

FAKULTI SAINS PERTANIAN DAN MAKANAN

Maklumat Am

Universiti Putra Malaysia Kampus Bintulu Sarawak (UPMKB) mempunyai sebuah fakulti yang dinamakan Fakulti Sains Pertanian dan Makanan. Fakulti ini terdiri dari lima jabatan akademik iaitu Jabatan Sains Tanaman, Jabatan Sains Perhutanan, Jabatan Sains Sosial, Jabatan Sains Asasi dan Kejuruteraan serta, Jabatan Sains Haiwan dan Perikanan. Fakulti ini menawarkan program pengajian peringkat Diploma, Bachelo, Master dengan tesis dan PhD .

Permulaan sejarah (UPMKB) bermula dengan penubuhan sebuah kampus sementara di Semenggok, Kuching pada 10 Ogos 1974. Kampus ini telah berkembang dan berpindah ke kampus tetap yang lebih selesa di Bintulu, Sarawak pada bulan Jun 1987 sebelum ditutup sementara pada tahun 1992.

UPMKB diaktifkan semula pada November 2001 berasaskan matlamat ketiga pelan strategi UPM 2001-2010 iaitu untuk meningkatkan keupayaan UPM sebagai Pusat Pengajian dan Perkhidmatan Pertanian serta Biosumber terkemuka di Peringkat Antarabangsa. Fokus utama UPMKB adalah dalam bidang agribio seperti pertanian, perhutanan, perikanan, peternakan, pemakanan dan persekitaran.

Pengurusan Fakulti

Dekan/ Dean

Profesor Dr. Japar Sidik Bujang

Timbalan Dekan Akademik

Deputy Dean (Academic)

Dr. Mohd. Hanafi Idris

Timbalan Dekan Penyelidikan dan Pengajian Siswazah

Deputy Dean (Research and Graduate Studies)

Profesor Madya Dr. Nur Ashikin Psyquay Abdullah

Timbalan Dekan Hal Ehwal Pelajar

Deputy Dean (Student Affair)

Dr. Marina Mohd Top @ Mohd. Tah

Ketua Jabatan Sains Tanaman

Head, Department of Crop Science

Dr. John Keen Chubo

Ketua Jabatan Sains Perhutanan

Head, Department of Forestry Science

Dr. Ong Kian Huat

Ketua Jabatan Sains Asas Dan Kejuruteraan
Head, Department of Basic Science and Engineering

Dr. Walter Charles Primus

Ketua Jabatan Sains Sosial
Head, Department of Social Science

Dr. Salmah Omar

Ketua Jabatan Sains Haiwan dan Perikanan
Head, Department of Animal Science and Fishery

Dr. Shahrul Razid Sarbini

Penyelaras Pusat Kecemerlangan Penyelidikan Ekosistem Sains Borneo (Borneo Ekosains)

Profesor Madya Dr. Seca Gandaseca

Ketua Pentadbiran
Head, Administrative Division
TBA

Ketua Bahagian Kewangan
Head, Finance Division

Pn. Zuraida Abu Bakar

Ketua Bahagian Taman Pertanian Universiti
Head, University Agriculture Park Division

Pn. Carlina Freddie Simol

Ketua Bahagian Perpustakaan
Head, Library Division

Pn. Nathuhain Ibrahim

Ketua Bahagian Teknologi Maklumat
Head, Information Technology Division

En. Abdul Mohammad Omar

Ketua Klinik
Head, Satellite Clinic

Dr. Ida Nurhidayah Husna Kusnadi

Pegawai Keselamatan

Security Officer

En. Sharman Yeop Ismail

Program Prasiswazah yang ditawarkan

Bachelor

Bachelor Sains Bioindustri/ *Bachelor Science Bioindustry*

Program Diploma

1. Diploma Pertanian/ *Diploma in Agriculture*
2. Diploma Pengurusan Perladangan Makanan/ *Diploma of Food Estate Management*
3. Diploma Perhutanan/ *Diploma in Forestry*
4. Diploma Perikanan/ *Diploma in Fishery*
5. Diploma Kesihatan Haiwan dan Peternakan/ *Diploma in Animal Health and Production*
6. Diploma Perniagaantani/ *Diploma in Agribusiness*
7. Diploma Kejuruteraan Pertanian/ *Diploma in Agricultural Engineering*

STRUKTUR KURIKULUM/ CURRICULUM STRUCTURE

Nama Program : **Bachelor Sains Bioindustri/ *Bachelor Science Bioindustry***

Jumlah Kredit Bergraduat : **132 Jam Kredit / *Credit Hours***

Tempoh Pengajian : **8 Semester/ *Semesters (4 Tahun/ Years)***

1. Kursus Universiti/ *University Courses* (21 Kredit / 21 Credits)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2423	<i>Academic Interaction and Presentation</i>	3	2	1
BBI2424	<i>Academic Writing</i>	3	2	1
KOM3403	Pengucapan Awam/ <i>Public Oration</i>	3	3	0
PRT2008	Pertanian dan Manusia/ <i>Agriculture and Man</i>	2	2	0
SSK3000	Teknologi Maklumat dan Penggunaannya/ <i>Information Technology and its Applications</i>	3	2	1
SKP2101	Kenegaraan Malaysia/ <i>Malaysian Nationhood</i>	3	3	0

SKP2203	Tamadun Islam dan Tamadun Asia/ <i>Islamic Civilization and Asian Civilization</i>	2	2	0
SKP2204	Hubungan Etnik/ <i>Ethnic Relation</i>	2	2	0

2. Kursus Teras/ *Core Courses* (78 Kredit / *Credits*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AFS2001	Program Buku Hijau/ <i>Green Book Programme</i>	2	0	2
AHP3507	Pengeluaran dan Pengurusan Hasil Ternakan/ <i>Production and Management of Livestock Products</i>	3	2	1
PRT3402	Biokimia Pertanian/ <i>Agricultural Biochemistry</i>	3	2	1
CAG3000	Diversiti Mikroorganisma dan Tumbuhan/ <i>Microorganism and Plant Diversity</i>	3	2	1
BGY3201	Struktur dan fungsi tumbuhan/ <i>Plant Structure and Function</i>	3	2	1
CAG3003	Pengeluaran dan Pengurusan Tanaman/ <i>Crop Production and Management</i>	3	2	1
CAG3004	Pembiakan Tumbuhan dan Pengurusan Semaian/ <i>Plant Propagation and Nursery Management</i>	3	2	1
BIP3301	Prinsip Pemprosesan Bioproduk/ <i>Principles in Bioproduct Processing</i>	3	2	1
BIP3402	Rekabentuk Eksperimen dan Analisis/ <i>Experimental Design and Analysis</i>	3	2	1
BIP3302	Bioteknologi Bioindustri/ <i>Bioindustrial Biotechnology</i>	3	2	1
CHM3010	Kimia Fizik dan Tak Organik/ <i>Physical and Inorganic Chemistry</i>	4	3	1
SEC3101	Ekonomi Bioindustri/ <i>Bioindustrial Economics</i>	3	3	0
MTH3003	Statistik bagi Sains Gunaan/ <i>Statistics for Applied Sciences</i>	4	3	1
CSS3700	Sains Tanah/ <i>Soil Science</i>	3	2	1
CSS3702	Sumber Air dan Iklim/ <i>Water Resources and Climate</i>	3	2	1
CSS3701	Pengurusan Kesuburan Tanah dan Tanaman/ <i>Crop and Soil Fertility Management</i>	3	2	1
CIT4901	Latihan Industri/ <i>Industrial Training</i>	12	0	12

CFP4999	Projek Ilmiah Tahun Akhir/ <i>Final Year Academic Project</i>	6	0	6
CAG3001	Amalan Perladangan Tanaman Tahunan/ <i>Annual Crop Farming Practices</i>	1	0	1
CAG3002	Amalan Perladangan Tanaman Industri/ <i>Plantation Practices in Industrial Crops</i>	1	0	1
CES2241	Pengembangan Pertanian/ <i>Agricultural Extension</i>	3	2	1
CPP3600	Perlindungan Tumbuhan/ <i>Plant Protection</i>	3	2	1
MGM3180	Asas Keusahawanan/ <i>Basic Entrepreneurship</i>	3	2	1

