

FACTSHEET

**ORACLE
DATABASE
ADMINISTRATOR**

The Structured Query Language



INCLUDED

INTRODUCTION TO PL/SQL

INSTRUCTORS

Wilgo Veira OCP

Caroline Bijlhout M.Sc.

Ing.Tenno Wee Wee M.Sc.

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1. Position

The **Oracle databases and Oracle Structured Query Language (SQL)** course is offered by the Institute of Management and Information Technology (IMIT) in the context of the HBO training course Business ICT Management. This training is accredited by the National Accreditation Body (NOVA). IMIT is also recognized by the Surinamese Ministry of Education, Science and Culture (MINOWC).



Course:	ODBA+
Start:	OPEN
Duration:	48 hrs total, 2 sessions per week, Total 12 weeks (incl. IMIT examination)
Topics by Keywords:	oracle, sql, dba, data retrieval, subqueries, data manipulation, operators, backup, tables, objects, datafiles, programming, packages
Education system :	BLENDED LEARNING

2. Context

In a challenging blended course the most important themes are covered with which you get to know the concept of the Oracle database and Oracle. You will learn, among other things, the principles and the basic concepts of Oracle database from a Database administrator perspective and you will also learn to create simple and more complex queries for example you need to know for migrating data. You will also get to work with practical exercises that fit in well with the practical situation.

3. Learning Objectives

Students are brought beyond learning about the theories and concepts, to a level where they develop critical thinking to evaluate applicability of these in the practical sense. This is further stimulated by pressing students to utilize external resources on this exciting journey through the world of data and information.

Specific learning objectives:

- Installing databases/ Installing SQL developer
- Develop understanding the basic concepts of relational database systems and Oracle (DBA Perceptive)
- Data retrieval
- Subqueries and basic functions
- Data manipulation
- Data definition (create tables, constraints, datatypes)
- Data manipulation
- Views
- Backing up data
- Introducing Database Program Units
- Setup an programming environment

4. Entry Requirements

Oracle Databases & SQL is a level 2/3 course. The course is open to HBO students from the 2nd year and up. Individuals without formal training but with extensive hands-on experience may also successfully participate. Literature/Course Material. Foundational knowledge around the Linux and Windows Operating Systems.

- IMIT Oracle SQL Readers and freely available online resources.
- A working Oracle XE database with must be setup before the first lesson starts
<https://www.oracle.com/database/technologies/oracle-database-software-downloads.html>
- <https://www.oracle.com/database/sqldeveloper/technologies/download/>
- Oracle Database 12C DbA Handbook
- IMIT O365 AZURE CLOUD

Study Plan

Session	Subject	Note
1 ONLINE/TEAMS	Understanding the basic concepts of relational database systems and Oracle Database Administrator Perspective <ul style="list-style-type: none"> - Installing databases - Installing SQL developer 	Wilgo
2 ONLINE/TEAMS	<ul style="list-style-type: none"> - Working with database connectivity (listener, tns-names, sqlnet) - Creating users and assigning privileges or roles - Starting and stopping the database - Services 	Wilgo
3 IN CLASS @ IMIT	Data Retrieval: SELECT operator FROM operator WHERE operator	Caroline
4 IN CLASS @ IMIT	Subqueries Basic functions (text, conversion)	Caroline
5 IN CLASS @ IMIT	Data manipulation: Insert commando Update commando Delete commando Transaction processing	Caroline
6 IN CLASS @ IMIT	Data definition: Tables: <ul style="list-style-type: none"> - Datatypes - Naming Rules - Create tables - Table constraints 	Caroline

