

# FACT SHEET (LIVE COURSE)

## Introduction to Modularization for Industrial Plants



**Introduction to the modularization of industrial plants: conceptualization, planning, feasibility analysis, manufacturing, transport, and installation.**

### Who Should Attend?

This course is intended for graduates (or soon to be), designers, freelancers, technicians and engineers involved in calculation, design, selection, manufacturing, safety, quality and maintenance of systems and equipment used in Industrial Processes.

**Previous knowledge of this subject is not required to attend to the course.**

### Objectives

The main objective of this course is to **transfer to participants the theoretical and practical skills required in projects**, obtained from experience and sound engineering practices.

### Methodology

Instructor-led training course in adult learning format with discussions, individual exercises and simplified case studies, providing practical knowledge to implement in the field.

### Duration

The duration of this training course is **15 hours**, divided into several sessions to facilitate the learning process.

### What to expect?

**Acquire the vocabulary and fundamentals** of modularization.

**Understand the concept of modularization** and the differences from a conventional project.

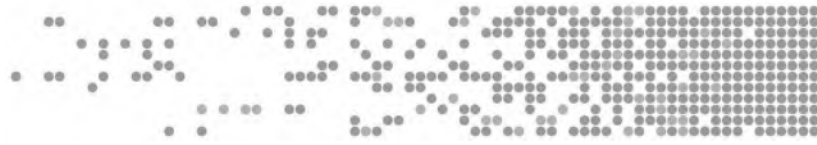
**Learn the steps** to follow for the manufacturing of modules.

**Identify critical activities and risks** during manufacturing.

**Learn about the maneuvers and transportation** of modules.

**Analyze the feasibility of modularized projects.**

**Understand the main activities** in the FEED and design phase of the project.



## Contents

### Introduction

#### Introduction

History | Definitions and terminology | Application  
Typical modules in an industrial plant

### Conceptualization

#### Differentiation of modular projects

Main drivers for modularization | Differential factors

#### Standardization and Scalability

#### Lifecycle of a module in a project

#### Degree of modularization

### Fabrication and Installation of Modules

#### Module Yard

Typical Scope | Typical layout and facilities

#### Construction of modules

Steps and sequence | Types of assembly

#### Installation of modules at site

Critical activities | Path of construction and sequencing  
Hook-up and interconnection of modules at site | Risks

#### Hauling and Transportation

Processes and stakeholders | Typical maneuvers and heavy hauling equipment | Route survey | Risks during transportation

### Feasibility Analysis

#### Preliminary modularization definition

Definitions | Philosophy | Potential fabrication spots | Risk analysis

#### Commercial and schedule assessment | Methodologies

### FEED Stage

#### Definitions for FEED Stage

Layout approach | Strategy | Design criteria by disciplines | Interfaces between disciplines

Module list and data sheets

Pre-construction and constructability

Fabricator and transportation subcontractors

Tender stage for commercial and schedule assessment

### Detailed Design Phase

Concurrent execution and sequenced fabrication

#### Design

Early optimization and value engineering

Module envelopes and integration in design systems

Detailed design | Multidisciplinary approach

Interface management | Key documentation

#### Documentation

Issuance | Vendor and 3<sup>rd</sup> party documentation

#### Late design systems/disciplines

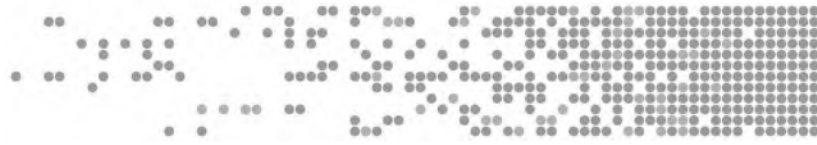
#### Constructability workshops

#### Subcontract and design oriented to quantities

### Procurement and Planning

#### Procurement in modularized projects

Schedule and plan a modularized execution | Workforce planning



## Instructor

Senior Mechanical Engineer and master's in business administration (MBA). **More than 18 years of experience in project management and engineering. An expert in the management, construction and design of Oil Refining, Petrochemical, Chemical and Gas Projects executed with the Modularization approach.**

Has led and coordinated teams in several countries, in charge of the execution, risk analysis, coordination and communication of various Industrial Projects. Among the projects developed, clients such as REPSOL, UNIÓN FENOSA, AIRBUS, SAINT GOBAIN, ADCO, GASCO, SADUI ARAMCO, CNRL, YPFB REFINACIÓN, LUKOIL.

**Extensive experience teaching specialized training courses, in-person and online. Training sessions** given in different institutions and companies in the field, training aimed at university students, designers, engineers and experienced professionals.

## Tailored Training

The most effective training is one that satisfies the needs of each company's business focus and deliverables. **We adapt our training programs to each specific requirement, offering bespoke solutions for each need.** The result, 100% tailored programs, developed to maximize the time investment and deliver tangible and intangible returns to the work teams.

After an assessment phase, a tailored training plan is designed jointly with the client. This plan is specifically tailored to meet the client's needs, focusing on effectively enhancing the capabilities of the work team. **We provide practical, dynamic, and hands-on training,** making available the best instructors in each subject.

## Arveng Training

**Arveng Training has developed effective and practical solutions for today's industrial challenges by delivering specific, high-quality engineering courses utilizing three different approaches: classroom, online, and tailored training.** We are proud to have imparted more than 250 classroom courses, 1200 online courses, and over 65 in-company sessions. Our training activities have benefitted over 4500 professionals, our greatest accomplishment of all.

**We consider our students' time to be of utmost importance.** For this reason, all our courses have been designed with the main objective of quickly improving the professional skills of the participants through our expert instructors in different disciplines. **We stimulate creativity, innovation, and initiative to make the participants inquisitive, bringing good engineering practices and lessons learned to the field, that benefits their professional lives in the long term.**

## Our Company

**Arveng Training & Engineering SL is a leading company providing Training and Engineering services based in Madrid, Spain.** Our mission and vision are to be a leading training and engineering services company, providing our clients with the best in the sector. We are a team of highly motivated, talented, highly qualified professionals with over 20 years of experience. We aim to exceed expectations by offering efficient, innovative, cost-effective, and transparent services.

Established in July 2010, mainly oriented to the industrial sector, from the very beginning Arveng has always worked with closeness, responsibility, and commitment in all areas of activity.

**Through experience gained by partaking in multidisciplinary engineering projects** in sectors such as Petrochemical, Energy Generation, and Industrial, we provide answers and solutions to concrete requirements, making the effort to build long-lasting and mutually beneficial relationships.