3. Kursus Elektif / *Elective Course* (33 Jam Kredit/ *Credit Hours*)

Kursus Elektif Opsyen Pengeluaran Primier / *Option Elective courses – Premier Production*

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AHP4504	Sistem Penternakan Bersepadu/ <i>Integrated Livestock Systems</i>	3	2	1
CAT4100	Pertanian Presisi/ <i>Precision Agriculture</i>	3	2	1
CAT4102	Kultur Tisu Tumbuhan/ <i>Plant Tissue Culture</i>	3	2	1
CAT4106	Pengurusan Sisa Pertanian/ <i>Agricultural Waste Management</i>	3	2	1
CAG4101	Teknologi Biji Benih/ <i>Seed Technology</i>	3	2	1
CPP4600	Sains Racun Perosak/ <i>Pesticide Science</i>	3	2	1
AHP4401	Pemakanan Ternakan/ <i>Animal Nutrition</i>	3	2	1
CAG4000	Pemakanan Tanaman/ <i>Crop Nutrition</i>	3	2	1
CAG4001	Pembiakbakaan Tumbuhan/ <i>Plant Breeding</i>	3	2	1
CAG4002	Botani Tumbuhan/ <i>Plant Botany</i>	3	2	1
CAG4003	Ekonomi Botani/ <i>Economic Botany</i>	3	2	1
CPP4601	Pengurusan Perosak/ <i>Pest Management</i>	3	2	1
CPT4802	Teknologi Lepastuai/ <i>Postharvest Technology</i>	3	2	1
CSS4701	Pengurusan Tanah Lestari/ <i>Sustainable Land Management</i>	3	2	1
SAB4401	Pemasaran Produk Agro-Bio/ <i>Marketing of Agro-bio Product</i>	3	2	1
SFC3200	Kaedah Instrumentasi/ <i>Instrumental Methods</i>	3	1	2

i. Kursus Elektif Opsyen Pengurusan dan Utilisasi Sisa / *Option Elective Course – Management and Utilisation Wastes*

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AHP4401	Pemakanan Ternakan/ <i>Animal Nutrition</i>	3	2	1
AHP4504	Sistem Penternakan Bersepadu/ <i>Integrated Livestock Systems</i>	3	2	1
CAG4000	Pemakanan Tanaman/ <i>Crop Nutrition</i>	3	2	1
CAT4100	Pertanian Presisi/ <i>Precision Agriculture</i>	3	2	1
CAT4103	Mikrobiologi Gunaan/ <i>Applied Microbiology</i>	3	2	1
CAT4104	Mikrobiologi Makanan/ <i>Food Microbiology</i>	3	2	1
CAT4105	Teknologi Fermentasi/ <i>Fermentation Technology</i>	3	2	1
CAT4106	Pengurusan Sisa Pertanian/ <i>Agricultural Waste Management</i>	3	2	1
CAT4107	Rawatan Air dan Air Kumbahan/ <i>Water and Waste Water Treatment</i>	3	2	1
CAT4108	Pengurusan Sisa Perbandaran, Berbahaya dan Bioperubatan/ <i>Municipal, Hazardous and Biomedical Waste Management</i>	3	2	1
CPP4600	Sains Racun Perosak/ <i>Pesticide Science</i>	3	2	1
CPT4803	Pemprosesan Produk Semulajadi/ <i>Natural Product Processing</i>	3	2	1
CSS4700	Ekologi Pencemaran/ <i>Pollution Ecology</i>	3	2	1
CSS4701	Pengurusan Tanah Lestari/ <i>Sustainable Land Management</i>	3	2	1
SAB4401	Pemasaran Produk Agro-Bio/ <i>Marketing of Agro-bio Product</i>	3	2	1
SFC3200	Kaedah Instrumentasi/ <i>Instrumental Methods</i>	3	1	2

ii. Kursus Elektif Opsyen Pemprosesan Hiliran/ *Elective Courses- Option Down-stream Processing*

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AHP4504	Sistem Penternakan Bersepadu/ <i>Integrated Livestock Systems</i>	3	2	1

CAT4105	Teknologi Fermentasi/ <i>Fermentation Technology</i>	3	2	1
CAT4100	Pertanian Presisi/ <i>Precision Agriculture</i>	3	2	1
CAT4103	Mikrobiologi Gunaan/ <i>Applied Microbiology</i>	3	2	1
CAT4104	Mikrobiologi Makanan/ <i>Food Microbiology</i>	3	2	1
CAT4106	Pengurusan Sisa Pertanian/ <i>Agricultural Waste Management</i>	3	2	1
CPT4800	Kimia dan Pemprosesan Hasil Komoditi Tumbuhan/ <i>Chemistry and Processing of Plant Based Commodities</i>	3	2	1
CPT4801	Kimia dan Pemprosesan Hasil Komoditi Haiwan/ <i>Chemistry and Processing of Animal Based Commodities</i>	3	2	1
CPT4802	Teknologi Lepastuai/ <i>Postharvest Technology</i>	3	2	1
CPT4803	Pemprosesan Produk Semulajadi/ <i>Natural Product Processing</i>	3	2	1
CPT4804	Pengendalian dan Pengangkutan Produk Bioindustri/ <i>Handling and Transportation of Bioindustry Product</i>	3	2	1
CPT4805	Teknologi Pemprosesan Hiliran/ <i>Downstream Processing Technology</i>	3	2	1
CPT4806	Teknologi Pemprosesan Hasil Tanaman/ <i>Crop Produce Processing Technology</i>	3	2	1
CSS4701	Pengurusan Tanah Lestari/ <i>Sustainable Land Management</i>	3	2	1
SAB4401	Pemasaran Produk Agro-Bio/ <i>Marketing of Agro-bio Product</i>	3	2	1
SFC3200	Kaedah Instrumentasi/ <i>Instrumental Methods</i>	3	1	2

Nota/ Notes : Kr = Jam Kredit/ *Credit Hour*, K = Kredit/ *Credit*, A = Amali/ *Laboratory*, T = Tutorial

SKEMA PENGAJIAN/ STUDY SCHEME

TAHUN 1/ 1ST YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
PRT2008	Pertanian dan Manusia/ <i>Agriculture and Man</i>	2	2	0
SKP2101	Kenegaraan Malaysia	3	3	0
SSK3000	Teknologi Maklumat dan Penggunaannya/ <i>Information Technology and its Applications</i>	3	2	1
CAG3000	Diversiti Mikroorganisma dan Tumbuhan/ <i>Microorganism and Plant Diversity</i>	3	2	1
MTH3003	Statistik bagi Sains Gunaan/ <i>Statistics for Applied Sciences</i>	4	3	1
JUMLAH/ TOTAL		15	12	3

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2423	<i>Academic Interaction and Presentation</i>	3	2	1
KOM3403	Pengucapan Awam/ <i>Public Oration</i>	3	3	0
SKP2203	Tamadun Islam dan Tamadun Asia/ <i>Islamic Civilization and Asian Civilization</i>	2	2	0
SKP2204	Hubungan Etnik/ <i>Ethnic Relation</i>	2	2	0
BGY3201	Struktur dan fungsi tumbuhan/ <i>Plant Structure and Function</i>	3	2	1
CAG3001	Amalan Perladangan Tanaman Tahunan/ <i>Annual Crop Farming Practices</i>	1	0	1
CHM3010	Kimia Fizik dan Tak Organik/ <i>Physical and Inorganic Chemistry</i>	4	3	1
JUMLAH/ TOTAL		18	14	4

TAHUN 2 / 2 YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2424	<i>Academic Writing</i>	3	2	1
AHP3507	Pengeluaran dan Pengurusan Hasil Ternakan/ <i>Production and Management of Livestock Products</i>	3	2	1
CAG3003	Pengeluaran dan Pengurusan Tanaman/ <i>Crop Production and Management</i>	3	2	1
CAG3002	Amalan Perladangan Tanaman Industri/ <i>Plantation Practices in Industrial Crops</i>	1	0	1
CPP3600	Perlindungan Tumbuhan/ <i>Plant Protection</i>	3	2	1
CSS3700	Sains Tanah/ <i>Soil Science</i>	3	2	1
PRT3402	Biokimia Pertanian/ <i>Agricultural Biochemistry</i>	3	2	1
	Kokurikulum/ <i>Co-curriculum</i>	1	0	1
JUMLAH /TOTAL		20	12	8

