

MINISTRY OF EDUCATION AND TRAINING  
HO CHI MINH CITY OPEN UNIVERSITY

**COURSE SYLLABUS**

**I. GENERAL INFORMATION**

1. Course title in Vietnamese: **QUẢN TRỊ HỆ CƠ SỞ DỮ LIỆU**
2. Course title in English: **DATABASE SYSTEM ADMINISTRATION**
3. Knowledge / skill categorization:
  - General knowledge
  - Specialized knowledge
  - Basic knowledge
  - Supplementary knowledge
  - Professional knowledge
  - Graduate project / thesis
4. Number of credits

Total	Theory	Practice	Self-study
3	2	1	3 (2, 1, 5)

5. In charge of course
  - a) Faculty / Department / Sub-Department: Information Technology
  - b) Faculty: MSc. Ho Quang Khai
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**II. COURSE INFORMATION**

**1. Course description**

This course equips students with basic knowledge of database system administration including: administration of databases, administration of database storage files, security administration, database backup and recovery, automation of administrative tasks, and database system monitoring.

The course provides the knowledge about the operating mechanism of the environment using the client / server database, the knowledge of backup, data recovery, operational monitoring for error correction and database system improvement.

This course also teaches students related practical skills that can help them to be able to work as a database system administrator (DBA) after graduation.

## 2. Course conditions

#	Course conditions	Course code
1.	Prerequisites	
	None	
2.	Previous courses	
	Database	ITEC2502
3.	Parallel courses	
	None	

## 3. Course objectives (COs)

The course will provide students with ability to:

Course objectives (CO)	Description	Related Program Learning Outcomes (PLO)
CO1 (Knowledge)	<ul style="list-style-type: none"> <li>- Understand the model and operating principles of a database system.</li> <li>- Understand the operation mechanism of the environment using client / server - type database.</li> <li>- Understand the meaning and importance, master knowledge of performing tasks of administering a database system.</li> </ul>	PLO5.4 PLO5.8 PLO6.2
CO2 (Skills)	<ul style="list-style-type: none"> <li>- Plan and install a database server.</li> <li>- Use basic management tools of a database management system.</li> <li>- Manage data storage for a database system.</li> <li>- Manage the database system security.</li> <li>- User administration and authorization for a database system.</li> <li>- Manage periodic backups and restore data for a database system.</li> </ul>	PLO5.4 PLO5.8 PLO6.2 PLO8.2 PLO9.3

	<ul style="list-style-type: none"> <li>- Manage the automation of administrative functions for a database system.</li> <li>- Monitor database system.</li> </ul>	
CO3 (Attitude)	<ul style="list-style-type: none"> <li>- Recognize the significance and importance of administering a database system in medium and large-sized information systems.</li> <li>- Recognize the importance of knowledge and skills required to become a good database administrator.</li> <li>- Recognize the development and innovation of technology in the database field, there is always a sense of self-study and self-study to improve professional qualifications.</li> </ul>	<p>PLO 11 PLO 12 PLO 13</p>

#### 4. Course learning outcomes (CLOs)

After completing this course, students are able to:

Course objectives (CO)	Course learning outcomes (CLO)	Description
CO1	CLO 1.4	- Present and explain the content and methods of automating tasks in a database system administration
CO2	CLO 2.1	- Install the database administration system on the server / client environment
	CLO 2.2	- Perform user management and user decentralization of the database system
	CLO 2.3	- Set up periodic data backup plan, recover data when there is a risk of data corruption
	CLO 2.4	- Implement the automation of database system administration tasks
CO3	CLO 3.1	- Recognize and clearly state the meaning and importance of database system in IT
	CLO 3.2	- Recognize and identify challenges for yourself to become a good DBA
	CLO 3.3	- Recognize the importance of self-study and self-study of database management because IT develops very quickly

Matrix of Course Learning Outcomes (CLOs) and Program Learning Outcomes (PLOs):

