

41951- ANÁLISE DE SISTEMAS

AS: course presentation

Ilídio Oliveira

v2024/02/20

Key resources

Web page at [Moodle](#)

All learning materials
Assignments submission

[Syllabus](#) (*dossier pedagógico*)

Subjects covered
Grading (and other) rules

Course Calendar

[Weekly plan](#)

The screenshot shows a Moodle course page for 'Análise de Sistemas'. The navigation menu at the top includes 'SOBRE A UA', 'ESTUDAR' (highlighted), 'VIVER', 'INVESTIGAR', 'COOPERAR', and 'INTERNACIONAL'. The page content is organized into several sections:

- Análise de Sistemas** (Course Title)
- Objetivos** (Objectives): Nesta unidade curricular, os alunos irão familiarizar-se com as disciplinas da análise, modelação e desenho de sistemas, no contexto da engenharia de software.
- Resultados de Aprendizagem** (Learning Outcomes): No final desta unidade curricular, o aluno deve ser capaz de:
 - Comparar os principais processos de desenvolvimento de software e explicar as práticas subjacentes.
 - Realizar a análise e especificação de requisitos de um sistema de software e participar de forma crítica na sua validação.
 - Documentar requisitos funcionais e não funcionais numa especificação.
 - Aplicar abordagens de especificação por cenários de utilização (e.g.: casos de utilização);
 - Comunicar uma proposta de arquitetura de software e justificar as decisões com relação aos requisitos.
 - Criar modelos usando a UML e ferramentas CASE para apoiar a especificação e desenvolvimento;
 - Organizar a resolução de problemas de média dimensão em equipa, aplicando uma metodologia ágil.
- Metadata** (right sidebar):
 - Código:** 41951
 - Docente responsável:** [Ilídio Fernando de Castro Oliveira](#)
 - Idioma(s) de leção:**
 - Área científica:** Informática
 - Créditos ECTS:** 6
 - Carga letiva:** TP: 2H/semana, PL: 2H/semana

Mapping AS in the ACM/IEEE curriculum guidelines



Software Engineering 2014

Curriculum Guidelines for Undergraduate Degree Programs in Software Engineering

KA/KU	Title	Hours	KA/KU	Title	Hours
GMP	Computing essentials	152	DES	Software design	48
CMP.cf	Computer science foundations	120	DES.con	Design concepts	3
CMP.ct	Construction technologies	20	DES.str	Design strategies	6
CMP.tl	Construction tools	12	DES.ar	Architectural design	12
			DES.hci	Human-computer interaction design	10
			DES.dd	Detailed design	14
			DES.ev	Design evaluation	3
FND	Mathematical and engineering fundamentals	80	VAV	Software verification and validation	37
FND.mf	Mathematical foundations	50	VAV.fnd	V&V terminology and foundations	5
FND.ef	Engineering foundations for software	22	VAV.rev	Reviews and static analysis	9
FND.ec	Engineering economics for software	8	VAV.tst	Testing	18
			VAV.par	Problem analysis and reporting	5
PRF	Professional practice	29	PRO	Software process	33
PRF.psy	Group dynamics and psychology	8	PRO.con	Process concepts	3
PRF.com	Communications skills (specific to SE)	15	PRO.imp	Process implementation	8
PRF.pr	Professionalism	6	PRO.pp	Project planning and tracking	8
			PRO.cm	Software configuration management	6
			PRO.evo	Evolution processes and activities	8
MAA	Software modeling and analysis	28	QUA	Software quality	10
MAA.md	Modeling foundations	8	QUA.cc	Software quality concepts and culture	2
MAA.tm	Types of models	12	QUA.pca	Process assurance	4
MAA.af	Analysis fundamentals	8	QUA.pda	Product assurance	4
REQ	Requirements analysis and specification	30	SEC	Security	20
REQ.rfd	Requirements fundamentals	6	SEC.sfd	Security fundamentals	4
REQ.er	Eliciting requirements	10	SEC.net	Computer and network security	8
REQ.rsd	Requirements specification and documentation	10	SEC.dev	Developing secure software	8
REQ.rv	Requirements validation	4			

