



VIETNAM NATIONAL UNIVERSITY OF HO CHI MINH CITY
UNIVERSITY OF NATURAL SCIENCES
FACULTY OF INFORMATION TECHNOLOGY

COURSE SYLLABUS

Course Code:	TH402
Title:	Software Development Environment
Credits:	4
Workload:	Lecture hours: 3 periods * 15 weeks = 45 periods Laboratory hours: 2 periods * 15 weeks = 30 periods Preparative hours: 2 periods * 15 weeks = 30 periods
Prerequisites:	TH110 - Introduction to Software Engineering

Course Objectives:

The course is to provide students with general knowledge on software development environments. Topics include tools that are specially made for supporting the process of software development project: analysis, design, implementation, and testing. Some common CASE tools are introduced in each phase of the process.

Main Text: Course notes

References:

- *Software Engineering – A Practitioner’s Approach*
Roger S. Pressman, McGraw-Hill, 2001.
- *Software Engineering with Student Project Guidance*
Barbee Teasley Mynatt, Prentice-Hall International Editions, 1991.
- *Practical Software Engineering - A Case Study Approach*
Leszek A. Maciaszek, Bruce Lee Liang, Stephen Bills, Addison – Wesley, 2005.
- *Software Engineering - An Engineering Approach*
James F. Peters, Witold Pedrycz, John Wiley & Sons, 2000.
- *Reference and Manual documents of Rational Rose*
Rational Software Corporation, 2001

Course Outline:

Chapter 1 : Overview (10 period)

1. Some concepts
 1. Software development tools and environments
 2. The integration of software development tools and environments
 3. Software development environments
2. Classification
 1. Phase-based classification
 2. Function-based classification

3. Supporting method-based classification
3. History of software development tools and environments
 1. Generations of programming languages
 2. Database systems in software development environments

Chapter 2 : Development tools and environments for analysis and design (12 periods)

1. Analysis
 1. Planning tools
 2. Diagram editing tools
 3. Other tools
2. Design
 1. Diagram editing tools
 2. Code generating tools
 3. Other tools

Chapter 3 : Development tools and environments for coding and testing (12 periods)

1. Coding
 1. Code source editing tools
 2. Function and class libraries
 3. Other tools
2. Testing
 1. Source analysis tools
 2. Test case generating tools
 3. Bug discovering tools
 4. Other tools

Chapter 4: Integrated development environments (12 periods)

1. Structure
 1. Model
 2. Inside components
 3. Interfaces
2. Database systems for integrated development environments
 1. Necessary characteristics
 2. Standards
3. Functionalities
 1. Analysis
 2. Design
 3. Coding
 4. Testing

Grading

Final exam : 70%

Assignments: 30%