	<b>CLOs</b>	<b>PLO 5.4</b>	<b>PLO 5.8</b>	<b>PLO 6.2</b>	<b>PLO 8.2</b>	<b>PLO 9.3</b>	<b>PLO 11</b>	<b>PLO 12</b>	<b>PLO 13</b>
	<b>CLO 1.1</b>	<b>5</b>	<b>4</b>	<b>4</b>					
	<b>CLO 1.2</b>	<b>5</b>	<b>4</b>	<b>5</b>					
	<b>CLO 1.3</b>	<b>5</b>	<b>4</b>	<b>5</b>					
	<b>CLO 1.4</b>	<b>5</b>	<b>4</b>	<b>5</b>					
	<b>CLO 2.1</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>3</b>	<b>3</b>			
	<b>CLO 2.2</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>3</b>	<b>3</b>			
	<b>CLO 2.3</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>3</b>	<b>3</b>			
	<b>CLO 2.4</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>3</b>	<b>3</b>			
	<b>CLO 3.1</b>						<b>4</b>	<b>4</b>	<b>5</b>
	<b>CLO 3.2</b>						<b>4</b>	<b>4</b>	<b>5</b>
	<b>CLO 3.3</b>						<b>4</b>	<b>4</b>	<b>5</b>

*1: Not supported*

*2: Partially supported*

*3: Supported*

*4: Highly supported*

*5: Totally supported*

## **5. Course materials**

### **a) Textbooks**

[1] Robert Walters, Grant Fritchey, Beginning SQL Server 2012

Administration, New York: Apress, 2012. [49000]

[2] Adam Jorgensen, Bradley Ball, Steven Wort, Ross LoForte, and Brian.

**b) Reference materials**

[3] Orin Thomas, Peter Ward, Bob Taylor, Training Kit (Exam 70-462): Administering Microsoft SQL Server 2012 Databases, Redmond, Washington: Microsoft Press, 2012. [49010].

[4] Ray Rankins, Paul Bertucci, Chris Gallelli, Alex T. Silverstein, Microsoft SQL Server 2014 Unleashed, Indianapolis, Indiana: Sams, 2015. [8995].

**c) Software**

Microsoft SQL Server (2008 or newer version)

**6. Course assessment**

Components	Assessment	Timing	Course learning outcomes (CLO)	Rate (%)
(1)	(2)	(3)	(4)	
A1. Process evaluation	Chapter exercises, group exercises, practice exercises, computer tests	during study	CLO1, CLO2, CLO 3	50%
	Total			50%
A2. Final evaluation	Final test	Final term	CLO 1, CLO 2	50%
	Total			50%
Total				100%

**7. Rubrics**

**a) Midterm assessment rubric (Assessment of Practicing on Computer– 90 minutes – Paper materials are acceptable - 50%)**

Q	Criteria	CLO	Weight	Excellent	Good	Fair	Poor
1	Create files, file groups to store the database	2.1 3.2	10%	0.9-1.0	0.7-0.8	0.4-0.6	0.0-0.3
2	FULL database backup	2.3	10%	0.9-1.0	0.7-0.8	0.4-0.6	0.0-0.3
3	Backup DIFF Database	2.3	10%	0.9-1.0	0.7-0.8	0.4-0.6	0.0-0.3

4	Backup Tail-log Database	2.3	10%	0.9-1.0	0.7-0.8	0.4-0.6	0.0-0.3
5	Database Recovery	2.3	10%	0.9-1.0	0.7-0.8	0.4-0.6	0.0-0.3
6	Create login and authorize	2.1, 2.2	10%	0.9-1.0	0.7-0.8	0.4-0.6	0.0-0.3
7	Create database users and grant permissions	2.1, 2.2 3.2	10%	0.9-1.0	0.7-0.8	0.4-0.6	0.0-0.3
8	Automate administrative tasks	1.4 2.4 3.3	10%	0.9-1.0	0.7-0.8	0.4-0.6	0.0-0.3
9	Using the Synonyms function	2.1, 3.2	10%	0.9-1.0	0.7-0.8	0.4-0.6	0.0-0.3
10	Using Alias Server function	2.1, 3.3	10%	0.9-1.0	0.7-0.8	0.4-0.6	0.0-0.3
<b>Total</b>			100%				