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AFS2001	Program Buku Hijau/ <i>Green Book Programme</i>	2	0	2
BIP3301	Prinsip Pemprosesan Bioproduk/ <i>Principles in Bioproduct Processing</i>	3	2	1
CAG3004	Pembiakan Tumbuhan dan Pengurusan Semaian/ <i>Plant Propagation and Nursery Management</i>	3	2	1
CSS3701	Pengurusan Kesuburan Tanah dan Tanaman/ <i>Crop and Soil Fertility Management</i>	3	2	1
MGM3180	Asas Keusahawanan/ <i>Basic Entrepreneurship</i>	3	2	1
SEC3101	Ekonomi Bioindustri/ <i>Bioindustrial Economics</i>	3	3	0
	Kokurikulum/ <i>Co-curriculum</i>	1	0	1
JUMLAH/ TOTAL		18	11	7

TAHUN 3/ 3RD YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BIP3302	Bioteknologi Bioindustri/ <i>Bioindustrial Biotechnology</i>	3	2	1
BIP3402	Rekabentuk Eksperimen dan Analisis/ <i>Experimental Design and Analysis</i>	3	2	1
CES2241	Pengembangan Pertanian/ <i>Agricultural Extension</i>	3	2	1
CSS3702	Sumber Air dan Iklim/ <i>Water Resources and Climate</i>	3	2	1
	Elektif/ <i>Elective</i>	6	4	2
	JUMLAH /TOTAL	18	12	6

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
CIT4901	Latihan Industri/ <i>Industrial Training</i>	12	0	12
	JUMLAH /TOTAL	12	0	12

TAHUN 4 / 4 YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
CFP4999A	Projek Ilmiah Tahun Akhir/ <i>Final Year Academic Project</i>	3	0	3
	Elektif/ <i>Elective</i>	15	10	5
	JUMLAH /TOTAL	18	10	8

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
CFP4999B	Projek Ilmiah Tahun Akhir/ <i>Final Year Academic Project</i>	3	0	3
	Elektif/ <i>Elective</i>	12	8	4
JUMLAH /TOTAL		15	8	7

Nota/Notes : Pelajar diwajibkan memilih **2 kredit** daripada kursus ko-kurikulum yang ditawarkan oleh universiti/ *Students are required to select 2 credits from the co-curriculum courses offered by the university.*

STRUKTUR KURIKULUM/ CURRICULUM STRUCTURE

Nama Program : Diploma Pertanian/ *Diploma in Agriculture*
Jumlah Kredit Bergraduat : 101 Jam Kredit / *Credit Hours*
Tempoh Pengajian : 6 Semester/ *Semesters (3 Tahun /Years)*

1. Kursus Universiti/ *University Courses* (17 Kredit/ *Credits*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2409	<i>English for Academic Purposes</i>	3	2	1
BBI2420	<i>Oral Interaction Skills</i>	3	2	1
PRT2008	Pertanian dan Manusia/ <i>Agriculture and Man</i>	2	2	0
SSK1000	Pengenalan Kepada Teknologi Maklumat/ <i>Introduction to Information Technology</i>	2	1	1
SKP2101	Kenegaraan Malaysia/ <i>Malaysian Nationhood</i>	3	3	0
SKP2203	Tamadun Islam dan Tamadun Asia/ <i>Islamic Civilization and Asian Civilization</i>	2	2	0
SKP2204	Hubungan Etnik/ <i>Ethnic Relation</i>	2	2	0

2. Kursus Teras/ *Core Courses* (56 Kredit / *Credits*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
CAG1010	Sains Tanaman Asas/ <i>Basic Crop Science</i>	3	2	1
CAG2011	Pengeluaran Tanaman Industri/ <i>Industrial Crop Production</i>	3	2	1
CAG2012	Pengeluaran Tanaman Makanan/ <i>Food Crop Production</i>	3	2	1
CHS2501	Tanaman Hiasan dan Hortikultur Landskap/ <i>Ornamental Crops and Landscape Horticulture</i>	3	2	1
CPP1601	Pengenalan kepada Perosak Tanaman/ <i>Introduction to Crop Pests</i>	3	2	1
CPP2602	Pengenalan Perosak Tanaman/ <i>Crop Pest Management Practices</i>	3	2	1
CAG1001	Amalan Perladangan Tanaman Tahunan/ <i>Annual Crop Farming Practices</i>	1	0	1
CAG1002	Amalan Perladangan Tanaman Saka/ <i>Perennial Crop Farming Practices</i>	1	0	1
CAG1003	Amalan Perladangan Kelapa Sawit/ <i>Oil Palm Plantation Practices</i>	1	0	1
CET2304	Keusahawanan Agroteknologi/ <i>Agrotechnology Entrepreneurship</i>	3	1	2
CET2305	Projek Keusahawantani/ <i>Agro-Entrepreneurship Project</i>	2	0	2
CIT2901	Latihan Industri/ <i>Industrial Training</i>	12	0	12
FMA2006	Teknologi Akuakultur/ <i>Aquaculture Technology</i>	3	2	1
AHP2307	Pengeluaran dan Pemprosesan Hasil Ternakan/ <i>Production and Processing of Livestock Products</i>	3	2	1
CSS1701	Sains Tanah Pengenalan/ <i>Introductory Soil Science</i>	3	2	1
CSS2702	Pengurusan Tanah/ <i>Land Management</i>	2	1	1
CES2241	Pengembangan Pertanian/ <i>Agricultural Extension</i>	3	2	1
CFM2402	Keselamatan dalam Pengurusan Operasi Perladangan/ <i>Safety in Plantation Operations Management</i>	2	1	1
AFS2001	Program Buku Hijau / <i>Green Book Programme</i>	2	0	2

3. Kursus Sokongan / *Support Courses* (28 Kredit / *Credits*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
SFB2101	Biologi Pertanian/ <i>Agricultural Biology</i>	3	2	1
SFC2200	Kimia Pengenalan/ <i>Introductory Chemistry</i>	3	2	1
SFC2202	Kimia Pertanian/ <i>Agricultural Chemistry</i>	3	2	1
SAB1101	Pengenalan Kepada Ekonomi Pertanian/ <i>Introduction to Agricultural Economics</i>	2	2	0
SAC1201	Prinsip Perakaunan/ <i>Accounting Principle</i>	3	2	1
CFM2401	Pengurusan Ladang/ <i>Farm Management</i>	3	2	1
SFM1002	Matematik II/ <i>Mathematics II</i>	3	3	0
SFP1001	Fizik Pengenalan/ <i>Introductory Physics</i>	3	2	1
CES2201	Prinsip Komunikasi Dalam Pertanian/ <i>Communication Principles in Agriculture</i>	2	1	1
EAB2602	Jentera Pertanian, Penjenteraan dan Pengautomatan/ <i>Agricultural Machinery, Mechanization and Automation</i>	3	2	1

Nota/ *Notes* : Kr = Jam Kredit/ *Credit Hour*, K = Kredit/ *Credit*, A = Amali/ *Laboratory*, T = Tutorial

SKEMA PENGAJIAN/ *STUDY SCHEME*

TAHUN 1/ *1ST YEAR*

SEMESTER 1/ *1 SEMESTER*

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2409	<i>English for Academic Purposes</i>	3	2	1
SFC2200	Kimia Pengenalan/ <i>Introductory Chemistry</i>	3	2	1
SFM1002	Matematik II/ <i>Mathematics II</i>	3	3	0
SKP2101	Kenegaraan Malaysia/ <i>Malaysian Nationhood</i>	3	3	0
SKP2203	Tamadun Islam dan Tamadun Asia/ <i>Islamic Civilization and Asian Civilization</i>	2	2	0

