

CS-491

Enterprise and service-oriented architecture

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Cursus	Sem.	Type
Computer science	MA2, MA4	Opt.
Cybersecurity	MA2, MA4	Opt.
SC master EPFL	MA2, MA4	Opt.

Language of teaching	English
Credits	6
Session	Summer
Semester	Spring
Exam	Oral
Workload	180h
Weeks	14
Hours	6 weekly
Courses	6 weekly
Number of positions	

Summary

This course is an introduction to the alignment of enterprise needs with the possibilities offered by Information Technology (IT). Using a simulated business case, we explore how to define the requirements for an IT service that matches stakeholders implicit wishes.

Content**Target Audience**

EPFL Engineers who want to become

- Business Analysts
- Requirements Engineers
- Project Managers
- Management and IT consultants
- Product Owners

Content

Technological and societal changes are pressuring enterprise IT departments to hire engineers with excellent technical and business skills. Their roles are called business analysts, requirements engineers, or product owners. Their skills enable the bidirectional alignment of business needs and IT capabilities. With IT becoming the most important enabler of enterprise strategy, these roles are becoming crucial in many organizations, large and small, private or public.

We use experiential learning beginning with concrete experience, followed by reflection and abstraction to encourage collaborative learning by doing. You will be part of a small team that needs to understand and solve a business case through fast-paced role-playing with the teaching staff. This is interspersed with lectures on the nature of organizations, business analysis and the role of enterprise IT. Several external speakers from industry illustrate what we see in class.

We will explore the following subjects:

- The nature of organizations
- Problems and solutions
- Requirements elicitation
- Enterprise modeling
- Low-code prototyping
- Creating a request for tender

Keywords

Ethnography, interviews, contextual inquiry, business service, business process, IT service, business analysis, requirements engineering, SEAM service modeling, SEAM motivation modeling, interpretivism, homeostasis, appreciation, resilience, low-code development, request for tender

Learning Outcomes

By the end of the course, the student must be able to:

- Elicit requirements with business stakeholders
- Analyze business stakeholder perceptions and motivations

- Assess / Evaluate business processes
- Define requirements for business and IT services
- Present problems and solutions to management
- Implement a prototype in a low-code platform

Transversal skills

- Demonstrate a capacity for creativity.
- Communicate effectively with professionals from other disciplines.
- Take feedback (critique) and respond in an appropriate manner.

Teaching methods

Experiential learning and teamwork

Resources

Virtual desktop infrastructure (VDI)

No

Bibliography

Beyer, H. and K. Holtzblatt (1999). "Contextual design." interactions 6(1): 32-42.
Markus M.L., Keil M. (1994). If We Build It, They Will Come: Designing Information Systems that People Want to use, Sloan Management Review; Summer 1994; 35, 4; ABI/INFORM Global pg. 11
Regev, G. et al.(2013) What We Can Learn about Business Modeling from Homeostasis, Lecture Notes in Business Information Processing, 142, 1-15, 2003
Zachman, J. A. (1987). "A framework for information systems architecture." IBM Syst. J. 26 (3): 276-292.

Ressources en bibliothèque

- [Contextual design / Beyer](#)