Course subject: analysis and specification of software systems

Systems analysis

Disciplines related to the characterization of the problem and specification of the technical solution

Development Process

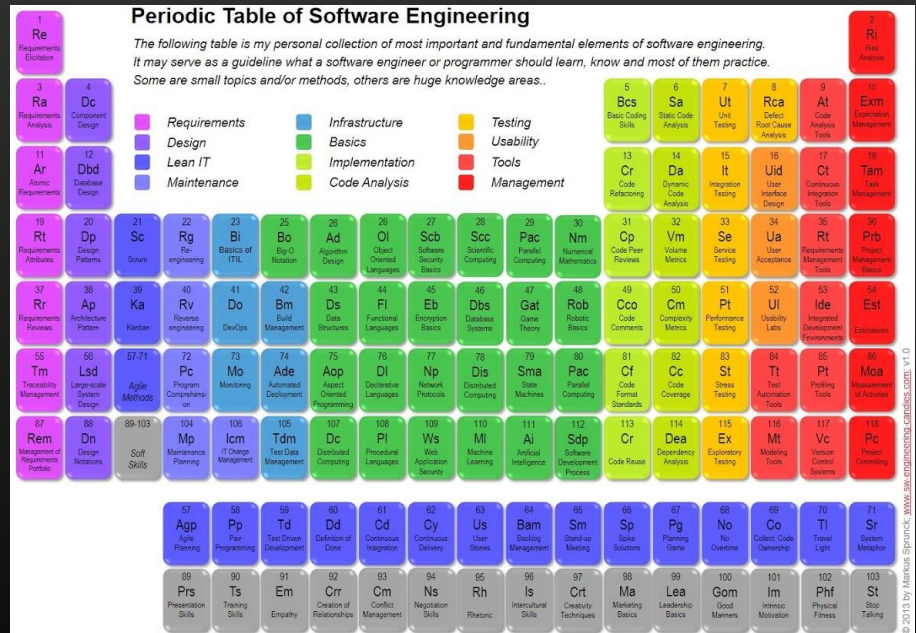
Systematic engineering method. Defines activities, roles and outcomes

