



LEEDS
BECKETT
UNIVERSITY

Database Systems

Module Handbook

2019/20 Students

Level 5, Semester A

(20 Credits)

Student Name _____

Email Address _____

Course _____ Group _____

Module tutor _____

Communication Protocol: module staff will reply to student questions within a reasonable time but this will normally be within office hours only. Students are advised to check this Handbook and also to see if there are any online announcements or FAQ answers that deal with their enquiry before contacting staff.



Contents

1	What this Module is About.....	2
1.1	Introduction from the Module Leader	2
1.2	Communication	2
1.3	Module Aim and Learning Outcomes	3
1.4	Module Learning Activities.....	3
1.5	Graduate Attributes Developed and Assessed	4
2.	Weekly Schedule	5
2	Key Resources to Support Learning.....	7
2.1	Reading List	7

1 What this Module is About

1.1 Introduction from the Module Leader

On behalf of the module team, I would like to welcome you to this module, which we hope you will find both challenging and rewarding. The first thing you need to do for this module is to read this guide carefully, then come back and read it again later!

As your module tutors, we aim to provide you with a coherent set of learning opportunities, which will enable you to develop your skills and knowledge in databases in particular studying database development stages, writing intermediate and advanced SQL statements; PL/SQL; triggers and developing back end applications used for organisational data management. We hope this will be a valuable learning experience for you.

Sanela Lazarevski (s.lazarevski@leedsbeckett.ac.uk)

1.2 Communication

The module team is given below. You should refer to your timetable to confirm the tutor that is allocated to your group for any particular session.

Module Tutor Name	Room	Tel	Email
Sanela Lazarevski (Module Leader)	CAE204	x23503	s.lazarevski@leedsbeckett.ac.uk
Margaret Chawawa	CAE210	X27597	m.chawawa@leedsbeckett.ac.uk

1.3 Module Aim and Learning Outcomes

Module Aims

To enable students to apply database modelling and systems development skills. To apply database skills and implement practical database solutions;
To appreciate the strength and need for procedural code when developing database system and an application.

Module Learning Outcomes

LO1: Identify appropriate constraints using procedural and none procedural database programming languages

LO2: Build advanced database system and applications to meet a set of user requirements using appropriate models and tools.

LO3: Identify, design, implement and test procedural, reusable code to meet the requirements of a given case study.

Indicative Module Content and Learning Activities

Modern database applications: Client/Server architectures and languages; Database server programming; code reuse;

Integrity: Declarative vs. procedural: advantages/disadvantages of SQL; PL/SQL - problems for which procedural code is required; triggers and constraints.

DDL, DML and SQL from SQL;

Database architecture and technologies, application tools and development approaches.

Development process: models, normalisation, physical design, testing and documentation.

Advanced Application Development: Apex Pages (Forms) and Interactive Reports.

1.4 Module Learning Activities

Keynote lectures will be used to develop knowledge and understanding and to provide a discussion of students' own research finding.

Tutorial sessions will be lab-based and will be mainly problem or enquiry based, allowing students to analyse, evaluate and discuss these technologies using case study scenarios, and to use and appraise applications and technologies. These activities will be both individual and group-based.

Students will discuss and present ideas to their peers, enabling tutors and peer feedback.

Independent research and application will be expected as students will need to read around the subject in order to gain a wider understanding of the theory application of the technologies covered.

MyBeckett (VLE)

The majority of files used for the tutorial exercises will be uploaded to the MyBeckett. We will also use MyBeckett to aid communication between staff and students on the module and as a means of providing extra learning resources, and feedback.

Paper copies of materials will be distributed to you for some of the lessons during the module delivery.

We welcome comments on the effectiveness of this module and any suggestions you may have for improvement using the module evaluation questionnaire or alternatively contact the Module Leader: Sanela Lazarevski (s.lazarevski@leedsbeckett.ac.uk).

1.5 Graduate Attributes Developed and Assessed

Digital Literacy	Students will apply aspects of digital literacy in order to research materials relevant to the assessments
Global Outlook	Development methods utilised are globally recognised.

2. Weekly Schedule

Week w/c	Lecture (1hr)	Practical Session (2hr)	Assessment and Feedback Guidance
1	Lecture 1 – Introduction to the Module and Assignment. DB Design stages and Implementation revision.	Tutorial: 1 st hour – Revision db SDLC stages; 2 nd hour – Create Tables and Basic SQL Refresher.	Revision of Introduction to Databases – Level 4 materials. Set up QSEE on your computer.
2	Lecture 2 – Physical Design and Implementation - Oracle Apex Environment	Tutorial: 1 st hour – Physical design 2 nd hour - Basic SQL cont.	Practice SQL using SQL Quiz Application
3	Lecture 3 - Implementation: Creating DB Objects - tables SQL intermediate and advanced; and Introduction to PL/SQL	Tutorial: 1 st hour - Intermediate and Advanced SQL statements; 2 nd hour - PL/SQL (unnamed blocks)	Practice SQL using SQL Quiz Application
4	Lecture 4 – PL/SQL: Procedures and Functions	Tutorial: 1 st hour – Procedure and 2 nd hour - Function	Practice SQL using SQL Quiz Application
5	Lecture 5 - PL/SQL: Triggers and Packages	Tutorial: 1 st hour – Triggers 2 nd hour - Packages	Practice SQL using SQL Quiz Application
6	Lecture 6 - Revision	Tutorial: Revision 1 st hour – Phase Test 2 nd hour – PL/SQL	Phase Test in class (30%) – 60min. Closed book.
7	Lecture 7 – No Lecture, Only Tutorial	Tutorial: PL/SQL 1 st hour – PL/SQL Catch up 2 nd hour – PL/SQL Catch up	Tutorial – catch up, start assignment 2, part 1
8	Lecture 8 - DB Implementation: Application Builder: How to Forms create (Master/Detail) and	Tutorial: Create a Master/Detail form, become familiar with running and debugging the application; and create Apex Reports.	Assignment two feedback Opportunity in the class: Bring along ERD

