**Yuan Ze University**

**Department of Industrial Engineering and Management**

**Python Class - Optimization Lab**

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**Outline** (for reference, subject to change):

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| **No.** | **Content** |
| **1**  (2021-11-26)  (2021-12-03) | Introduction to Python and CoLab:   * Basic data types. * Variables and expressions. * Functions. * Conditional Statements. * Loops. |
| **2**  (2021-12-10)  (2021-12-17) | Data Structures:   * Lists. * Tuples. * Dictionaries. * NumPy objects. * DataFrames. |
| **3**  (TBA)  (TBA) | Metaheuristics:   * Simulated Annealing. * Particle Swarm Optimization. * Genetic Algorithm. * Virus Optimization Algorithm\*\*. |
| **4**  (TBA)  (TBA) | Computer Vision:   * Thresholding. * Image pre-processing. * Template matching. * Edge detection. |
| **5**  (TBA)  (TBA) | Deep Learning:   * Classification models and architectures. * Hyperparameters selection. |