

- ✓ Detailed instructions for the assignment will be posted to MyCourses.

Additional Resources:

Learn more about Revit:

- You can explore the online help content of Autodesk Knowledge Network:

Knowledge Network

- You can watch thousands of YouTube Videos from different organizations and engineers, as an example these ones:

Revit Tutorials Channel

- You can ask questions from Autodesk Community of Revit Users and Developers:

Revit Community

- You can watch more advanced videos made by users in Sreencast page:

Revit Screencasts

… or simply Google your problem and you will find an answer in engineering forums and websites.

Thanks for your attention…