	Reports; Other APEX Forms features		
9	Lecture 9 - Data Integrity, Quality and Ethics	Tutorial: Learn by editing this code and see the changes made on the Interface.	Assignment two feedback Opportunity in the class.
10	Lecture 10 - Revision QSEE, Modelling and Design Stages and SQL	Tutorial: Assignment 2 support part 1	Assignment two feedback Opportunity in the class.
11	Lecture 11 - Data Maintenance and Testing	Tutorial: Assignment support part 2	Hand in 15/12/19 –Assessment 2 – Part 1 (40%)
12	Lecture 12 - none	Tutorial: Assignment 2 support part 2	Assignment two feedback Opportunity in the class:
Christmas Break			
13	No Lecture	Assessment 2 – Part 2 (30%) DEMO in class	Hand in 06/01/2020 – Upload Assessment 2 – Part 2 (30%)
14	No Lecture		

Contact Hours Learning and Teaching

One Hour Lecture - Lectures are intended to introduce and further develop topics, but please come prepared to do some work – we aim to make lectures interactive. You will need to take notes.

Two Hour Tutorial - Tutorials will provide opportunities for you to work either on your own, or in groups. Some of the learning materials will also be delivered by your tutor during this session. Please come prepared to participate, and remember that this is the main opportunity for you to get additional feedback on your progress.

Aim to spend around 4 hours per week working outside of class on the activities above, and assessment work.

In return, you can expect us to provide support and guidance during a scheduled contact time. Therefore, it is very important for you to attend all sessions.

A student guide on contact hours is available here:

www.qaa.ac.uk/en/Publications/Documents/contact-hours-student.pdf.

2 Key Resources to Support Learning

As suggested above, the primary sources for this module will be electronic documents. The VLE will have more relevant Weblinks. An additional reading list has been organised according to your class reading and discussion assignments

Staff Produced Materials

This module is based around research documents, white papers, government reports, legislations, and other appropriate materials. While this form's the list of "key materials" additional material and research-based activity will be required in order to fully meet the module learning outcomes, and we will expect students to add to the staff-provided materials with reading on their own. The evidence of success for this part of the activity will be supplied by an "assignment" which will be made available during the delivery of the module.

2.1 Reading List

Gault et al, (2011) Beginning Oracle Application Express 4, 1st Edition

Shah (2005) Database Systems Using Oracle A simplified guide to SQL and PL/SQL 2nd Ed ISBN 0-13-101857-4

Pratt & Last (2009) A guide to SQL 8th Ed ISBN 13-978-0-324-59768-4

Oracle Application Express by John Edward Scott; Scott Spendolini

ISBN: 978-1-59059-827-6, **Web ISBN:** 1-59059-827-X

Hoffer, J. A. & Prescott, M. B. & Topi, H. (2006) Modern Database Management, 8th Ed. London, Pearson Education.

Elmasri, R. & Navathe, S. (2006) Fundamentals of Database Systems, 5th Ed. London, Pearson Addison-Wesley.

Connolly, T. M. & Begg, C. E. (2005) Database Systems – *A practical approach to Design, Implementation and Management*, 4th Ed. Harlow, Addison Wesley.

Boardman, S. (2002) Oracle Web Application Programming for PL/SQL Developers. London, Prentice Hall.

To download a free copy of Apex

Visit this website if you want to download Apex for free. Download the version 5.2 from

<http://apex.oracle.com>

Note: To download Apex you'll have to register and create an Oracle Account. There is a link in the top corner: (Sign In/Register for Account | Subscribe)

Useful web sites

*The Oracle Technet site is an extremely useful and comprehensive site. You will have to register with this site first. If you type in a topic in the find box on the home page, e.g. **Forms**, the website will return masses of related information.* <http://technet.oracle.com>

Ask Tom – Oracle Forum

<http://asktom.oracle.com/pls/apex/f?p=100:1:0>

Oracle Book Lists

http://docs.oracle.com/cd/B10501_01/nav/docindex.htm

All disabled students requiring additional support or alternative arrangements must declare and provide evidence of their disability to the Disability Advice Team as early as possible:
www.leedsbeckett.ac.uk/studenthub/disability-advice.