1. Title	Electronic fundamentals I
2. Code	EMAMBG303A
3. Range	The knowledge is needed for a wide range of aircraft repair and maintenance works,e.g. applicable to aircrafts, analysis, machineries, airworthiness, airframes, avionics, materials, tests, documentation, safety, health and tools etc.
4. Level	3
5. Credit	2
6. Competency	Performance Requirement
	6.1 Knowledge ♦ Able to understand the semiconductors • Diode ‣ Diode symbols. ‣ Diode characteristics and properties. ‣ Diodes in series and parallel. ‣ Main characteristics and use of silicon controlled rectifiers (thyristors), light emitting diode, photo conductive diode, varistor, rectifier diodes. ‣ Functional testing of diodes. • Transistors ‣ Transistor symbols. ‣ Component description and orientation. ‣ Transistor characteristics and properties. • Integrated Circuits ‣ Description and operation of logic circuits and linear circuits / operational amplifiers. ♦ Able to understand the printed circuit boards • Description and use of printed circuit boards.

		♦ Able to understand the servomechanisms • Understanding of the following items: Open and closed loop systems, feedback, follow up, analogue transducers. • Principles of operation and use of the following synchro system components/features: resolvers, differential, control and torque, transformers, inductance and capacitance transmitters.
	6.2 Theoretical and practical aspects	♦ Able to apply the following knowledge in the aircraft maintenance. • Semiconductors ‣ Diode
	6.3 Professional approach	♦ Able to understand the principal elements of the subjects. ♦ Able to understand the general knowledge of the theoretical and practical aspects of the following subjects. • Semiconductors ‣ Diode ♦ Able to apply the knowledge in the aircraft maintenance task.

7. Assessment Criteria	The integral outcomes requirement of this UoC are: (i) Able to understand the theoretical fundamentals of the subjects. (ii) Able to give a general description of the subjects using, as appropriate, typical examples. (iii) Able to use mathematical formulae in conjunction with physical laws describing the subjects. (iv) Able to read and understand sketches, drawings and schematics describing the subjects. (v) Able to apply the knowledge in a practical manner using detailed procedures.
8. Remarks	Ref: HKAR-66 Module 4: Electronic fundamentals