PRT2008	Pertanian dan Manusia/ <i>Agriculture and Man</i>	2	2	0
SSK1000	Pengenalan kepada Teknologi Maklumat/ <i>Introduction to Information Technology</i>	2	1	1
JUMLAH /TOTAL		18	15	3

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
CAG1010	Sains Tanaman Asas/ <i>Basic Crop Science</i>	3	2	1
CAG1001	Amalan Perladangan Tanaman Tahunan <i>Annual Crop Farming Practices</i>	1	0	1
BBI2420	<i>Oral Interaction Skills</i>	3	2	1
SFP1001	Fizik Pengenalan/ <i>Introductory Physics</i>	3	2	1
SKP2204	Hubungan Etnik/ <i>Ethnic Relation</i>	2	2	0
SFB2101	Biologi Pertanian/ <i>Agricultural Biology</i>	3	2	1
CES2201	Prinsip Komunikasi dalam Pertanian/ <i>Communication Principles in Agriculture</i>	2	1	1
	Ko Kurikulum / <i>Co-Curriculum</i>	1	0	1
JUMLAH/TOTAL		18	11	7

TAHUN 2 / 2 YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
SFC2202	Kimia Pertanian/ <i>Agricultural Chemistry</i>	3	2	1
CSS1701	Sains Tanah Pengenalan/ <i>Introductory Soil Science</i>	3	2	1
CAG2011	Pengeluaran Tanaman Industri/ <i>Industrial Crop Production</i>	3	2	1
CPP1601	Pengenalan kepada Perosak Tanaman/ <i>Introduction to Crop Pests</i>	3	2	1
CAG1002	Amalan Perladangan Tanaman Saka/ <i>Perennial Crop Farming Practices</i>	1	0	1

AHP2507	Pengeluaran dan Pemprosesan Hasil Ternakan/ <i>Production and Processing of Livestock Products</i>	3	2	1
SAB1101	Pengenalan kepada Ekonomi Pertanian/ <i>Introduction to Agricultural Economics</i>	2	2	0
	Ko kurikulum / Co-Curriculum	1	0	1
JUMLAH /TOTAL		19	12	7

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
SAC1201	Prinsip Perakaunan/ <i>Accounting Principle</i>	3	2	1
CPP2602	Amalan Pengurusan Perosak Tanaman/ <i>Crop Pest Management Practices</i>	3	2	1
CAG2012	Pengeluaran Tanaman Makanan/ <i>Food Crop Production</i>	3	2	1
CHS2501	Tanaman Hiasan dan Landskap Hortikultur/ <i>Ornamental Crops and Landscape Horticulture</i>	3	2	1
CAG1003	Amalan Perladangan Kelapa Sawit/ <i>Oil Palm Plantation Practices</i>	1	0	1
CSS2702	Pengurusan Tanah/ <i>Land Management</i>	2	1	1
FMA2006	Teknologi Akuakultur/ <i>Aquaculture Technology</i>	3	2	1
AFS2001	Program Buku Hijau/ <i>Green Book Programme</i>	2	0	2
JUMLAH /TOTAL		20	11	9

TAHUN 3/ 3YEAR YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
CIT2901	Latihan Industri/ <i>Industrial Training</i>	12	0	12
JUMLAH /TOTAL		12	0	12

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
CET2305	Projek Keusahawantani/ <i>Agro-Entrepreneurship Project</i>	2	0	2
CFM2402	Keselamatan dalam Pengurusan Operasi Perladangan/ <i>Safety in Plantation Operations Management</i>	2	1	1
CFM2201	Pengurusan Ladang/ <i>Farm Management</i>	3	2	1
CET2304	Keusahawanan Agroteknologi/ <i>Agrotechnology Entrepreneurship</i>	3	2	1
CES2241	Pengembangan Pertanian/ <i>Agricultural Extension</i>	3	2	1
EAB2602	Jentera Pertanian, Penjenteraan dan Pengautomatan/ <i>Agricultural Machinery, Mechanization and Automation</i>	3	2	1
JUMLAH / TOTAL		16	9	7

Nota/Notes : Pelajar diwajibkan memilih **2 kredit** daripada **kursus ko-kurikulum** yang ditawarkan oleh universiti/ *Students are required to select 2 credits from the co-curriculum courses offered by the university.*

STRUKTUR KURIKULUM/ CURRICULUM STRUCTURE

Nama Program	: Diploma Pengurusan Perladangan Makanan/ <i>Diploma of Food Estate Management</i>
Jumlah Kredit Bergraduat	: 102 Jam Kredit / <i>Credit Hours</i>
Tempoh Pengajian	: 6 Semester/ <i>Semesters</i> (3 Tahun/ <i>Years</i>)

1. Kursus Universiti/ *University Courses* (17 Kredit/ *Credits*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2409	<i>English for Academic Purposes</i>	3	2	1
BBI2420	<i>Oral interaction skills</i>	3	2	1

PRT2008	Pertanian dan Manusia/ <i>Agriculture and Man</i>	2	2	0
SSK1000	Pengenalan kepada Teknologi Maklumat/ <i>Introduction to Information Technology</i>	2	1	1
SKP2101	Kenegaraan Malaysia/ <i>Malaysian Nationhood</i>	3	3	0
SKP2203	Tamadun Islam dan Tamadun Asia/ <i>Islamic Civilization and Asian Civilization</i>	2	2	0
SKP2204	Hubungan Etnik/ <i>Ethnic Relation</i>	2	2	0

2. Kursus Teras/ *Core Courses* (59 Jam Kredit / *Credit Hours*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
CAG1011	Prinsip Pengurusan Tanaman/ <i>Principles of Crop Management</i>	3	3	0
CAG1001	Amalan Perladangan Tanaman Tahunan/ <i>Annual Crop Farming Practices</i>	1	0	1
CAG1002	Amalan Perladangan Tanaman Saka/ <i>Perennial Crop Farming Practices</i>	1	0	1
CAG1004	Amalan Perladangan Tanaman Industri/ <i>Plantation Practices in Industrial Crops</i>	1	0	1
AFS2001	Program Buku Hijau/ <i>Green Book Programme</i>	2	0	2
CAG2011	Pengeluaran Tanaman Industri/ <i>Industrial Crop Production</i>	3	2	1
CAG2013	Tanaman Bijirin dan Bijian/ <i>Grain and Cereal Crops</i>	3	2	1
CHS2502	Pengeluaran Tanaman Hortikultur/ <i>Horticultural Crop Production</i>	3	2	1
CPT2802	Pengendalian dan Pemprosesan Produk Pertanian/ <i>Handling and Processing of Agricultural Products</i>	3	2	1
CET2305	Projek Keusahawantani/ <i>Agro-Entrepreneurship Project</i>	2	0	2
CET2304	Keusahawan Agroteknologi/ <i>Agrotechnology Entrepreneurship</i>	3	1	2
CFM2405	Sistem Perladangan Bersepadu/ <i>Integrated Farming System</i>	3	2	1
CIT2901	Latihan Industri/ <i>Industrial Training</i>	12	0	12
FMA2006	Teknologi Akuakultur/ <i>Aquaculture Technology</i>	3	2	1
AHP2502	Produksi Poltri/ <i>Poultry Production</i>	4	2	2

AHP2506	Produksi Ruminan/ <i>Ruminant Production</i>	4	3	1
AHP2508	Pengurusan Hasil Ternakan/ <i>Livestock Product Management</i>	3	2	1
CES2241	Pengembangan Pertanian/ <i>Agricultural Extension</i>	3	2	1
CFM2402	Keselamatan dalam Pengurusan Operasi Perladangan/ <i>Safety in Plantation Operations Management</i>	2	1	1

