Week 1

Revision of SEOC1

Design and tool support for design (advertisement: MSc projects...)

Advanced features of class diagrams

Written material:

Using UML chapters 1,2,3,5,7,9,11

Using UML chapter 6

E&OE

Week 2

Design patterns (e.g. Composite)

Refactoring

Written material:

Notes, pp1–9

Using UML chapter 18.2

My draft article on patterns (Web site wanderer)

(The other article, *Designing Component-Based Frameworks...* is non-examinable, I've decided)

E&OE

Week 3

Development methodologies

- Unified Process

- Extreme Programming

They share concern with:

use cases/user stories driving process: so we considered advanced features of use-case diagrams

architecture: so we considered UML for describing architecture, including structure of physical system and structure of design. We also considered various architectural patterns, especially Layers.

Written material:

Notes pp10–21

The Dependency Inversion Principle (and Exercise 1)

Using UML ch 4, 8, 13, 14

E&OE

Week 4

Understanding and comparing designs; using design patterns.

- State
- Visitor
- Observer
- Strategy
- Decorator

Written material:

Sheets on the 5 patterns.

E&OE

Week 5

Quality and quality assurance.

Product and process focus.

ISO9001, CMM, TQM.

Written material:

Notes pp22–28

Using UML ch19, 20

E&OE

Week 6

Configuration management and defect tracking

Verification, validation and testing. Test automation.

Verification and validation of UML models.

Written material:

Notes pp29–40

Article *Demystifying Software Configuration Management*

E&OE

Week 7

Formal technical reviews.

Teamwork, management and leadership in software development.

Planning, metrics and project management patterns

(aka, where do we want to be, where are we, how do we get to where we want to be?)

Written material:

Notes pp41–54

Project Risk Reduction Patterns (examinable in essence, not in detail)

E&OE

Week 8

Reuse

From Development into Use (guest lecture)

Written material:

Notes pp55–60

Slides from the guest lecture

E&OE

Summary: examinable material

Using UML: everything *except* Chapters 10, 12 and 15-17.

Notes pp1–60

Miscellaneous

- my draft article on patterns (Web site wanderer)

- the exercise sheets on the 5 patterns

- *The Dependency Inversion Principle*

- *Demystifying Software Configuration Management*

- *Project Risk Reduction Patterns* (in essence)

- the slides from the guest lecture

E&OE