**b) Final assessment rubric (Assessment in Writing on Paper – 90 minutes**

**– Materials are not acceptable - 50%)**

Section	Criteria	CLO	Weight	Excellent	Good	Fair	Poor
Theoretical questions (4 questions, 4 points)	Present and explain the contents and meanings of the jobs in database system administration	1.1	10%	0.9-1.0	0.7-0.8	0.4-0.6	0.0-0.3
	Present and explain the content and methods of user security and decentralization in database system administration	1.2 3.1	10%	0.9-1.0	0.7-0.8	0.4-0.6	0.0-0.3
	Demonstrate and explain the content and methods of data backup and recovery to prevent the risk of data damage	1.3 3.1	10%	0.9-1.0	0.7-0.8	0.4-0.6	0.0-0.3
	Present and explain the content and methods of automating tasks in database system administration	1.4	10%	0.9-1.0	0.7-0.8	0.4-0.6	0.0-0.3
Exercises to solve reality situations (3 sentences, 6 points)	Implement user administration and user authorization of the database system	2.2	20%	1.7-2.0	1.3-1.6	0.7-1.2	0.0-0.6
	Plan to backup data periodically, recover data when there is a risk of data damage	2.3	20%	1.7-2.0	1.3-1.6	0.7-1.2	0.0-0.6

	Realize the automation of database system administration tasks	2.4	20%	1.7-2.0	1.3-1.6	0.7-1.2	0.0-0.6
<b>Total</b>			<b>100%</b>				

## 8. Teaching plans

Teaching plans for theory (4.5 class-time unit per session)

Week/session	Content	CLO	Teaching and learning activities	Reviews / Assessment	Main documents and references
(1)	(2)	(3)	(4)	(5)	(6)
1.Week 1/ Theory Session 1	<p>Chapter 1: Overview of database management (2.0 periods)</p> <p>1.1 overview</p> <p>1.2 Meaning of database management.</p> <p>1.3 The goal of database management</p> <p>Chapter 2: Database Management System Installation (2.0 periods)</p> <p>2.1 Planning the installation.</p> <p>2.2 Installation purpose</p> <p>2.3 Selecting version QTCSDDL system.</p> <p>2.4 Determining hardware condition</p> <p>2.5 Determining the software condition.</p> <p>2.6 Organizing storage drives.</p> <p>2.6.1 RAID level 0</p> <p>2.6.2 RAID level 1</p> <p>2.6.3 RAID level 5</p> <p>2.6.4 RAID level 10</p>	<p>CLO 1.1,</p> <p>CLO 2.1,</p> <p>CLO 3.1,</p> <p>CLO 3.2,</p> <p>CLO 3.3</p>	<p>Lecturers:</p> <p>+ Introduction</p> <p>+ Introduction to detailed outline.</p> <p>+ Lecture</p> <p>+ Ask questions, exercises.</p> <p>+ Emphasize the main points.</p> <p>+ Outline the requirements for the next class.</p> <p>Student:</p> <p>+ Learning in class: listening to lectures, answering questions, solving the posed exercises, taking notes.</p> <p>+ Study at home: watch lectures, summarize key knowledge, learn related knowledge.</p> <p>+ On LMS system: answer questions, participate in</p>	A1, A2	Chapter 1, 2 Chapter 2, 3

