

MSc SE curriculum development project model: phases, tasks, products

(Version Oct 2005)

Requirements to the curriculum
(Analysis & Definition)

General aims	Laws, rules	Universities	Size	Flexibility
<p><u>Mission:</u> ... excellence in European-wide ...</p>	<p>Bologna-compliant</p>	<p>Staff (enough knowledge-able, experienced)</p>	<p>Length of study: • 3 semesters • 90 credits</p>	<p>Open for new SE developments</p>
<p>Useful for local industry needs</p>	<p>Compliant with national laws</p>	<p>Laboratory</p> <p>Library</p>	<p>1 year = 2 semesters</p>	<p>Local variants possible</p>

Structure of the curriculum
(Design)

Induction layer	1 st Semester: Core modules	2 nd Semester: Elective modules	3 rd Semester: Project	Module templates:
<ul style="list-style-type: none"> • Introduction to software engineering (SE-IN-01) • Principles of programming, coding and testing (SE-IN-02) • Project management (SE-IN-03) • System modelling and design (SE-IN-04) 	<ul style="list-style-type: none"> • System integration and reuse (SE-I-01) • Privacy, ethics and social responsibilities (SE-I-02) • Requirement engineering (SE-I-03) • Research methods (SE-I-04, part 1) • The management of system development process (SE-I-05) 	<ul style="list-style-type: none"> • Software Engineering for Critical Systems (SE-II-01) • Software evolution (SE-II-02) • Formal Methods Engineering (SE-II-03) • Component-Based development (incl. Design patterns) (SE-II-04) • Software testing (SE-II-05) • Business modelling (SE-II-06) • Applied system thinking (SE-II-07) • E-Business (SE-II-08) • Business process re-engineering (SE-II-09) • Service quality management (SE-II-10) • Research methods (SE-I-04, part 2, directed to the project) • SE for large-scale databases: a practical approach (SE-II-11) • Advanced topics in SE (SE-II-12) • Selected topics in SE (SE-II-13) 	<ul style="list-style-type: none"> • Project, e.g.: <ul style="list-style-type: none"> - Electronic Patient Records - Electronic purse - Flight Control Systems - E-voting System - Electronic Theatres 	<p>Module name</p> <p>Aims:</p> <p>Learning outcomes:</p> <p>Syllabus content:</p> <p>Entry requirements:</p> <p>Learning approaches:</p> <p>Suggested reading:</p> <p>Credits:</p> <p>Exam:</p> <p>Remark: Selection of modules necessary (30 credits / semester)</p>

Module development

Teaching materials for modules and projects: produce new ones; reuse, adapt, extend existing materials

Slides	Lecture notes	Assignments (exercises)	Reading Instructions	Literature	Case studies	Tools	Exams
Project materials: specification, tools, programming code, ...							

(Implementation)

Quality control

- Review of materials, (international) advisory board, national accreditation
- 1. approval at national level, 2. formal acceptance of a joint degree (mutual recognition, common ECTS)
- Quality assurance and control strategy

Introduction of the curriculum at 1-4 universities

Novi Sad	Belgrade	Skopje	Nis
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Variants allowed

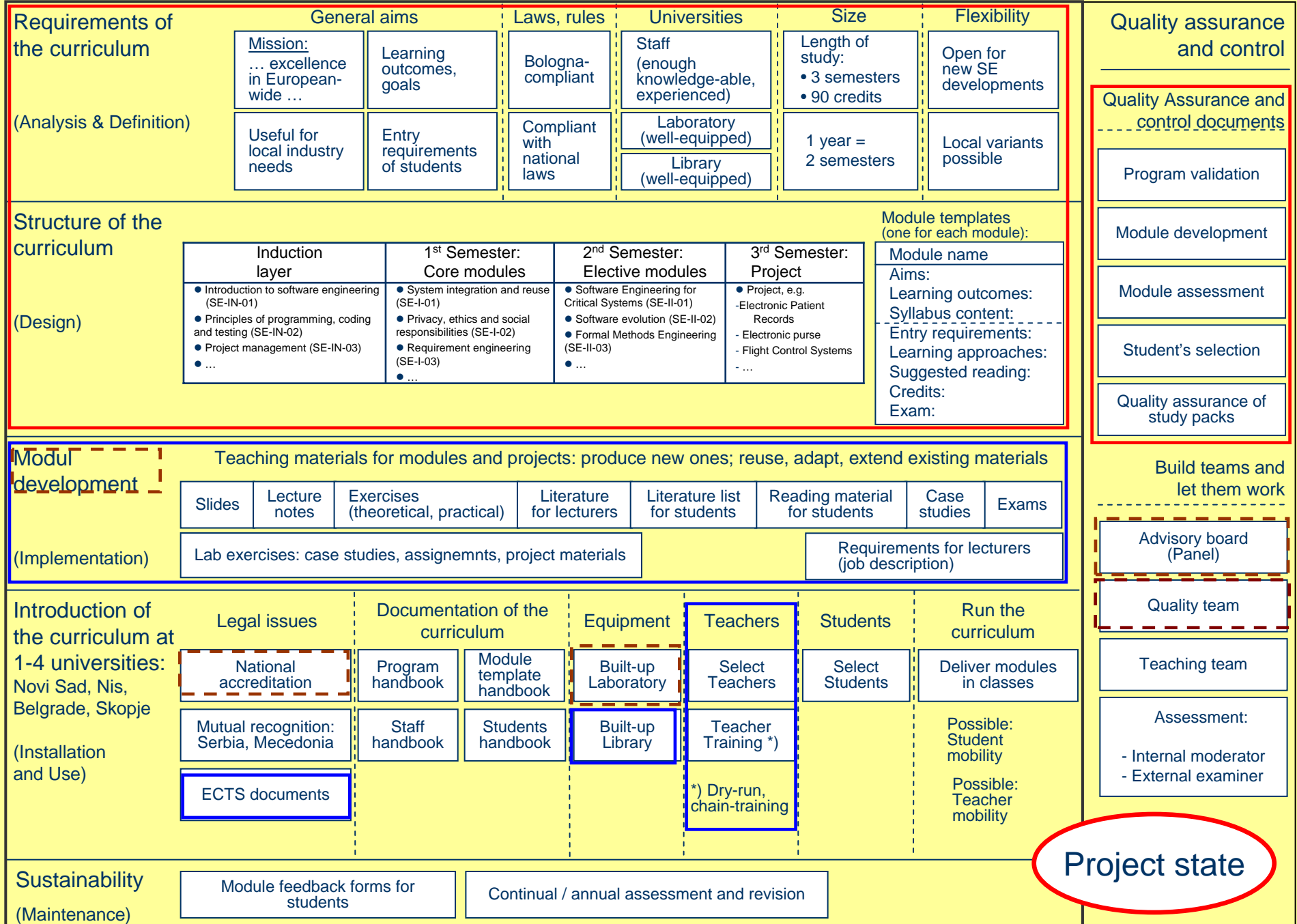
- Possibilities:
- Teachers mobility
 - Students mobility

