TEACHING PLAN
AAE2004 INTRODUCTION TO AVIATION SYSTEMS - GITHUB PROJECT

DESIGN OF PATH PLANNING ALGORITHM FOR AIRCRAFT OPERATION
(ONLINE TEACHING)

Instructors:
Dr. Li-Ta HSU, QR828, 3400-8061
lt.hsu@polyu.edu.hk
Dr Weisong WEN, PQ408, 3400-8234
welson.wen@polyu.edu.hk

Teaching Assistants:
Miss Hiu Yi HO (Queenie)
hiu-yi.ho@connect.polyu.hk
Miss Yan Tung LEUNG (Nikki)
weisong.wen@connect.polyu.hk

Sem. Week	Topics Taught	Planned Learning Outcomes	Assessment	Timetable, Venue Staff
Wk 3 (Sep 17)	• Introduction to GitHub and how it can help in your study. • Instruction on the installation of *Python* and the *Visual Studio Code* (a popular compiler of *Python* in Windows 10) • Instruction on the installation of *GitHub* and the collaborative function in online platform *GitHub* website and *Visual Studio Code*.	• Understand the principle and applications of path-planning • Global outlook • Basic code programming • Project management • Work collaboration		LEC/TUT: Friday 10:30-13:20, MS Team Li-Ta HSU Weisong WEN
Wk 4 (Sep 24)	• Introduction to the importance of path planning in aviation and aerospace industries. • Introduction to A* path planning algorithm. • Introduction to the open-source code, *Python Robotics*, with path planning capability. • Project management and collaboration	• Project management • Hands-on coding experience • Work collaboration • Problem-solving skills • Learning to learn skills	Familiarization with GitHub and Python	LEC/TUT: Friday 10:30-13:20, MS Team Li-Ta HSU Weisong WEN

	• Discussing the use of $200 HKD budget to design and develop the path planning algorithm		
Wk 5 (Oct 1)	Public Holiday		
Wk 6 (Oct 8)	• Design the path planning algorithm considering different factors, distance, safety and economic cost. • Idea on how to determine the factors in each location. (to extend the relationship of the study path in AE programme)	• Hands-on coding experience • Work collaboration • Problem-solving skills • Learning to learn skills • Creativity in engineering solution		LEC/TUT: Friday 10:30-13:20, MS Team Li-Ta HSU Weisong WEN
Wk 7 (Oct 15)	• Each group must finish their path planning algorithm before the end of next week. • Introduction on the preparation of the manual of the code designed and developed by students	• Hands-on coding experience • Work collaboration • Problem-solving skills • Learning to learn skills • Creativity in engineering solution		LEC/TUT: Friday 10:30-13:20, MS Team Li-Ta HSU Weisong WEN
Wk 8 (Oct 22)	• Make a 10-minute video presentation (upload to GitHub). • Discussion and outlook of the path planning for aviation and aerospace industries.	• Project management • Problem-solving skills • Technical Report and video presentation (every student shall present) • Global Outlook	• Video Presentation (upload to GitHub) • Report includes code manual and reflective essay (GitHub main page in Readme.md format) • Confidential peer evaluation (Send to lt.hsu@polyu.edu.hk)	LEC/TUT: Friday 10:30-13:20, MS Team Li-Ta HSU Weisong WEN