**GTSC2143 Machine Learning for Business Analytics**

**Tutorial 1 – Python Basics**

**Please write down your answers in this document and submit it at iSpace by the end of this tutorial.**

### Jupyter Notebook Experience

1. Launch Jupyter Notebook using one of these methods:

1. Command line: Type jupyter notebook
2. Anaconda Navigator: Click the Jupyter Notebook icon

2. Create New Notebook

1. Create a new notebook and name it: Tutorial1\_<your\_student\_id>

3. Execute Python Exercises

1. Complete Activity 2 exercises in separate Jupyter notebook cells

### Python Basic Exercise

1. Basic Data Types and Operations

1. Create variables to store your name and student ID
2. Calculate 15 to the power of 3
3. Divide two integers to get a float result
4. Convert numbers to strings and perform string concatenation

2. List Operations

1. Create a list containing 5 numbers
2. Append a new element to the end of the list
3. Get the first 3 elements of the list
4. Get the last 2 elements of the list
5. Access the second-to-last element using negative indexing

3. Dictionary Operations

1. Create a student information dictionary containing your name and student ID
2. Add a new key-value pair to include your major information
3. Check if a certain key (“gender”) exists in the dictionary
4. Delete the key-value pair (major information) from the dictionary
5. Iterate through all key-value pairs in the dictionary
6. Create another student information dictionary with name: “test” and student ID: 1234

4. Package Import and Usage

1. Import Pandas
2. Create a DataFrame from the two student information dictionary
3. Export the DataFrame to a CSV file

- End of Tutorial 1 -