

TEACHING PLAN

AAE2004 INTRODUCTION TO AVIATION SYSTEM AND AIR. TRANSPORT REGULATION - GITHUB PROJECT

DESIGN OF PATH PLANNING ALGORITHM FOR AIRCRAFT OPERATION

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Sem. Week	Topics Taught	Planned Learning Outcomes	Assessment	Timetable, Venue Staff
Wk 8 (Oct 18)	<ul style="list-style-type: none"> Introduction to the importance of path planning in aviation and aerospace industries. Instruction on the installation of <i>Python</i> and the <i>Visual Studio Code</i> (a popular compiler of <i>Python</i> in Windows 10) Instruction on the installation of <i>GitHub Bash</i> and the collaborative function in online platform GitHub website. 	<ul style="list-style-type: none"> Understand the principle and applications of path-planning Global outlook Basic code programming Project management Work collaboration 		LEC/TUT: Tuesday 12:30-15:20 Li-Ta HSU Guohao ZHANG Weisong WEN
Wk 9 (Oct 25)	<ul style="list-style-type: none"> Introduction to A* path planning algorithm. Introduction to the open-source code, Python Robotics, with path planning capability. Project management and collaboration 	<ul style="list-style-type: none"> Project management Hands-on coding experience Work collaboration Problem-solving skills Learning to learn skills 		LEC/TUT: Tuesday 12:30-15:20 Guohao ZHANG Weisong WEN

	<ul style="list-style-type: none"> Discussing the use of \$200 HKD budget to design and develop the path planning algorithm 			
Wk 10 (Nov 1)	<ul style="list-style-type: none"> 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/ATE programmes) 	<ul style="list-style-type: none"> Hands-on coding experience Work collaboration Problem-solving skills Learning to learn skills Creativity in engineering solution 		LEC/TUT: Tuesday 12:30-15:20 Guohao ZHANG Weisong WEN
Wk 11 (Nov 8)	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Hands-on coding experience Work collaboration Problem-solving skills Learning to learn skills Creativity in engineering solution 		LEC/TUT: Tuesday 12:30-15:20 Guohao ZHANG Weisong WEN
Wk 12 (Nov 15)	<ul style="list-style-type: none"> Make a 20-minute video presentation (upload to YouTube). Discussion and outlook of the path planning for aviation and aerospace industries. 	<ul style="list-style-type: none"> Project management Problem-solving skills Technical Report and video presentation (every student shall present) Global Outlook 	<ul style="list-style-type: none"> Video Presentation (upload to Github) Report includes code manual and reflective essay (upload to Github) Confidential peer evaluation (Send to gh.zhang@polyu.edu.hk) 	LEC/TUT: Tuesday 12:30-15:20 Guohao ZHANG Weisong WEN