Joint M.Sc.Curr. in SE (Nov. 2005)

Skopje Workshop (April 2006): Main issues – next steps

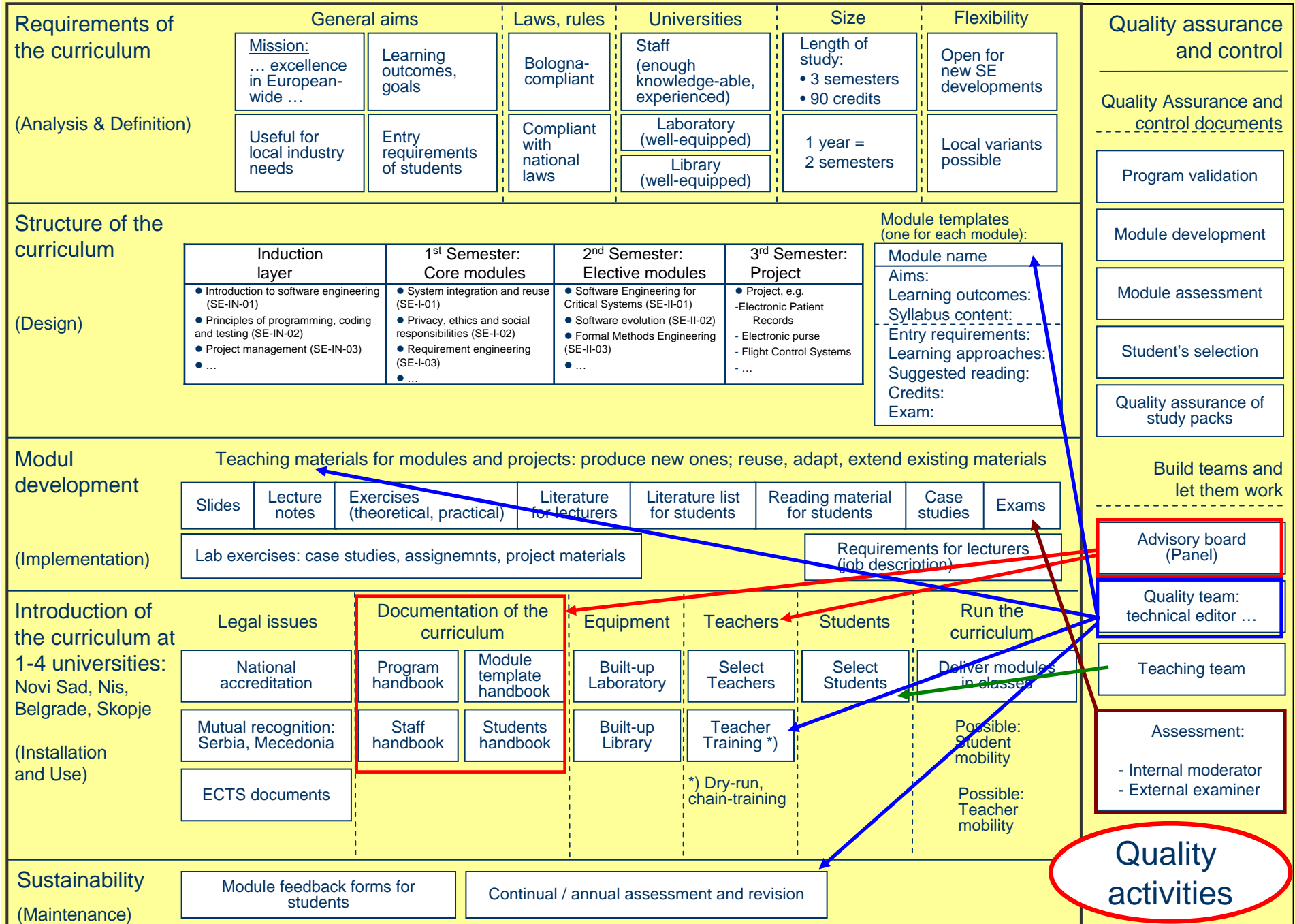
Started

Project model



Quality activities

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Advanced MSc SE curriculum development project model: phases, tasks, products

