Teaching Plan

Programme:	Certificate for Module (Business Process Automation with VBA and Python)
Course Code:	FN079A
Course Name:	Business Process Automation with VBA and python
Commencement Date:	16 November 2024
Contact Hours:	30 hours (plus a 2-hour examination)
No. of Lecture Weeks:	5 weeks (6 hours per lecture)
Lecturer:	Mr Eddie Chow
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Module Objectives

The program aims to impart the essential knowledge of process automation to students and equip them with automation techniques in the business. It adopts a contemporary project management approach to business process automation. The program also examines the emerging business opportunities and challenges in its planning and implementation of process automation. It also covers technical skills, using VBA and Python, with hands-on practice of process automation starting from development to implementation stage. Practical applications and cases of management and control methodologies used by market leaders will be discussed.

Intended Learning Outcomes

On completion of the program, students should be able to:

1. describe the contemporary trends of process automation and explain the opportunities and challenges of business process automation;
2. outline key steps in process automation project management and illustrate the significance of each step;
3. apply computational tools to implement process automation;
4. discuss the development of process automation and practical cases for business.

Indicative Lesson Plan

Topics to be discussed are listed as follows tentatively. Teaching materials will be given to students. Modifications by the lecturer may be made during the course as deemed appropriate

Lecture Week	Major lecture outline	Learning Activities/ Assessment	ILO
1	Introduction to business process automation - What is Process Automation, RPA, IPA? - Overview of the technological building blocks related to process automation - Contemporary tools for process automation - Challenges and opportunities of business process automation - Business implications of process automation	Class discussion and case studies Using free low-code automation tools	1~3
2	Business Process automation with VBA - Fundamental of VBA syntax and related packages such as Spreadsheet ETL (extract, transform and load), Calculation,	Class hands-on exercise, class exercise and	1~3

	Formatting and Function - Demonstration of Business Application from real use case - Business and finance applications: financial news screening and loan application screening	discussion	
3	Business process automation with Python - Key steps in project management and business process automation Organizational issues of business process automation projects - Usage of different off-the-shelf tools & algorithm from use case perspective	Class hands-on exercise, class exercise and discussion	1~3
4	Introduction to project management for business process automation - Methodologies of project management - Key steps in project management and business process automation Organizational issues of business process automation projects	Class hands-on exercise, class exercise and discussion	1~4
5	Development and implementation of business process automation - Analysis of business operations - Goals and tasks for business process automation - Project Lifecycle - Business requirement document development - Workflow design - Project budget management and financial analysis - Development and testing the automated processes - Change management with business process automation - Productivity measurement and improvement - Risk management and control - Business case studies in process automation - Class Presentation	Class exercise, discussion and Final report presentation	1~4

Note: The teaching schedule is for indicative purposes and appropriate adjustment can be made when necessary.

Learning Activities

Topics to be discussed in this module will be based on a combination of lectures, hands-on exercises and class discussions. Also, this module delivers through lessons and in-class exercises.

Assessment

(1) Individual Assignments (50%)
In-class computer assignments that include the usage of different applications & methodologies for testing students' literacy of using different software, and the effectiveness of applying different methodologies.

(2) Final Group Project (50%)
A 20-minute (3 students) group project presentation related to the business applications of process automation. Students will be evaluated individually on their analytical and presentation skills, understanding of topics concerned, and Q&A performance.

<u>Required and Recommended Reading</u>

1. Alexander, M., Kusleika R. (2019). Excel 2019 Power Programming with VBA, John Wiley & Sons, Inc.
2. Caster, P., Elder, R. J., Janvrin, D. J. (2021). An Exploration of Bank Confirmation Process Automation: A Longitudinal Study, The Journal of Information Systems, 2021-09-01, Vol.35(3), p.1-16. Sarastoa: American Accounting Association
3. Majelodunmi, D. (2017). Business Process Automation with ProcessMaker 3.1: A Beginner's Guide, Apress
4. Muthukadan, B. (2022). Selenium Python Bindings. Creative Common (webpage: https://creativecommons.org/licenses/by-sa/4.0/)
5. Sweigrat, A. (2015). Automate the Boring Stuff with Python: Practical Programming for Total Beginners. No Starch Press
6. Van Der Aalst, W. M. P., La Rosa, M., Santoro, F. M., (2016). Business process management: don't forget to improve the process, Business & information systems engineering, 2016-01-01, Vol.58(1), p.1-6, Wiesbaden: Springer Fachmedien Wiesbaden
7. Wright, S, A., Schultz, A. E., (2018). The rising tide of artificial intelligence and business automation: developing an ethical framework, Business horizons, 2018-11, Vol.61(6), p.823-832, Elsevier Inc.

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