

CURRICULUM STRUCTURE 2011- 2015									
BACHELOR OF ENGINEERING (AGRICULTURAL AND BIOSYSTEMS)									
Department of Biological and Agricultural Engineering									
Faculty of Engineering, Universiti Putra Malaysia									
C – Credit hour, L – Lecture, L – Lab									
Semester I					Semester II				
CODE	COURSES	C	L	L	CODE	COURSES	C	L	L
Year 1									
BBI 2420	Oral Interaction Skills	3	2	1	EAB 3008	Computer Aided Engineering Drafting	2	1	1
ECC 3001	Engineering Mathematics I	3	3	0	EAB 3602	Biological System Instrumentation	3	2	1
ECC 3191	Computer Programming and Applications	3	2	1	ECC 3002	Engineering Mathematics II	3	3	0
PRT 2008	Agriculture and Mankind	2	2	0	EMM 3302	Fluid Mechanics	3	3	0
PHY 2001	General Physics ¹	4	3	1	EMM 3102	Static	2	2	0
EAB 3000	Workshop Management and Practice	1	0	1	PRT 3005	Crop Production System	3	3	0
Q** ****	Co-curriculum with Credit ²	1	0	1	SKP 2204	Ethics Relationship	2	2	0
Q** ****	Co-curriculum with Credit ²	1	0	1					
		18	12	6			18	16	2
Year 2									
BBI 2421	General Writing Skills	3	2	1	SKP 2101	Malaysian Nationhood	3	3	0
EAB 3206	Biosystems Environment	3	3	0	EMM 3104	Dynamics	3	3	0
EMM 3108	Strength of Materials	3	2	1	EAB 3604	Control System Engineering	3	3	0
EAB 3308	Hydraulics and Hydrology	3	2	1	ECV 3501	Geomatics Engineering	3	2	1
EMM 3110	Thermodynamics I	3	3	0	EAB 3302	Soil Engineering	3	2	1
ECC 3003	Engineering Mathematics III	3	3	0	EAB 3504	Thermal and Fluid Machines	3	2	1
		18	14	6			18	15	3
Year 3									
EAB 3508	Machine Design	3	2	1	EAB 3010	Analysis and Design of Structure	3	3	0
MGM 3180	Basic Entrepreneurship	3	2	1	ECC 3004	Engineering Statistics	3	3	0
EAB 3306	Irrigation and Drainage Engineering	3	2	1	EAB 3506	Plantation Machinery	3	2	1
EAB 3202	Principles of Heat Transfer	2	2	0	EAB 3402	Geographic Information System Technology	3	2	1
PRT 3004	Livestock and Aquaculture Production Systems	3	3	0	EAB 3204	Agricultural Process Engineering	4	3	1
EAB 3606	Agricultural Automation	3	3	0	SKP 2203	Islamic and Asian Civilization	2	2	0
		17	14	3			18	15	3
Year 4									
EAB 4901	Industrial Training ³	5	0	5	BBI 2417	Public Speaking	3	3	0
EAB 3406	Project Management	3	3	0	EAB 3004	Engineering Properties of Agricultural Materials	3	3	0
EAB 4999A	Final Year Project	2	0	2	ECV 3001	Engineers and Society	3	2	1
EAB 4000	Agricultural Safety and Health	3	3	0	EAB 4999B	Final Year Project	4	0	4
EAB 4***	Elective I ⁴	3	3	0	EAB 4***	Elective III ⁴	3	3	0
EAB 4***	Elective II ⁵	3	3	0					
		19	12	7			16	11	5
Total Credit (Course)							137		
Industrial Training							5		
Total Entire Credit							142		

¹ Exemption for the students who passed Physic at the Matriculation/'Asasi'/STPM/Diploma levels.

² Co-curriculum with credit could be registered in any semester during the study period.

³ Industrial training will be held for 10 weeks during the second semester break of the third year study period.

⁴ Based on the offered course in the selected option.

⁵ Could be chosen from any option which is offered during that particular semester.

OPTION AND TECHNICAL ELECTIVE COURSES BACHELOR OF ENGINEERING (AGRICULTURAL AND BIOSYSTEMS)
--

Option courses were formed to fulfill the requirements of B.E (Agricultural and Biosystems) for producing competitive graduates who can work in the international industries or research fields, and industries that are related to agriculture. Students choose these courses based upon options being offered. The offered options are based upon thrust areas (Bioprocess and Environment, Soil and Water Resources, Bioinformation System, and Mechanization and Automation) which were identified having the most potential in the biological and agricultural fields and related industries.

All students are compulsory to choose one course from each option that will be offered in the final year of study, and the suggested options are as follow:

BIOPROCESS AND ENVIRONMENT OPTION									
First Semester					Second Semester				
CODE	COURSE	C	L	L	CODE	COURSE	C	L	L
EAB 4202	Bioprocess Engineering Operations	3	3	0	EAB 4206	Bioprocess Engineering Design	3	3	0
EAB 4204	Controlled Environment Structures	3	3	0	EAB 4210	Postharvest Engineering	3	3	0
EAB 4212	Agricultural Waste Management	3	3	0					

SOIL AND WATER RESOURCES OPTION									
First Semester					Second Semester				
CODE	COURSE	C	L	L	CODE	COURSE	C	L	L
EAB 4306	Groundwater	3	2	1	EAB 4310	Water Quality for Agriculture	3	2	1
EAB 4304	Aquacultural Engineering	3	3	0	EAB 4308	Soil Erosion and Conservation	3	3	0

BIOINFORMATION SYSTEM OPTION									
First Semester					Second Semester				
CODE	COURSE	C	L	L	CODE	COURSE	C	L	L
EAB 4402	Remote Sensing Applications	3	3	0	EAB 4406	Land Information Management	3	3	0
EAB 4404	Global Navigation Satellite System	3	2	1	EAB 4408	Expert System	3	3	0
EAB 4410	Agricultural System Modelling and Analysis	3	3	0					

MECHANIZATION AND AUTOMATION OPTION									
First Semester					Second Semester				
CODE	COURSE	C	L	L	CODE	COURSE	C	L	L
EAB 4502	Machine Component Design	3	3	0	EAB 4506	Appropriate Mechanization	3	3	0
EAB 4504	Off-Road Vehicles Engineering	3	3	0	EAB 4510	Robotics in Agriculture	3	3	0
EAB 4514	Hydraulic and Pneumatic Controls	3	3	0	EAB 4512	Variable Rate Technology	3	3	0