3. Kursus Sokongan/ *Support Course* (26 Kredit/ *Credits*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
SAC1201	Prinsip Perakaunan/ <i>Accounting Principle</i>	3	2	1
SFB2101	Biologi Pertanian/ <i>Agricultural Biology</i>	3	2	1
SFC2202	Kimia Pertanian/ <i>Agricultural Chemistry</i>	3	2	1
SFC1100	Kimia Fizik/ <i>Physical Chemistry</i>	3	2	1
CFM2201	Pengurusan Ladang/ <i>Farm Management</i>	3	2	1
EAB2602	Jentera Pertanian, Penjenteraan dan Pengautomatan/ <i>Agricultural Machinery, Mechanization and Automation</i>	3	2	1
SAB2403	Pemasaran Perniagaantani/ <i>Agribusiness Marketing</i>	3	2	1
SFM1002	Matematik II/ <i>Mathematics II</i>	3	2	1
CES2201	Prinsip Komunikasi dalam Pertanian/ <i>Communication Principles in Agriculture</i>	2	1	1

Nota/ *Notes* : Kr = Jam Kredit/ *Credit Hour*, K = Kredit/ *Credit*, A = Amali/ *Laboratory*, T = Tutorial

SKEMA PENGAJIAN/ STUDY SCHEME

TAHUN 1/ 1ST YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI 2409	<i>English for Academic Purposes</i>	3	2	1
CAG1011	<i>Prinsip Pengurusan Tanaman/ Principles of Crop Management</i>	3	3	0
SFC1100	<i>Kimia Fizik/ Physical Chemistry</i>	3	2	1
SKP2203	<i>Tamadun Islam dan Tamadun Asia/ Islamic Civilization and Asian Civilization</i>	2	2	0
SFB2101	<i>Biologi Pertanian/ Agricultural Biology</i>	3	2	1
SKP2101	<i>Kenegaraan Malaysia/ Malaysian Nationhood</i>	3	3	0
	<i>Ko-kurikulum / Co-Curriculum</i>	1	0	1
	JUMLAH /TOTAL	18	14	4

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2420	<i>Oral Interaction Skills</i>	3	2	1
CAG1001	<i>Amalan Perladangan Tanaman Tahunan/ Annual Crop Farming Practices</i>	1	0	1
CFM2405	<i>Sistem Perladangan Bersepadu/ Integrated Farming System</i>	3	2	1
PRT2008	<i>Pertanian dan Manusia/ Agriculture and Man</i>	2	2	0
SFC2202	<i>Kimia Pertanian/ Agricultural Chemistry</i>	3	2	1
SFM1002	<i>Matematik II/ Mathematics II</i>	3	3	0
SKP2204	<i>Hubungan Etnik/ Ethnic Relation</i>	2	2	0
	<i>Ko-kurikulum / Co-Curriculum</i>	1	0	1
		18	13	5

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AHP2502	Produksi Poltri/ <i>Poultry Production</i>	4	2	2
CAG1002	Amalan Perladangan Tanaman Saka/ <i>Perennial Crop Farming Practices</i>	1	0	1
CAG2011	Pengeluaran Tanaman Industri/ <i>Industrial Crop Production</i>	3	2	1
CES2201	Prinsip Komunikasi dalam Pertanian/ <i>Communication Principles in Agriculture</i>	2	1	1
CFM2201	Pengurusan Ladang/ <i>Farm Management</i>	3	2	1
SAC1201	Prinsip Perakaunan/ <i>Accounting Principle</i>	3	2	1
SSK1000	Pengenalan kepada Teknologi Maklumat/ <i>Introduction to Information Technology</i>	2	1	1
JUMLAH / TOTAL		18	10	8

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
CAG1004	Amalan Perladangan Tanaman Industri/ <i>Plantation Practices in Industrial Crops</i>	1	0	1
CAG2013	Tanaman Bijiran dan Bijian/ <i>Grain and Cereal Crops</i>	3	2	1
CET2304	Keusahawanan Agroteknologi/ <i>Agrotechnology Entrepreneurship</i>	3	1	2
CFM2402	Keselamatan dalam Pengurusan Operasi Perladangan/ <i>Safety in Plantation Operations Management</i>	2	1	1
CHS2502	Pengeluaran Tanaman Hortikultur/ <i>Horticultural Crop Production</i>	3	2	1
CPT2802	Pengendalian dan Pemprosesan Produk Pertanian/ <i>Handling and Processing of Agricultural Products</i>	3	2	1

EAB2602	Jentera Pertanian, Penjenteraan dan Pengautomatan/ <i>Agricultural Machinery, Mechanization and Automation</i>	3	2	1
AFS2001	Program Buku Hijau/ <i>Green Book Programme</i>	2	0	2
JUMLAH /TOTAL		20	10	10

TAHUN 3/ 3 YEAR YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AHP2506	Produksi Ruminan/ <i>Ruminant Production</i>	4	3	1
AHP2508	Pengurusan Hasil Ternakan/ <i>Livestock Product Management</i>	3	2	1
CES2241	Pengembangan Pertanian/ <i>Agricultural Extension</i>	3	2	1
CET2305	Projek Keusahawans tani/ <i>Agro-Entrepreneurship Project</i>	2	0	2
FMA2006	Teknologi Akuakultur/ <i>Aquaculture Technology</i>	3	2	1
SAB2403	Pemasaran Perniagaantani/ <i>Agribusiness Marketing</i>	3	2	1
JUMLAH /TOTAL		18	11	7

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
CIT2901	Latihan Industri/ <i>Industrial Training</i>	12	0	12
JUMLAH /TOTAL		12	0	12

Nota/Notes : Pelajar diwajibkan memilih **2 kredit** daripada **kursus ko-kurikulum** yang ditawarkan oleh universiti/ *Students are required to select 2 credits from the co-curriculum courses offered by the university.*

STRUKTUR KURIKULUM/ CURRICULUM STRUCTURE

Nama Program : Diploma Perhutanan/ *Diploma in Forestry*
Jumlah Kredit Bergraduat : 101 Jam Kredit / *Credit Hours*
Tempoh Pengajian : 6 Semester/ *Semesters (3 Tahun/ Years)*

1. Kursus Universiti/ *University Courses* (15 Kredit/ *Credits*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2409	<i>English for Academic Purposes</i>	3	2	1
BBI2420	<i>Oral Interaction Skills</i>	3	2	1
PRT2008	<i>Pertanian dan Manusia/ Agriculture and Man</i>	2	2	0
SKP2101	<i>Kenegaraan Malaysia/ Malaysian Nationhood</i>	3	3	0
SKP2203	<i>Tamadun Islam dan Tamadun Asia/ Islamic Civilization and Asian Civilization</i>	2	2	0
SKP2204	<i>Hubungan Etnik/ Ethnic Relation</i>	2	2	0

2. Kursus Teras/ *Core Courses* (60 Kredit / *Credits*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
FDE2101	<i>Survei Hutan/ Forest Survey</i>	3	2	1
FDE2102	<i>Operasi Perhutanan / Forestry Operations</i>	3	2	1
FDI2201	<i>Sifat Kayu/ Wood Properties</i>	3	2	1
FDI2202	<i>Pemprosesan Kayu/ Wood Processing</i>	4	2	2
FDM2304	<i>Ekonomi Hutan / Forest Economics</i>	2	1	1
FDM2305	<i>Pengurusan Hutan Asli/ Natural Forest Management</i>	3	2	1
FDM2306	<i>Dasar dan Undang-undang Hutan/ Forest Policy and Law</i>	2	2	0
FDM2307	<i>Pengurusan dan Pemuliharaan Hidupan Liar/ Wildlife Management and Conservation</i>	3	2	1
FDM2308	<i>Perlindungan Hutan/ Forest Protection</i>	3	2	1

FDP2401	Botani Bukan Dipterokarp/ <i>Botany of Non-Dipterocarps</i>	3	2	1
FDP2402	Botani Dipterokarp/ <i>Botany of Dipterocarps</i>	2	1	1
FDP2403	Ekologi Hutan/ <i>Forest Ecology</i>	3	2	1
FDP2404	Sains Tanah Hutan/ <i>Forest Soil Science</i>	2	1	1
FDP2405	Silvikultur Hutan/ <i>Forest Silviculture</i>	3	2	1
FDS2901	Latihan Industri/ <i>Industrial Training</i>	12	0	12
FDM2309	Pengurusan Ladang Hutan/ <i>Forest Plantation Management</i>	3	2	1
FDR2502	Penyampaian Khidmat Rekreasi/ <i>Recreation Services Delivery</i>	2	1	1
FDR2503	Perancangan dan Pembangunan Kawasan Rekreasi Luar/ <i>Planning and Development of Outdoor Recreation Area</i>	2	1	1
AFS2001	Program Buku Hijau/ <i>Green Book Programme</i>	2	0	2

