



Jordan University of Science and Technology
Faculty of Engineering
Aeronautical Engineering Department

Course name and number:

AE 574 Introduction To Avionics Systems
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Credit, contact hours and categorization:

Credit and contact hours	Contact hours	Categorization
3 Credit Hours	Sunday-Tuesday-Thursday 1-hour lecture Or Monday-Wednesday 1.5-hours lecture	Engineering Topic

Instructor's or course coordinator's name:

Name	Dr. Muath Bani-Hani
Office location	N1-L2
Email address	mabanihani@just.edu.jo

Textbook and other supplemental materials:

Textbook			
Title	Introduction to Avionics Systems		
Author(s)	R.P.G. Collinson		
Edition	3rd Edition		
Other Information	Springer		
References			
Book Name	Author(s)	Edition	Other Information
Civil Avionics Systems	David S. Kelley	2 nd Edition	Professional Engineering Publishing Limited, London and Bury St Edmunds, UK, 2003.
Military Avionics Systems	Ian Moir & Allan G. Seabridge	1st Edition	John Wiley & Sons Ltd, 2006
Aircraft Systems	Ian Moir & Allan G. Seabridge	1st Edition	John Wiley & Sons Ltd, 2008

Course information:

Course Catalogue
Flight instruments and sensors, Introduction to aeronautical navigation systems, Introduction to communication systems, Electronic Warfare, Displays, Automatic flight control systems and actuators.
Course type : This course is required to fulfill the program.



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Prerequisites or co-requisites		
Line Number	Course Name	Prerequisite Type
713700	AE370 Instrumentation	Prerequisite / Study
253200	ME320 Fundamentals Of Electronics And Digital Logic	Prerequisite / Study
714640	AE464 Automatic Control	Prerequisite / Study
713440	AE344 Aerodynamics (1)	Prerequisite / Pass

Specific goals of the course:

Specific outcomes of instruction and the student outcomes (SO) mapping		
Outcomes	SO Mapping	Course Outcome Weight (Out of 100%)
To provide students with the understanding of basic principles, theory and operation of modern avionics systems and their implementation with current technology for both civil and military aircraft.	ISO 2, ISO 6, ISO 7, ISO 8, ISO1	50%
To introduce the basics of Aircraft and the Instrumentation involved in Aircraft Systems.	ISO 2, ISO 6, ISO 7, ISO 8, ISO1	50%

Brief list of topics to be covered:

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Introduction to Aircraft Instruments and Systems	From Textbook
Weeks 2,3	Aerodynamics and aircraft control	From Textbook
Weeks 4,5,6	Fly-by-wire control	From Textbook
Weeks 7,8,9	Inertial sensors and attitude derivation	From Textbook
Weeks 10,11	Navigation systems	From Textbook
Week 12	Air data and air data systems	From Textbook
Week 13	Autopilots	From Textbook
Week 14	Displays and man-machined interaction	From Textbook
Week 15	Avionics systems integration	From Textbook
Week 16	Unmanned aerial vehicles	From Textbook
Week 16	Flight management systems	From Textbook