	<p>2.7 Determining the instances to be installed.</p> <p>2.8 Selecting options during the installation process.</p> <p>2.9 Results after installation</p> <p>Chapter 3: Database management tools (0.5 periods)</p> <p>3.1 SQL Server Management Studio software</p>		discussion on forums.		
2.Week Theory Session 2 / 2	<p>Chapter 3: Database management tools (3.5 periods)</p> <p>3.2 Tools:</p> <p>3.2.1 Object Explorer</p> <p>3.2.2 Code Editor</p> <p>3.2.3 Properties Window</p> <p>3.2.4 Registered Servers</p> <p>3.2.5 Toolbox</p> <p>3.2.6 Template Explorer</p> <p>3.3 Toolbar</p> <p>3.4 Parameters in SQL Server Management Studio Configuration:</p> <p>3.4.1 Environment</p> <p>3.4.2 Source Control</p> <p>3.4.3 Text Editor</p> <p>3.4.4 Query Execution</p> <p>3.4.5 Query Results</p> <p>3.4.6 Designers</p> <p>3.5 Log File Viewer</p> <p>3.6 SQL Server Profiler</p> <p>3.7 Database Engine Tuning Advisor</p>	<p>CLO 1.1,</p> <p>CLO 2.1,</p> <p>CLO 3.2</p>	<p>Lecturers:</p> <ul style="list-style-type: none"> <li>+ Introduction</li> <li>+ Introduction to detailed outline.</li> <li>+ Lecture</li> <li>+ Ask questions, exercises.</li> <li>+ Emphasize the main points.</li> <li>+ Outline the requirements for the next class.</li> </ul> <p>Student:</p> <ul style="list-style-type: none"> <li>+ Learning in class: listening to lectures, answering questions, solving the posed exercises, taking notes.</li> <li>+ Study at home: watch lectures, summarize key knowledge, learn related knowledge.</li> <li>+ On LMS system: answer questions,</li> </ul>	A1, A2	Chapter 3, 7



	<p>3.8 SQL Server Configuration Manager</p> <p>3.9 Tools sqlcmd</p> <p>Chapter 4: Database storage architecture (1.0 periods)</p> <p>4.1 Storage structure of the instances</p> <p>4.2 Storing databases</p> <p>4.2.1 system database</p> <p>4.2.2 User database</p> <p>4.3 Types of archive files</p> <p>4.3.1 Data file</p> <p>4.3.2 Log file</p> <p>4.3.3 File group</p>		participate in discussion on forums.		
3. Week 3/ Theory Session 3	<p>Chapter 4: Architecture of database storage (2.0 periods)</p> <p>4.4 Saving the file to the disk system using the RAID levels</p> <p>4.5 Data file structure</p> <p>4.5.1 Extent</p> <p>4.5.2 Page</p> <p>4.6 Log file structure</p> <p>4.7 Managing the increase and decrease of file size.</p> <p>4.8 Predicting the file size.</p> <p>Chapter 5: Administration and user decentralization (2.5 periods)</p> <p>5.1 Security overview</p> <p>5.2 Login control</p> <p>5.2.1 Windows mode</p> <p>5.2.2 Mixed mode</p> <p>5.3 Principle</p>	CLO 1.2, CLO 2.2, CLO 3.2	<p>Lecturers:</p> <ul style="list-style-type: none"> <li>+ Introduction</li> <li>+ Introduction to detailed outline.</li> <li>+ Lecture</li> <li>+ Ask questions, exercises.</li> <li>+ Emphasize the main points.</li> <li>+ Outline the requirements for the next class.</li> </ul> <p>Student:</p> <ul style="list-style-type: none"> <li>+ Learning in class: listening to lectures, answering questions, solving the posed exercises, taking notes.</li> <li>+ Study at home: watch lectures, summarize key knowledge, learn</li> </ul>	A1, A2	Chapter 7, 8