3. Kursus Sokongan / *Support Course* (26 Kredit/ *Credits*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
SAC1201	Prinsip Perakaunan/ <i>Accounting Principle</i>	3	2	1
SFB1001	Prinsip Biologi I/ <i>Principles of Biology I</i>	3	2	1
CHM2000	Kimia Am/ <i>General Chemistry</i>	4	3	1
SEC1100	Ekonomi Asas/ <i>Basic Economics</i>	2	2	0
SFM1002	Matematik II/ <i>Mathematics II</i>	3	3	0
FDM2301	Kaedah Komputer dalam Perhutanan/ <i>Computing Methods in Forestry</i>	2	1	1
FDM2302	Sukatatan Hutan/ <i>Forest Mensuration</i>	3	2	1
FDM2303	Kaedah Kuantitatif dalam Perhutanan/ <i>Quantitative Methods in Forestry</i>	3	2	1
FDR2501	Komunikasi Interpretif/ <i>Interpretive Communication</i>	2	1	1
FDS2900	Kem Perhutanan/ <i>Forestry Camp</i>	1	0	1

Nota/ *Notes* : Kr = Jam Kredit/ *Credit Hour*, K = Kredit/ *Credit*, A = Amali/ *Laboratory*, T = Tutorial

SKEMA PENGAJIAN/ STUDY SCHEME

TAHUN 1/ 1ST YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
SFB1001	Prinsip Biologi I/ <i>Principles of Biology I</i>	3	2	1
BBI2409	<i>English for Academic Purpose</i>	3	2	1
SFM1002	Matematik II/ <i>Mathematics II</i>	3	3	0
PRT2008	Pertanian dan Manusia/ <i>Agriculture and Man</i>	2	2	0
SKP2101	Kenegaraan Malaysia/ <i>Malaysian Nationhood</i>	3	3	0
CHM2000	Kimia Am/ <i>General Chemistry</i>	4	3	1
JUMLAH /TOTAL		18	15	3

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2420	<i>Oran Interaction Skill</i>	3	2	1
SEC1100	Ekonomi Asas/ <i>Basic Economics</i>	2	2	0
FDP2401	Botani Bukan Dipterokarp/ <i>Botany of Non-Dipterocarps</i>	3	2	1
FDM2301	Kaedah Komputer dalam Perhutanan/ <i>Computing Methods in Forestry</i>	2	1	1
SKP2203	Tamadun Islam dan Tamadun Asia/ <i>Islamic Civilization and Asian Civilization</i>	2	2	0
FDM2302	Sukatatan Hutan/ <i>Forest Mensuration</i>	3	2	1
SKP2204	Hubungan Etnik/ <i>Ethnic Relation</i>	2	2	0
FDS2900	Kem Perhutanan/ <i>Forestry Camp</i>	1	0	1
	Ko kurikulum / <i>Co-Curriculum</i>	1	0	1
JUMLAH /TOTAL		19	13	6

TAHUN 2 / 2 YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
SAC1201	Prinsip Perakaunan/ <i>Accounting Principle</i>	3	2	1
FDP2402	Botani Dipterokarp/ <i>Botany of Dipterocarps</i>	2	1	1
FDI2201	Sifat Kayu/ <i>Wood Properties</i>	3	2	1
FDE2101	Survei Hutan/ <i>Forest Survey</i>	3	2	1
FDP2303	Ekologi Hutan/ <i>Forest Ecology</i>	3	2	1
FDM2303	Kaedah Kuantitatif dalam Perhutanan/ <i>Quantitative Methods in Forestry</i>	3	2	1
	Ko kurikulum / <i>Co-Curriculum</i>	1	0	1
	JUMLAH /TOTAL	18	11	7

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
FDP2404	Sains Tanah Hutan/ <i>Forest Soil Science</i>	2	1	1
FDP2405	Sivilkultur Hutan/ <i>Forest Silviculture</i>	3	2	1
FDE2102	Operasi Perhutanan / <i>Forestry Operations</i>	3	2	1
FDM2305	Pengurusan Hutan Asli/ <i>Natural Forest Management</i>	3	2	1
FDM2304	Ekonomi Hutan / <i>Forest Economics</i>	2	1	1
FDR2501	Komunikasi Interpretif/ <i>Interpretive Communication</i>	2	1	1
FDR2502	Penyampaian Khidmat Rekreasi Luar/ <i>Recreation Services Delivery</i>	2	1	1
AFS2001	Program Buku Hijau/ <i>Green Book Programme</i>	2	0	2
	JUMLAH /TOTAL	19	10	9

TAHUN 3/ 3 YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
FDI2202	Pemrosesan Kayu/ <i>Wood Processing</i>	4	2	2
FDM2306	Dasar dan Undang-Undang Hutan/ <i>Forest Policy and Law</i>	2	2	0
FDM2307	Pengurusan dan Pemuliharaan Hidupan Liar/ <i>Wildlife Management and Conservation</i>	3	2	1
FDM2308	Perlindungan Hutan/ <i>Forest Protection</i>	3	2	1
FDR2503	Perancangan dan Pembangunan Kawasan Rekreasi Luar/ <i>Planning and Development of Outdoor Recreation Area</i>	2	1	1
FDM2309	Pengurusan Ladang Hutan/ <i>Forest Plantation Management</i>	3	2	1
JUMLAH /TOTAL		17	11	6

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
FDS2901	Latihan Industri/ <i>Industrial Training</i>	12	0	12
JUMLAH /TOTAL		12	0	12

Nota/Notes :Pelajar diwajibkan memilih **2 kredit** daripada **kursus ko-kurikulum** yang ditawarkan oleh universiti/ *Students are required to select 2 credits from the co-curriculum courses offered by the university.*

STRUKTUR KURIKULUM/ CURRICULUM STRUCTURE

Nama Program : Diploma Perikanan/ *Diploma in Fishery*
Jumlah Kredit Bergraduat : 101 Jam Kredit / *Credit Hours*
Tempoh Pengajian : 6 Semester/ *Semesters (3 Tahun / Years)*

1. Kursus Universiti/ *University Courses (17 Kredit/ credits)*

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2409	<i>English for Academic Purposes</i>	3	2	1
BBI2420	<i>Oral Interaction Skills</i>	3	2	1
PRT2008	Pertanian dan Manusia/ <i>Agriculture and Man</i>	2	2	0
SKP2101	Kenegaraan Malaysia/ <i>Malaysian Nationhood</i>	3	3	0
SKP2203	Tamadun Islam dan Tamadun Asia/ <i>Islamic Civilization and Asian Civilization</i>	2	2	0
SKP2204	Hubungan Etnik/ <i>Ethnic Relation</i>	2	2	0
SSK1000	Pengenalan kepada Teknologi Maklumat/ <i>Introduction to Information Technology</i>	2	1	1

2. Kursus Teras/ *Core Courses (58 Kredit / credits)*

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
FMA1001	Penyakit Ikan/ <i>Fish Diseases</i>	3	2	1
FMA2001	Prinsip Akuakultur/ <i>Principles of Aquaculture</i>	3	2	1
FMA2002	Teknik Penetasan dan Semaian/ <i>Hatchery and Nursery Techniques</i>	3	2	1
FMA2003	Pemakanan Ikan/ <i>Fish Nutrition</i>	3	2	1
FMA2004	Pengurusan Kualiti Air dan Tanah/ <i>Water and Soil Quality Management</i>	3	2	1
FMB1110	Biologi Ikan/ <i>Fish Biology</i>	3	2	1
FMB1111	Biologi Invertebrat Akuatik/ <i>Biology of Aquatic invertebrates</i>	3	2	1
FMB2110	Ekologi Akuatik/ <i>Aquatic Ecology</i>	2	1	1

