PILO H2613: Mass and Balance

Module Title:	Mass and Balance
Language of Instruction:	English

Credits:	5

NFQ Level:	7

Module Delivered In	1 programme(s)

Teaching & Learning Strategies:	This module will be delivered by an EASA approved training organisation.

Module Aim:	The purpose of this module if to educate the student on the significance of mass and balance to the safe operation of an aircraft.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Explain the necessity for mass and balance calculations.
LO2	Perform mass and balance calculations.
LO3	Interpret the mass and balance details of an aircraft.
LO4	Understand how loading and cargo handling can effect mass and balance.

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*
No recommendations listed
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*
No incompatible modules listed
Co-requisite Modules
No Co-requisite modules listed
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*
No requirements listed

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Module Content & Assessment

Indicative Content
Purpose of Mass and Balance Considerations Introduction to mass and balance, Mass and balance theory, Factors affecting mass and balance in aircraft, Mass definitions and limitations.
Loading Aircraft weighing and floor loading, Load shifting, load addition and load subtraction, Mean aerodynamic chord, PART CAT and ORO requirements, Loading, manifests
Fundamentals of Centre of Gravity Calculations. Arms, Moments.
Mass and Balance Details of Aircraft SEP 1 and MEP 1 -- Medium range jet transport(MRJT)
Determination of Centre of Gravity Position. Aircraft centre of gravity, shifting loads, additional loads, zero fuel, takeoff and landing masses, the respective moments and centre of gravity. Positions, securing loads and loadshift.
Cargo Handling n/a

Assessment Breakdown	%
End of Module Formal Examination	100.00%

No Continuous Assessment

No Project

No Practical

End of Module Formal Examination

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Formal Exam	No Description	1,2,3,4	100.00	End-of-Semester

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

Module Workload

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_EEPLT_D	Bachelor of Science in Pilot Studies	4	Mandatory