	<p>5.4 Login</p> <p>5.4.1 Windows login</p> <p>5.4.2 SQL Server login</p> <p>5.5 Credential</p> <p>5.6 Server Role</p>		<p>related knowledge.</p> <p>+ On LMS system: answer questions, participate in discussion on forums.</p>		
<p>4. Week 4/ Theory Session 4</p>	<p>Chapter 5: Administration and user decentralization (1.5 periods)</p> <p>5.7 Database User</p> <p>5.8 Database Role</p> <p>5.8.1 Fixed Database Role</p> <p>5.8.2 User-Defined Database Role</p> <p>5.8.3 Application Role</p> <p>5.9. Permission</p> <p>5.9.1 Server Permission.</p> <p>5.9.2 Database Permission.</p> <p>5.10 Alias server</p> <p>5.11 Principles of administration and user decentralization</p> <p>Chapter 6: Backing up and restoring data (3.0 periods)</p> <p>6.1 General</p> <p>6.2. Types of recovery:</p> <p>6.2.1 Simple</p> <p>6.2.2 Full</p> <p>6.2.3 Bulk-Logged</p> <p>6.3. Types of backup:</p> <p>6.3.1 Full Backup</p> <p>6.3.2 Differential Backup</p> <p>6.3.3 File / Filegroup Backup</p>	<p>CLO 1.3,</p> <p>CLO 2.2,</p> <p>CLO 2.3,</p> <p>CLO 3.1,</p> <p>CLO 3.2</p>	<p>Lecturers:</p> <p>+ Introduction</p> <p>+ Introduction to detailed outline.</p> <p>+ Lecture</p> <p>+ Ask questions, exercises.</p> <p>+ Emphasize the main points.</p> <p>+ Outline the requirements for the next class.</p> <p>Student:</p> <p>+ Learning in class: listening to lectures, answering questions, solving the posed exercises, taking notes.</p> <p>+ Study at home: watch lectures, summarize key knowledge, learn related knowledge.</p> <p>+ On LMS system: answer questions, participate in discussion on forums.</p>	A1, A2	Chapter 8, 9

		<p>6.3.4 File / Filegroup with Differential</p> <p>6.3.5 Transaction Log Backup</p> <p>6.3.6 Partial Backup</p> <p>6.3.7 Copy Only Backup</p> <p>6.4. Options when performing backup</p>				
5.Week Theory Session 5	5/	<p>Chapter 6: Backing up and restoring data (1.0 periods)</p> <p>6.6 Database recovery</p> <p>6.7 File / file group recovery</p> <p>6.7 Recovery to a point in the past</p> <p>6.8 Database Master recovery</p> <p>6.9 Database snapshot</p> <p>Chapter 7: Data communication via computer network (3.0 periods)</p> <p>7.1. Protocols for data transmission over the network</p> <p>7.1.1 Shared Memory</p> <p>7.1.2 TCP / IP</p> <p>7.1.3 Named Pipes</p> <p>7.1.4 Virtual Interface Adapter (VIA)</p> <p>7.2. Default protocol</p> <p>7.3. View and configure protocol using SQL Server Configuration Manager</p> <p>7.4 Configure SQL Native Client:</p> <p>7.4.1 Configure client protocols</p>	<p>CLO 1.3,</p> <p>CLO 2.1,</p> <p>CLO 2.3,</p> <p>CLO 2.4,</p> <p>CLO 3.1,</p> <p>CLO 3.2</p> <p>CLO 3.3</p>	<p>Lecturers:</p> <ul style="list-style-type: none"> <li>+ Introduction</li> <li>+ Introduction to detailed outline.</li> <li>+ Lecture</li> <li>+ Ask questions, exercises.</li> <li>+ Emphasize the main points.</li> <li>+ Outline the requirements for the next class.</li> </ul> <p>Student:</p> <ul style="list-style-type: none"> <li>+ Learning in class: listening to lectures, answering questions, solving the posed exercises, taking notes.</li> <li>+ Study at home: watch lectures, summarize key knowledge, learn related knowledge.</li> <li>+ On LMS system: answer questions, participate in discussion on forums.</li> </ul>	A1, A2	Chapter 2, 10 Chapter 2, 5, 17

