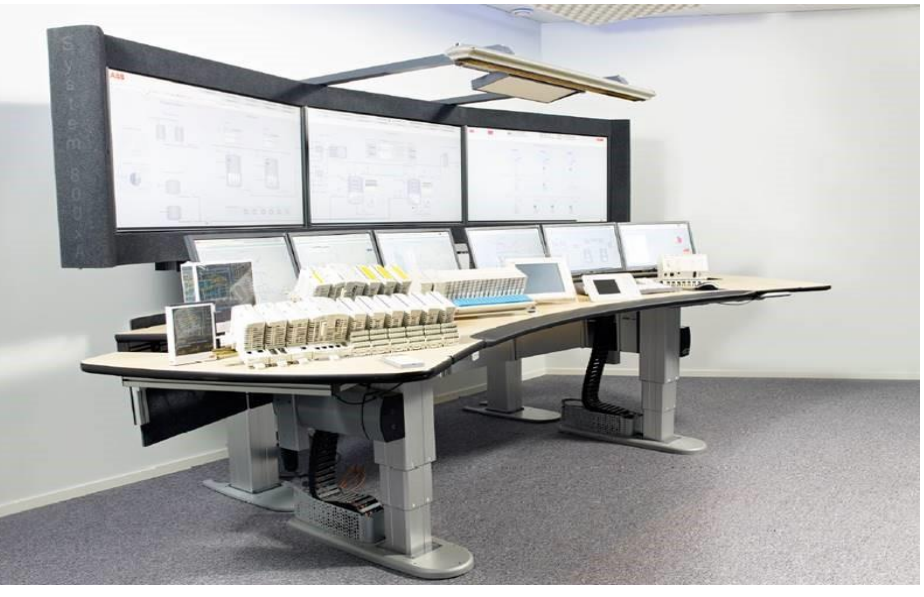
ABB UNIVERSITY COURSE DESCRIPTION

# T315C - Online

## System 800xA with AC 800M Engineering, Part 1 – Control Builder



The goal of this course is to learn the engineering of a complete control project using the Extended Automation System 800xA with AC 800M controllers and Control Builder as the engineering tool. Note that this course is split in two parts and the follow-up course is T315H for the Human System Interface (HSI) configuration.

**Course type and methods**
This is an instructor led course with associated lab exercises. Approximately 50 % of the course is hands-on lab conducted via Virtual Machines.

**Student Profile**
This training is targeted to system and application engineers, commissioning and maintenance personnel, service engineers and system integrators.

**Prerequisites**
Students shall know the fundamentals of working with control systems and have basic knowledge of Windows operating system and networking technologies.

**Course objectives**
Upon completing of this course the participants will be able to:

- Explain the System 800xA architecture and the function of the different components
- Navigate in the system and create new Objects / Aspects
- Create a new control project and plan the structure of application programs based on a P&ID and a Functional Specification
- Configure the AC 800M hardware and corresponding I/O's
- Handle the standard libraries provided by ABB and develop project specific libraries
- Design and configure application diagrams by using a variety of IEC 61131-3 languages
- Define tasks and describe the assignment rules
- Analyze the controller diagnostics and optimize the CPU load / memory usage
- Configure user defined object types
- Setup communication using various protocols
- Setup the OPC connectivity to AC 800M

**Duration**
The duration is 4 days

**Main topics**

- System 800xA architecture
- Engineering Workplace/Plant Explorer
- Project and application structures
- AC 800M hardware
- Libraries
- Variables and data types
- Function Block Diagrams
- Diagrams
- Structured Text
- Task assignment and memory
- Control Modules
- User defined object types
- Sequential Function Charts (SFC)
- Communication
- OPC connectivity
- Project backup and ACM

| **Course Outline** | | | |
|---|---|---|---|
| Day 1 | Day 2 | Day 3 | Day 4 |
| Course overview<br>System 800xA architecture<br>Engineering Workplace / Plant Explorer<br>Project and application structures<br>AC 800M hardware | Libraries<br>Variables and data types<br>Function block diagrams<br>Structured text | Structured Text<br>Task assignment and memory<br>Control Modules<br>Diagrams<br>User defined object types | Sequential Function Charts (SFC)<br>Communication<br>OPC connectivtiy<br>Project backup and ACM |

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