Visual modeling

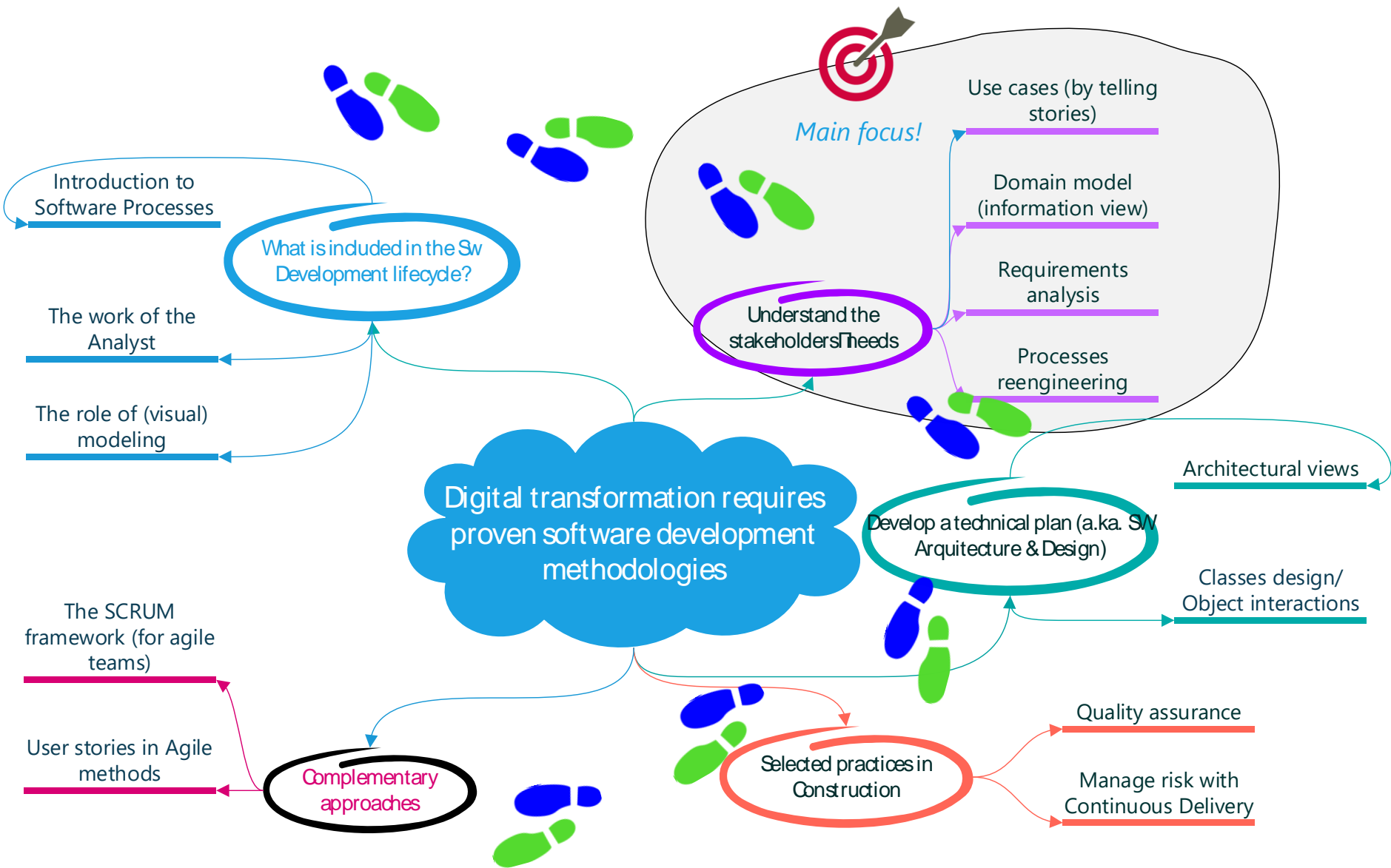
Unified Modeling Language - UML

CASE tools (computer-aided software engineering)

E.g. : VisualParadigm



<http://www.sw-engineering-candies.com/blog-1/periodic-table-of-software-engineering-know-how>



Note on cooperative learning

COOPERATIVE LEARNING It leads to more and deeper learning and longer retention of information; greater development of high-level thinking, problem-solving, communication, and interpersonal skills; more positive attitudes toward engineering and science curricula and careers and greater retention in those curricula; and better preparation for the workplace.

Richard Felder

Engineer

Richard M. Felder is the Hoechst Celanese Professor Emeritus of Chemical Engineering at North Carolina State University. [Wikipedia](#)



How to study for AS?

Attend the classes ;)

All topics in the Exam are addressed in classes, including some viewpoints/discussion questions.

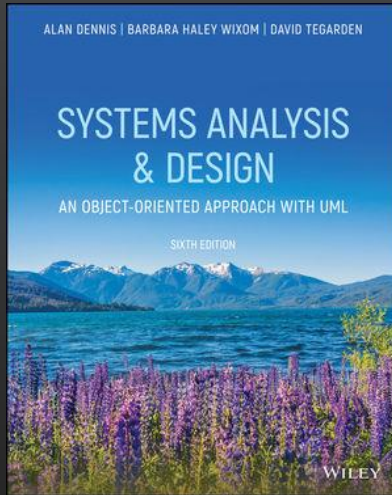
Labs & project

Actively participate in every assignment.

Pitfalls

- ✗ distribute the tasks and cut the discussion in lab assignment... everybody should go through the “process”.
- ✗ let the “smart volunteer” take all the responsibilities...

Main references



See also selected reference is [Moodle](#)

