

Odesys offers the following Systems Design & Management Modules/ Courses

Odesys trains **your professionals** based on **your specific complex System or Problem of Interest** ¹ (SOI or POI), following a **value-driven systems engineering management-by-design approach**. This means that the training modules listed below are directly tailored to these SOI/POI learning vehicles as defined by your organization. We apply the proven **Open Design Learning concept** (ODLc) to guide and structure this learning process.

In addition, Odesys is available to deliver **BSc, MSc or PhD-level courses** within engineering and management programs at universities and business schools². Our approach focuses on educating an integrated, systems-centered methodology for solving complex sociotechnical problems, bridging engineering and management skills.

Moreover, Odesys offers condensed **Masterclasses, Workshops, Guest Lectures, Dialogue Sessions, Keynotes** at international conferences, and contributions to R&D colloquia.

Depending on your specific challenge and application domain, we offer the following modules and courses, each addressing relevant topics:

M1/C1 – Systems Engineering Design

Systems Development by Open Design ; Preference & Performance based Design ; Generative or Parametric Design ; Multi-stakeholder Conflicts-of-interest ; Collaborative-Concurrent Design ; Participatory Planning ; Multi-Criteria Decision Analysis (MCDA) ; Multi-Objective Design Optimisation (MODO) ; Well-being Value Engineering ; Design tY model; Best-fit for Common Purpose concept Service-Life Design ; Life Cycle Value (LCV) engineering ; Preference Function Modelling (PFM) ; IMAP optimisation & Preferendus ; Theory U-modelling ; Design thinking within a R&D methodology framework.

M2/C2 – Engineering Project Management

Management by Open Design; Multi-stakeholder Conflicts-of-interest ; Project Management System & Systems Thinking ; Best-Fit for Common Purpose & Key Value Factors (KVF) ; 3AF approach (Agree First-Act Feasible-Adapt Flexible) to Confront project Complexity ; Collaborative-Concurrent Decision-making Organizational Design & Development & Well-being Value concept; Dynamic Planning & Control (Odycon) ; Network logics & simulation ('events & agents'); Risk Management ; Mitigation Control on the run (MitC) ; Multi-Criteria Decision Analysis (MCDA) ; Multi-Objective Design Optimisation (MODO) ; Preference Function Modelling (PFM) ; IMAP optimisation & Preferendus ; Social Threefold modelling & Slow Thinking; Quality & Information Management; Theory U-modelling ; PI-II-III learning; Open Loops Management.

M3/C3 – Engineering Asset Management

Management by Open Design; Systems Service Provider modelling & Systems thinking ; Quality of Service (QoS) concept ; Multi-stakeholder Conflicts-of-interest ; Best-Fit for Common Purpose & QoS; Collaborative-Concurrent Decision-making ; Organizational Design & Development & Well-being Value concept; Social Threefold modelling & Slow Thinking ; Strategic Asset Management Plan (SAMP) & 3C concept ; Project Delivery Plan (PDP – Design Develop); Service Operations Plan (SOP – Maintain Operate); Multi-Criteria Decision Analysis (MCDA) ; Multi-Objective Design Optimisation (MODO) ; Preference Function Modelling (PFM) ; IMAP optimisation & Preferendus ; Social Threefold modelling & Slow Thinking ; Theory U-modelling ; MI-II-III learning; Open Loops Management.

¹ While not limited to the infrastructure and built environment domain, the scope at least includes water management, transportation, energy, real estate, and urban systems.

² For example within Civil Engineering, Offshore & Dredging engineering, Architecture & Built Environment, Construction Management & Engineering, Transport Infrastructures & Logistics, Industrial Engineering & Management, Technology & Operations Management and Sociotechnical Algorithms & Optimization programs.