7 IN CLASS @ IMIT	<ul style="list-style-type: none"> - Alter tables - Truncate tables - Drop tables <p>Indexes Sequences Synonyms</p>	Caroline
8 IN CLASS @ IMIT	<p>Using multi-source data retrieval joins</p> <ul style="list-style-type: none"> - Joins - Outer joins 	Caroline
9 IN CLASS @ IMIT	<p>Views</p> <ul style="list-style-type: none"> - Static views - Materialized view - aggregation 	Caroline
10 ONLINE/TEAMS	<p>Managing the database's storage structures</p> <ul style="list-style-type: none"> - Tablespaces - Schema objects - Datafiles 	Wilgo
11 ONLINE/TEAMS	<ul style="list-style-type: none"> - Backups and performing recovery - Monitoring and tuning performance 	Wilgo
12 ONLINE/TEAMS	Evaluation/ Review	Wilgo/Caroline
13 IN CLASS @ IMIT	Evaluation/ Review	Caroline
14 ONLINE/TEAMS	<p>Introduction and Understanding PL/SQL</p> <ul style="list-style-type: none"> - Database Tools - Language Features 	Tenno
15 ONLINE/TEAMS	<p>Introducing Database Program Units</p> <ul style="list-style-type: none"> - Stored Procedures and Functions - Create and Maintain Packages 	Tenno
Examination ONLINE/TEAMS	Hands on/ Interview	Wilgo/Caroline
Examination IN CLASS @ IMIT	Practical Demo	Caroline
16 OPEN	OPEN	

5. Study Load

The study load is 8 ECTS, equivalent of 224 hrs, according to the following break-down¹:

- Sessions: 16 x 3 hrs = 48 hrs
- Preparations/study (inclusive of research): 40 hrs
- Assignments (home): 40 hrs
- Case/Demo development (inclusive of analysis, research): 66 hrs
- Interview preparation: 30 hrs
- Presentation:

6. Assessment

The final grade for the course is ultimately calculated based on the following quantitative criteria:

- 20% in-class
- 30% Interview
- 50% demo.

Pass-mark is 55% or more for each component (grade 5,5).

Report/Background Document

Supplementary to the final assignment is the report/background document which describes the product with emphasis on the *process* leading to the results, the *design choices* made along the way and benefits/drawbacks thereof. This deliverable offers the team an opportunity to further demonstrate mastery of the subject.

At minimum the document is to:

- Outline the process from start-to-finish: task-distribution amongst members, planning/work schema and discuss deviation if there was any.
- Discuss design details.
It should contain product specifications (any and all conditions), schemas, etc.
Clarifications are included where due.

Outside of the aforementioned, students are free to determine structure and content.

The report is delivered along with the demo and presentation material.

Technical Requirements:

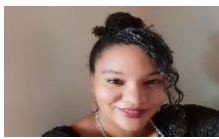
- Laptop i5+ / 8+ GB memory / Free Disk space 500 GB + for data processing
- Installed Oracle database 21

¹ Rough indication of the distribution of hours. Actual time spent per student depends on skills, experience, commitment, focus, participation during lectures & group assignments, and ability to work independent.

7. About the Instructors

Wilgo Veira- Specialized

Wilgo has a degree in Electronics and is also Oracle Certified for database Administration. Wilgo has years of experience in electronic engineering till 1995. After that he gradually specialized himself to database engineer. He started with MS Access database and Sybase. After that he specialized himself in Oracle databases where he is more than 20 year experienced in. He is interested in conceptual designs of Entity Relation Diagrams. Wilgo is also musician.



Caroline Bijlhout MSc – Dedicated

After Caroline had received a Bachelor Degree in Economics in 2007, she got into an Oracle boot camp for one year, which she finished successfully. From there on out she fulfilled diverse roles such as Oracle Application Developer, Information Analyst and Trainer, which made her, gain the experience needed in a technological environment. She also finished diverse other studies and holds a MSc degree in Strategy and Innovations. Caroline has also lectured before in SQL and Project management. Caroline is also a certified Coach Counsellor specialized in Holistic Counselling.

Ing. Eugene Weewee MSc – Passionate, innovative, analytic.

Tenno has a strong and diverse ICT background, having worked in Germany, the Netherlands and Belgium in diverse industries. With a Bachelor degree in Embedded Systems (2009) he continued his career as an Industrial Software Engineer. Tenno has gained experiences in advanced software engineering, databases (Oracle, PL/SQL, MSSQL, Firebird, MySQL) & Data Historians (Osisoft PI, Honeywell PHD), OPC etc. He also graduate as Master in Software Engineering. Tenno is Microsoft Certified Technology Specialist, Oracle Certified Java Programmer and also a Certified Professional Trainer.

IMIT

Studierichting Coördinator

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Accreditation/ Certification/ Recognition

ODBA+ is an integral part of the IMIT education program accredited by the “National Orgaan voor Accreditatie” (NOVA). The successful completion of the course entitles non-IMIT students an IMIT (sub) certificate. IMIT is recognized by The Ministry of Education, Science and Culture (MINOWC).