**Student Name:** **Weight: 2.3%**

**Student ID:** **Marks: /12**

# Lab: Manipulating Data

## Equipment and Materials

For this lab, you will need:

* A Windows computer with a minimum of 16GB RAM and 250GB of free disk space, capable of nested virtualization
* Access to Oracle Version 11g or better through SQL\*PLUS
* The Grand Hill College Database that you populated as part of earlier learning activities
* The Grand Hill College Physical Model that was created as part of earlier learning activities

## Instructions

1. First, work through steps 2-5 individually. Then arrange a time to come together as a small group to create one solution based on the best individual solution to each problem. Further refine the solution as a group if needed.
2. Review the physical model for Grand Hill College.
3. Using the Grand Hill College Database, write a single script that fulfills all the requirements outlined in the Problem Set.
4. Compare your solution against the Marking Criteria.
5. See Brightspace for exact due dates.
6. Only one submission per group is required. Your submission should include:
   1. One script file
   2. One spool file showing all results
   3. One attribution list that outlines the activities associated with completing this assignment. A sample attribution list is provided on Brightspace.

## Problem Set

Write SQL code to perform the following modifications to the Grand Hill College Database.

1. Add a new department.
   1. Department number: 100
   2. Name: Astrophysics
2. Add a new instructor.
   1. Faculty ID: 1001
   2. Name: Danny Faulkner
   3. Hired: Jan 1, 2022
   4. This instructor is currently available and teaches in the Astrophysics department
3. Add the following courses that Danny Faulkner has expertise to teach:
   1. Course Code: APHY202, The Solar System, 5 credits
   2. Course Code: APHY203, Nebula, 5 credits
   3. Course Code: APHY204, Global Clusters, 5 credits
4. The Nebula Course has moved to the third semester, so its new course code is ‘APHY302’. Make that change throughout the database.

**Hint:** You will need to add the new course **first** and then update/delete existing data.

1. Remove Danny Faulkner (ID: 1001) and the record of his expertise. Leave the new courses and the Astrophysics department in the databases.

## Marking Criteria

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Categories** | **Needs Improvement 1** | **Adequate 2** | **Good 3** | **Score** |
| Correctly performs all modifications | 3+ modifications missing | 1 or 2 modifications missing | Yes | **/3** |
| Will work for all datasets | 2+ questions will not work for all datasets | 1 question will not work for all datasets | Yes | **/3** |
| Spool file included | No | N/A | Yes | **/3** |
| Attribution list included | No | Some details missing | Yes | **/3** |
| **Total** | | | | **/12** |