	<p>7.4.2 Order of protocols</p> <p>7.4.3 Using Alias server</p> <p>Chapter 8: Automating administrative tasks (0.5 periods)</p> <p>8.1. Database mail</p> <p>8.1.1 Mail account</p> <p>8.1.2 Mail profile</p>				
6.Week 6/ Theory Session 6	<p>Chapter 8: Automating administrative tasks (4.5 periods)</p> <p>8.2. The functions of the SQL Server Agent service</p> <p>8.2.1 Operator</p> <p>8.2.2 Job</p> <p>8.2.3 Job step</p> <p>8.2.4 Schedule</p> <p>8.2.5 Alert</p> <p>- Alert according to conditions</p> <p>- Alert by event</p>	<p>CLO 1.4,</p> <p>CLO 2.4,</p> <p>CLO 3.2</p> <p>CLO 3.3</p>	<p>Lecturers:</p> <ul style="list-style-type: none"> <li>+ Introduction</li> <li>+ Introduction to detailed outline.</li> <li>+ Lecture</li> <li>+ Ask questions, exercises.</li> <li>+ Emphasize the main points.</li> <li>+ Outline the requirements for the next class.</li> </ul> <p>Student:</p> <ul style="list-style-type: none"> <li>+ Learning in class: listening to lectures, answering questions, solving the posed exercises, taking notes.</li> <li>+ Study at home: watch lectures, summarize key knowledge, learn related knowledge.</li> <li>+ On LMS system: answer questions, participate in discussion on forums.</li> </ul>	A1, A2	Chapter 5

<p>7.Week Theory Session 7</p>	<p>7/ Chapter 9: Monitoring operation of database management system (3.0 periods) 9.1. System monitoring purpose. 9.2. Monitoring contents: 9.2.1 System Resources 9.2.2 The program of the LURS system 9.2.3 Database 9.2.4 Database Applications 9.2.5 Network 9.3. System optimization strategy 9.4. Performance Counters 9.4.1 Processor Counters 9.4.2 Disk Counters 9.4.3 Memory Counters 9.4.4 Network Counters 9.4.5 SQL Server Counters 9.5. Monitoring tools and techniques 9.5.1 Log File Viewer 9.5.2 Activity Monitor 9.5.3 System Stored Procedures 9.5.4 SQL Server Locking 9.5.5 KILL Order 9.5.6 Use Profiler 9.5.7 Using Database Tuning Advisor (DTA) 9.5.8 File Monitoring</p>	<p>CLO 2.3, CLO 2.4, CLO 3.3</p>	<p>Lecturers: + Introduction + Introduction to detailed outline. + Lecture + Ask questions, exercises. + Emphasize the main points. + Outline the requirements for the next class.  Student: + Learning in class: listening to lectures, answering questions, solving the posed exercises, taking notes. + Study at home: watch lectures, summarize key knowledge, learn related knowledge. + On LMS system: answer questions, participate in discussion on forums.</p>	<p>A1, A2</p>	<p>Chapter 13, chapter 12</p>
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	- Use Disk Usage ReCLO rt				
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Teaching plans for practices (3.0 class-time units per session)

Week/session (1)	Content (2)	CLO (3)	Teaching and learning activities (4)	Reviews / Assessment (5)	Main documents and references
1.Week 1 / Practice Session 1	Exercise 1: Installing the database administration system	CLO 1.1, CLO 3.1	Lecturers: + Introduction + Introduction to detailed outline. + Lecture + Ask questions, exercises. + Emphasize the main points. + Outline the requirements for the next class.  Student: + Learning in class: listening to lectures, answering questions, solving the posed exercises, taking notes. + Study at home: watch lectures, summarize key knowledge, learn related knowledge. + On LMS system: answer questions, participate in discussion on forums.	A1, A2	Chapter 2
2.Week 2 / Practice Session 2	Exercise 2: Database Management Tools (Part 1)	CLO 1.1 CLO 1.4 CLO 2.1	Lecturers: + Introduction + Edit old post. + Explain and illustrate how to do new homework.	A1,2	Chapter 3

		CLO 3.3	+ Support students with practice  Student: + Do all the old homework. + Read before the new article related theory. + On LMS system: submit assignments, participate in answering questions (if any), participate in discussion forums.		
3.Week 3 / Practice Session 3	Exercise 3: Database Management Tools (Part 2)	CLO 1.1 CLO 1.4 CLO 2.1 CLO 3.3	Lecturers: + Introduction + Edit old post. + Explain and illustrate how to do new homework. + Support students with practice  Student: + Do all the old homework. + Read before the new article related theory. + On LMS system: submit assignments, participate in answering questions (if any), participate in discussion forums.	A1, A2	Chapter 3
4.Week 4/ Practice 4	Exercise 4: Database storage architecture	CLO 1.1 CLO 2.1	Lecturers: + Introduction + Edit old post.	A1, A2	Chapter 7