FMB2111	Mikrobiologi Akuatik/ <i>Aquatic Microbiology</i>	2	1	1
FMM2312	Limnologi dan Oseanografi/ <i>Limnology and Oceanography</i>	3	2	1
FMS2000	Renang dan Keselamatan Air/ <i>Swimming and Water Safety</i>	1	0	1
FMS2001	Ladang Kongsil/ <i>Share Farm</i>	4	0	4
FMS2803	Pengurusan dan Undang-undang Perikanan/ <i>Fisheries Management and Legislation</i>	2	2	0
FMT1210	Teknologi Penangkapan Ikan/ <i>Fishing Technology</i>	3	2	1
FMT2210	Ilmu Perkapalan dan Pelayaran/ <i>Seamanship and Navigation</i>	3	2	1
FMT2211	Teknologi Pasca Tuai dan Pemprosesan Produk Perikanan/ <i>Post-harvest Technology and Processing Fisheries Products</i>	3	2	1
FMS2901	Latihan Industri/ <i>Industrial Training</i>	12	0	12
AFS2001	Program Buku Hijau/ <i>Green Book Programme</i>	2	0	2

3. Kursus Sokongan / *Support Courses* (26 Kredit / *Credits*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
SFB1002	Prinsip Biologi II/ <i>Principle of Biology II</i>	3	2	1
CES2201	Prinsip Komunikasi dalam Pertanian/ <i>Communication Principles in Agriculture</i>	2	1	1
CES2241	Pengembangan Pertanian/ <i>Agricultural Extension</i>	3	2	1
CFM2201	Pengurusan Ladang/ <i>Farm Management</i>	3	2	1
CHM2000	Kimia Am/ <i>General Chemistry</i>	4	3	1
SFM1002	Matematik II/ <i>Mathematics II</i>	3	3	0
SFP1001	Fizik Pengenalan/ <i>Introductory Physics</i>	3	2	1
SAC1201	Prinsip Perakaunan/ <i>Accounting Principle</i>	3	2	1
SEC1100	Ekonomi Asas/ <i>Basic Economics</i>	2	2	0

Nota/ *Notes* : Kr = Jam Kredit/ *Credit Hour*, K = Kredit/ *Credit*, A = Amali/ *Laboratory*, T = Tutorial

SKEMA PENGAJIAN/ STUDY SCHEME

TAHUN 1/ 1ST YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2409	<i>English for Academic Purposes</i>	3	2	1
SFB1002	<i>Prinsip Biologi II/ Principle of Biology II</i>	3	2	1
FMS2000	<i>Renang dan Keselamatan Air/ Swimming and Water Safety</i>	1	0	1
SFM1002	<i>Matematik II/ Mathematics II</i>	3	3	0
PRT2008	<i>Pertanian dan Manusia/ Agriculture and Man</i>	2	2	0
SKP2101	<i>Kenegaraan Malaysia/ Malaysian Nationhood</i>	3	3	0
SSK1000	<i>Pengenalan kepada Teknologi Maklumat/ Introduction to Information Technology</i>	2	1	1
	<i>Ko kurikulum / Co-Curriculum</i>	1	0	1
JUMLAH /TOTAL		18	13	5

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2420	<i>Oral Interaction Skills</i>	3	2	1
CHM2000	<i>Kimia Am/ General Chemistry</i>	4	3	1
FMB1110	<i>Biologi Ikan/ Fish Biology</i>	3	2	1
SFP1001	<i>Fizik Pengenalan/ Introductory Physics</i>	3	2	1
SKP2203	<i>Tamadun Islam dan Tamadun Asia/ Islamic Civilization and Asian Civilization</i>	2	2	0
SKP2204	<i>Hubungan Etnik/ Ethnic Relation</i>	2	2	0
	<i>Ko kurikulum / Co-Curriculum</i>	1	0	1
JUMLAH /TOTAL		18	13	5

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
CFM2201	Pengurusan Ladang/ <i>Farm Management</i>	3	2	1
FMA1001	Penyakit Ikan/ <i>Fish Diseases</i>	3	2	1
FMA2001	Prinsip Akuakultur/ <i>Principles of Aquaculture</i>	3	2	1
FMA2003	Pemakanan Ikan/ <i>Fish Nutrition</i>	3	2	1
FMA2004	Pengurusan Kualiti Air dan Tanah/ <i>Water and Soil Quality Management</i>	3	2	1
FMS2001A	Ladang Kongsi/ <i>Share Farm</i>	2	0	2
SEC1100	Ekonomi Asas/ <i>Basic Economics</i>	2	2	0
JUMLAH /TOTAL		19	12	7

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
CES2201	Prinsip Komunikasi dalam Pertanian/ <i>Communication Principles in Agriculture</i>	2	1	1
FMA2002	Teknik Penetasan dan Semaian/ <i>Hatchery and Nursery Techniques</i>	3	2	1
FMB1111	Biologi Invertebrat Akuatik/ <i>Biology of Aquatic invertebrates</i>	3	2	1
FMB2110	Ekologi Akuatik/ <i>Aquatic Ecology</i>	2	1	1
FMS2001B	Ladang Kongsi/ <i>Share Farm</i>	2	0	2
FMT1210	Teknologi Penangkapan Ikan/ <i>Fishing Technology</i>	3	2	1
SAC1201	Prinsip Perakaunan/ <i>Accounting Principle</i>	3	2	1
AFS2001	Program Buku Hijau/ <i>Green Book Programme</i>	2	0	2
JUMLAH /TOTAL		20	10	10

TAHUN 3/ 3RD YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
CES2241	Pengembangan Pertanian/ <i>Agricultural Extension</i>	3	2	1
FMB2111	Mikrobiologi Akuatik/ <i>Aquatic Microbiology</i>	2	1	1
FMM2312	Limnologi dan Oseanografi/ <i>Limnology and Oceanography</i>	3	2	1
FMS2803	Pengurusan dan Undang-undang Perikanan/ <i>Fisheries Management and Legislation</i>	2	2	0
FMT2210	Ilmu Perkapalan dan Pelayaran/ <i>Seamanship and Navigation</i>	3	2	1
FMT2211	Teknologi Pasca Tuai dan Pemprosesan Produk Perikanan/ <i>Post-harvest Technology and Processing Fisheries Products</i>	3	2	1
JUMLAH /TOTAL		16	11	5

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
FMS2901	Latihan Industri/ <i>Industrial Training</i>	12	0	12
JUMLAH /TOTAL		12	0	12

Nota/Notes : Pelajar diwajibkan memilih **2 kredit** daripada **kursus ko-kurikulum** yang ditawarkan oleh universiti/ *Students are required to select 2 credits from the co-curriculum courses offered by the university.*

STRUKTUR KURIKULUM/ CURRICULUM STRUCTURE

Nama Program	:	Diploma Kesihatan Haiwan Dan Peternakan/ <i>Diploma in Animal Health and Production</i>
Jumlah Kredit Bergraduat	:	110 Jam Kredit / <i>Credit Hours</i>
Tempoh Pengajian	:	6 Semester/ <i>Semesters</i> (3 Tahun/<i>Years</i>)

1. Kursus Universiti/ *University Courses* (17 Kredit/ *Credits*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2409	<i>English for Academic Purposes</i>	3	2	1
BBI2420	<i>Oral Interaction Skills</i>	3	2	1
PRT2008	<i>Pertanian dan Manusia/ Agriculture and Man</i>	2	2	0
SSK1000	<i>Pengenalan kepada Teknologi Maklumat/ Introduction to Information Technology</i>	2	1	1
SKP2101	<i>Kenegaraan Malaysia/ Malaysian Nationhood</i>	3	3	0
SKP2203	<i>Tamadun Islam dan Tamadun Asia/ Islamic Civilization and Asian Civilization</i>	2	2	0
SKP2204	<i>Hubungan Etnik/ Ethnic Relation</i>	2	2	0

