# ICT285 Databases

# January Trimester, 2020

# Assignment 2

**DATE DUE: Sunday 5th April, 2020 1130pm**

Some important points worth noting:

* Students should **submit their assignment using Moodle** (unless alternative arrangements have been made) **BEFORE 11:30pm (Perth time) on the due date**.
* Assignments not submitted by the due date **MIGHT NOT BE RETURNED PRIOR TO THE EXAM**
  + **If you are in a position of not being able to submit your assignment by this deadline, you are advised to apply for DEFERRED ASSESSMENT**
* **THE FILE YOU SUBMIT MUST BE NAMED USING THE FORM:** StudentNumber.doc or other appropriate file extension. You **must** include a completed assignment cover page. You **must** keep a copy of your assignment **and be prepared to provide it on request**.
* If you have questions about the assignment, you can ask your tutor, the unit coordinator, or post a question on the Moodle discussion forum (preferred). Please check the discussion board before asking to make sure that your question has not already been answered.
* This assignment consists of 100 marks. Marks are allocated as described in the assignment. **Late submissions will be penalised at the rate of 5 marks per day late or part thereof**.
* This assignment is worth 20% of your final mark for the unit.
* The University treats plagiarism, collusion, theft of other students’ work and other forms of dishonesty in assessment seriously. **This is an INDIVIDUAL assignment. Any instances of dishonesty in this assessment will be immediately forwarded for investigation.**

**In Assignment 01**, you designed a database for the Felicity Stillwell Hospital. You are now expected to implement the database. There have been some changes in the requirements from Assignment 01 needed in order to support the transactions and views listed below. You will need to incorporate these changes and any changes you may have made as a result of the feedback you received on Assignment 01.

The major changes made to the requirements for the system are as follows:

* You do NOT need to address the processing requirements listed in Transactions e, f, j, k and l in Assignment 01. This means that you do NOT need to include:
  + Ward Requisitions/Surgical and Non-Surgical Supplies/Suppliers or any associated data in your database
  + Anything to do with the Outpatients Clinic

**An important note about SCOPE:**

* Please read the “What you need to do” section below **CAREFULLY.** This is the list of things on which you are being marked!

**What you need to do:**

1. Create and submit the ERD that you are using as the basis of your implementation. **(10 marks)**
2. A one page explanation of the changes you have made to the ERD you submitted in Assignment 01. **(5 marks)**
3. Create a **data dictionary** that lists **at least** each of the tables, their columns, domains and any other constraints that apply. **(10 marks)**
4. Implement the database in Oracle SQLPlus on sphinx.murdoch.edu.au **(20 marks)**
   1. All tables should be created as per your ERD; the marker will check your ERD against your tables.
   2. All **entity and referential integrity constraints** should be created and appropriately named.
   3. All columns should be of an appropriate domain/size and be set as required or not as appropriate.
   4. All tables should be populated with sample data that will allow the marker to test that your database fulfils the application requirements as specified and support the transactions and views listed below.
   5. **SELECT, UPDATE and DELETE permissions should be GRANTED on all database objects (particularly tables and views) to the user MARKERTL. This is most important. If you do not grant this permission, the marker will not be able to mark all or part of your assignment.**
5. Provide all the SQL statements that are required for the following transactions to be executed **(15 marks)**:
   1. Create a record for a new staff member with the following details: Moira Samuels, 49 School Road, Bedford, W.A., 6052. She is female, her date of birth is 30 May 1990, and her telephone number is 0150-456-3357. Her current position is Charge Nurse in Ward 11. Her current salary is $68760 and she is working 37.5 hours per week on a Permanent basis. She is paid monthly. She has a BSc in Nursing from Curtain University which was awarded to her on 12th July 2010. She also has a Post Graduate Diploma in Geriatrics from Enid Blyton University which as awarded on 22nd July 2012. Prior to starting at FSH, she worked at Eastern Hospital as a Charge Nurse between 23rd January 2011 and 1st May 2011. From 1st June 2011 until 23rd Feb 2012, she worked at Eastern Hospital as a Charge Nurse.
   2. Register a new patient (Anne Phelps) as per the details in Figure 1 below.
   3. Allocate the staff to Ward 11 as per Figure 2 below. You do not need to include the statements required to create the records of the staff named in the Figure.
6. Provide VIEWS for the following (Views should be named as ViewA, ViewB etc) **(20 marks)**:
   1. VIEW A: Staff currently allocated to each ward, grouped by ward.
   2. VIEW B: List of all patients referred to the hospital in the current month.
   3. VIEW C: List of all patients referred to Ward 11 in the last 12 months, including the date they were Placed and the date they left, and the bed they occupied.
   4. VIEW D: List of local doctors (including address, contact details and provider number) who have referred patients in the last 6 months, and the number of patients they have referred.
7. Provide an explanation (and any code you have used) as to how you would implement (or, if you were not able to successfully implement, how you would have implemented) the following constraints **(20 marks)**:
   1. A Patient can only be allocated to a ward if there are beds available.
   2. Only Staff in the role of Personnel Officer are permitted to make updates to staff records. When a staff record is updated, the username of the user responsible must be recorded.