		CLO 3.2	<ul style="list-style-type: none"> <li>+ Explain and illustrate how to do new homework.</li> <li>+ Support students with practice</li> </ul> <p>Student:</p> <ul style="list-style-type: none"> <li>+ Do all the old homework.</li> <li>+ Read before the new article related theory.</li> <li>+ On LMS system: submit assignments, participate in answering questions (if any), participate in discussion forums.</li> </ul>		
5.Week 5/ Practice 5	Exercise 5: Administration and user decentralization (part 1)	CLO 1.2 CLO 2.2 CLO 3.1	<p>Lecturers:</p> <ul style="list-style-type: none"> <li>+ Introduction</li> <li>+ Edit old post.</li> <li>+ Explain and illustrate how to do new homework.</li> <li>+ Support students with practice</li> </ul> <p>Student:</p> <ul style="list-style-type: none"> <li>+ Do all the old homework.</li> <li>+ Read before the new article related theory.</li> <li>+ On LMS system: submit assignments, participate in answering questions (if any), participate in discussion forums.</li> </ul>	A1, A2	Chapter 11 Chapter 8



6.Week 6/ Practice 6	Exercise 6: Administration and user decentralization (part 2)	CLO 1.2 CLO 2.2 CLO 3.1	Lecturers: + Introduction + Edit old post. + Explain and illustrate how to do new homework. + Support students with practice  Student: + Do all the old homework. + Read before the new article related theory. + On LMS system: submit assignments, participate in answering questions (if any), participate in discussion forums.	A1, A2	Chapter 11 Chapter 8
7.Week 7/ Practice 7	Exercise 7: Backing up and restoring data (part 1)	CLO 1.3 CLO 2.3 CLO 3.1	Lecturers: + Introduction + Edit old post. + Explain and illustrate how to do new homework. + Support students with practice  Student: + Do all the old homework. + Read before the new article related theory. + On LMS system: submit assignments, participate in answering questions (if any),	A1, A2	Chapter 8,9,10 Chapter 17

			participate in discussion forums		
8.Week 8/ Practice 8	Exercise 8: Backing up and restoring data (part 2)	CLO 1.3 CLO 2.3 CLO 3.1	Lecturers: + Introduction + Edit old post. + Explain and illustrate how to do new homework. + Support students with practice  Student: + Do all the old homework. + Read before the new article related theory. + On LMS system: submit assignments, participate in answering questions (if any), participate in discussion forums	A1, A2	Chapter 8,9,10 Chapter 17
9.Week 9/ Practice 9	Exercise 9: Automating administrative tasks. Monitoring the operation of the database administration system	CLO 1.4 CLO 2.4 CLO 3.2 CLO 3.3	Lecturers: + Introduction + Edit old post. + Explain and illustrate how to do new homework. + Support students with practice  Student: + Do all the old homework. + Read before the new article related theory. + On LMS system: submit assignments, participate in	A1, A2	Chapter 5

			answering questions (if any), participate in discussion forums		
10.Week 10/ Practice 10	Exercise 10: Monitoring the operation of the database administration system	CLO 1.1 CLO 2.4 CLO 3.3	Lecturers: + Introduction + Edit old post. + Explain and illustrate how to do new homework. + Support students with practice  Student: + Do all the old homework. + Read before the new article related theory. + On LMS system: submit assignments, participate in answering questions (if any), participate in discussion forums	A1, A2	Chapter 13 Chapter 12

### 9. Course regulations

- Students who fully participate in theory, practice, LMS classes and complete exercises will be graded for the process score.

- The final test score (on paper) will be calculated as the final exam score.

**DEAN OF FACULTY**

*(Sign and specify full name)*

Dr. Le Xuan Truong

**EDITOR**

*(Sign and specify full name)*

MSc. Ho Quang Khai