University of East Anglia

ACADEMIC PARTNERSHIPS

Module Outline **Part 1- as validated**

1.	**Title**	**Electronic Engineering Applications**
2.	**Level ***	**6**
3.	**Credits**	**20**
4.	**Indicative Student Study Hours**	**36 hours lectures** **164 hours self-directed learning**
5.	**Core (must take and pass), Compulsory (must take) or Optional**	**Optional**

**** Foundation Level=3 Degree Year 1 = 4 Degree Year 2 = 5 Degree Year 3 = 6***

PG (Masters) = 7

5. Brief Description of Module (purpose, principal aims and objectives)

The use of electronics in engineering application is a wide field, but shares common features, such as control theory, circuit analysis and the use of software simulation packages. The purpose of this module is to exemplify these aspect by studying two common electric drive systems. Therefore the aim of the module is to develop students so far that they can research and assess system requirements an engineering application poses and then justify their recommendation of a motor drive system based on their research and software simulation. In order to achieve this aim the following objectives are set:

- Review of control theory including PID controllers
- The study of DC motors and drives
- An investigation into induction motors and their drives
- Developing some skills in how to use simulation software such as Matlab/Simulink and Multisim and using these skills to investigate drive options.
- Using literature research skills to determine system requirements

6. Learning Outcomes - On successful completion of this module a student will be able to:

(*Add more lines if required)*

	Specific Learning Outcomes
1.	Analyse the performance of an electric machine and determine its characteristics through simulation software
2.	Utilise circuit analysis to solve problems in electrical networks
3.	Evaluate the effects of AC and DC machines on the operation and performance of an industrial control system

	Generic Learning Outcomes
4.	Demonstrate the ability to evaluate a **problem** through simulation
5.	Understand the applications of simulation software

7. Assessment						
Pass on aggregate or Pass all components *(modules can only be pass all components if this is a PSRB requirement)*				Pass on aggregates		
Summary of Assessment Plan						
	Type	% Weighting	Anonymous Yes / No	Word Count/ Exam Length	Learning Outcomes Coverage	Comments
1.	Report	30%		1500	LO 1, 5	
2.	Oral presentation/ viva	30%		15 min	LO 3, 4	Seen part (presentation) and unseen part (viva)
3.	Exam	40%		1 h	LO 2	

Further Details of Assessment Proposals

Give brief explanation of each assessment activity listed

1. Utilise appropriate simulation software to investigate electrical machines and their characteristics as well as solving problems in typical industrial networks.
2. Appraise the effectiveness and performance of AC and DC machines through a case study approach

8. Summary of Pre and / or Co Requisite Requirements
Not applicable

9. For use on following programmes	
BEng Engineering (Mechanical)	BEng Engineering (Electrical)