**Please note the following about the marking of this assignment:**

1. The marker will view your documentation and then match your documentation to your implementation. This means for example, that tables, columns and constraints should be named in your database as they are in your documentation. Relationships defined in your ERD should be defined in your database.
2. The marker will view the sample data in your tables.
3. The marker will check that the data as per the transactions in 6 above have been included.
4. The marker will execute each of the views created for 7 above.
5. AGAIN, please ensure that you GRANT the appropriate privileges on all relevant database objects to the user MARKERTL. If you do not do this, the marker will not be able to mark part of your assignment (and you may be awarded 0 for this section).

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| **Felicity Stillwell Hospital** | | | | | | | |
| **Patient Registration Form** | | | | | | | |
| **Patient Number:** | | | | | | | P10234 |
| Personal Details | | | | | | | |
| Family Name: | | | Phelps | | | | |
| Given Names: | | | Anne | | | | |
| Street Address: | | | 67 Wellmeaning Way | | | | |
| Suburb: | Wellington | | | State: | WA | PostCode: | 6856 |
| Gender: | F | | Date of Birth: | | 10/12/1955 |  |  |
| Marital Status: | | | M | Telephone No: | | 0131-332-4158 | |
| Next-of-Kin Details | | | | | | | |
| Full Name: | | | James Phelps | | | | |
| Street Address: | | | 67 Wellmeaning Way | | | | |
| Suburb: | Wellington | | | State: | WA | PostCode: | 6856 |
| Relationship: | | Spouse | | Telephone No: | | 0131-332-4158 | |
| Local Doctor Details | | | | | | | |
| Full Name: | | | Dr Helen Pearson | | | | |
| Street Address: | | | 47 Kennedy Street | | | | |
| Suburb: | Murrayville | | | State: | WA | PostCode: | 6855 |
| Provider No: | | 1455784L | | Telephone No: | | 0131-332-6282 | |

**Figure 1: Patient Registration Form**

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| --- | --- | --- | --- | --- | --- | --- |
| **Felicity Stillwell Hospital** | | | | | | |
| **Ward Staff Allocation** | | | | | | |
| **Week Beginning:** | | | | | 9/01/2013 | |
| Ward Number: | 11 | Ward Name: | | Orthopaedic | | |
| Location: | Block E | Telephone Extension: | | 7711 | |  |
| Charge Nurse: | Moira Samuel | | Staff Number: | | | S4576 |
| Staff Allocation Listing | | | | | | |
| Staff No: | Name | | Position | | Shift | |
| S0980 | Carol Cummings | | Staff Nurse | | Late | |
| S1257 | Morgan Russell | | Nurse | | Late | |
| S1458 | Robin Plevin | | Staff Nurse | | Early | |
| S2356 | Amy O'Donnell | | Consultant | | Night | |
| S3649 | Laurence Burns | | Nurse | | Early | |

**Figure 2: Report listing ward staff**