2. Kod Kursus/ *Core Courses* (64 Kredit / *Credits*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
FMA2006	<i>Teknologi Akuakultur/ Aquaculture Technology</i>	3	2	1
AFS2001	<i>Program Buku Hijau/ Green Book Programme</i>	2	0	2
AHP2301	<i>Genetik dan Pembiakbakaan Ternakan/ Genetic and Livestock Breeding</i>	3	3	0
AHP2501	<i>Sains Foraj/ Forage Science</i>	3	2	1
AHP2401	<i>Prinsip Permakanan Ternakan/ Principles of Livestock Nutrition</i>	3	2	1
AHP2402	<i>Teknologi Makanan Ternakan/ Livestock Feed Technology</i>	2	2	0
AHP2502	<i>Produksi Poltri/ Poultry Production</i>	4	2	2

AHP2503	Produksi Babi/ <i>Swine Production</i>	3	2	1
AHP2504	Produksi Daging/ <i>Meat Production</i>	3	2	1
AHP2505	Produksi Tenusu/ <i>Dairy Production</i>	3	2	1
AHP2901	Latihan Industri/ <i>Industrial Training</i>	12	0	12
AHP2604	Penyakit Haiwan/ <i>Diseases of Animals</i>	3	3	0
AHP2605	Amalan Perubatan Veterinar/ <i>Practices of Veterinary Medicine</i>	3	1	2
AHP2601	Kesihatan Haiwan I/ <i>Animal Health I</i>	3	2	1
AHP2602	Kesihatan Haiwan II/ <i>Animal Health II</i>	3	2	1
AHP2202	Fisiologi Haiwan/ <i>Animal Physiology</i>	4	3	1
AHP2201	Anatomi Haiwan/ <i>Animal Anatomy</i>	3	2	1
AHP2203	Pembiakan Haiwan/ <i>Animal Reproduction</i>	2	1	1
AHP2603	Kesihatan Awam Veterinar/ <i>Veterinary Public Health</i>	2	1	1

3. Kursus Sokongan/ *Support Courses* (29 Kredit/ *Credits*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AHP2101	Statistik untuk Sains Haiwan/ <i>Statistics for Animal Science</i>	3	2	1
SFB1001	Prinsip Biologi I/ <i>Principles of Biology I</i>	3	2	1
SFB1002	Prinsip Biologi II/ <i>Principle of Biology II</i>	3	2	1
CES2241	Pengembangan Pertanian/ <i>Agricultural Extension</i>	3	2	1
SAB1101	Pengenalan kepada Ekonomi Pertanian/ <i>Introduction to Agricultural Economics</i>	2	2	0
CHM2000	Kimia Am/ <i>General Chemistry</i>	4	3	1
CFM2201	Pengurusan Ladang/ <i>Farm Management</i>	3	2	1
CES2201	Prinsip Komunikasi dalam Pertanian/ <i>Communication Principles in Agriculture</i>	2	1	1
SFP1001	Fizik Pengenalan/ <i>Introductory Physics</i>	3	2	1
SAB2404	Perancangan dan Pengurusan Projek Perniagaantani/ <i>Agribusiness Project Planning and Management</i>	3	2	1

Nota/ Notes : Kr = Jam Kredit/ *Credit Hour*, K = Kredit/ *Credit*, A = Amali/ *Laboratory*, T = Tutorial

SKEMA PENGAJIAN/ STUDY SCHEME

TAHUN 1/ 1ST YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2409	<i>English for Academic Purpose</i>	3	2	1
SFB1001	Prinsip Biologi I/ <i>Principles of Biology I</i>	3	2	1
CHM2000	Kimia Am/ <i>General Chemistry</i>	4	3	1
CES2201	Prinsip Komunikasi dalam Pertanian/ <i>Communication Principles In Agriculture</i>	2	1	1
SKP2203	Tamadun Islam dan Tamadun Asia/ <i>Islamic Civilization and Asian Civilization</i>	2	2	0
SKP2101	Kenegaraan Malaysia/ <i>Malaysian Nationhood</i>	3	3	0
JUMLAH /TOTAL		17	13	4

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2420	<i>Oral Interaction Skills</i>	3	2	1
SFB1002	Prinsip Biologi II/ <i>Principle of Biology II</i>	3	2	1
SFP1001	Fizik Pengenalan/ <i>Introductory Physics</i>	3	2	1
PRT2008	Pertanian dan Manusia/ <i>Agriculture and Man</i>	2	2	0
SKP2204	Hubungan Etnik/ <i>Ethnic Relation</i>	2	1	1
SSK1000	Pengenalan kepada Teknologi Maklumat/ <i>Introduction to Information Technology</i>	2	1	1
	Ko-kurikulum / <i>Co-Curriculum</i>	1	0	1
JUMLAH /TOTAL		16	11	5

TAHUN 2 / 2 YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AHP2301	Genetik dan Pembiakbakaan Ternakan / <i>Genetic and Livestock Breeding</i>	3	3	0
AHP2101	Statistik untuk Sains Haiwan/ <i>Statistics for Animal Science</i>	3	2	1
AHP2401	Prinsip Pemakanan Ternakan/ <i>Principles of Livestock Nutrition</i>	3	2	1
CFM2201	Pengurusan Ladang / <i>Farm Management</i>	3	2	1
AHP2202	Anatomi Haiwan/ <i>Animal Anatomy</i>	3	2	1
SAB1101	Pengenalan kepada Ekonomi Pertanian/ <i>Introduction to Agricultural Economics</i>	2	2	0
JUMLAH /TOTAL		17	13	4

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AHP2201	Fisiologi Haiwan/ <i>Animal Physiology</i>	4	3	1
AHP2501	Sains Foraj/ <i>Forage Science</i>	3	2	1
AHP2502	Produksi Poltri/ <i>Poultry Production</i>	4	2	2
AHP2504	Produksi Daging/ <i>Meat Production</i>	3	2	1
FMA2006	Teknologi Akuakultur/ <i>Aquaculture Technology</i>	3	2	1
	Ko-kurikulum / <i>Co-Curriculum</i>	1	0	1
JUMLAH /TOTAL		18	11	7

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AFS2001	Program Buku Hijau/ <i>Green Book Programme</i>	2	0	2
AHP2402	Teknologi Makanan Ternakan/ <i>Livestock Feed Technology</i>	2	1	1
AHP2505	Produksi Tenusu/ <i>Dairy Production</i>	3	2	1
CES2241	Pengembangan Pertanian/ <i>Agricultural Extension</i>	3	2	1
AHP2601	Kesihatan Haiwan I/ <i>Animal Health I</i>	3	2	1
SAB2404	Perancangan dan Pengurusan Projek Perniagaantani / <i>Agribusiness Project Planning and Management</i>	3	2	1
JUMLAH / TOTAL		16	9	7

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AHP2203	Pembiakan Haiwan/ <i>Animal Reproduction</i>	2	1	1
AHP2503	Produksi Babi/ <i>Swine Production</i>	3	2	1
AHP2602	Kesihatan Haiwan II/ <i>Animal Health II</i>	3	2	1
AHP2603	Kesihatan Awam Veterinar/ <i>Veterinary Public Health</i>	2	1	1
AHP2604	Penyakit Haiwan/ <i>Diseases of Animals</i>	3	3	0
AHP2605	Amalan Perubatan Veterinar/ <i>Practices of Veterinary Medicine</i>	3	1	2
JUMLAH / TOTAL		16	10	6

TAHUN 4/ 4 YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AHP2901	Latihan Industri/ <i>Industrial Training</i>	12	0	12
JUMLAH /TOTAL		12	0	12

Nota/Notes :Pelajar diwajibkan memilih **2 kredit** daripada **kursus ko-kurikulum** yang ditawarkan oleh universiti/ *Students are required to select 2 credits from the co-curriculum courses offered by the university.*

STRUKTUR KURIKULUM/ CURRICULUM STRUCTURE

Nama Program : **Diploma Perniagaantani/ Diploma in Agribusiness**

Jumlah Kredit Bergraduat : **102 Jam Kredit / Credit Hours**

Tempoh Pengajian : **6 Semester/Semesters (3 Tahun/Years)**

1. Kursus Universiti/ University Courses (17 Jam Kredit/ Credit Hours)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2409	<i>English for Academic Purposes</i>	3	2	1
BBI2420	<i>Oral Interaction Skill</i>	3	2	1
PRT2008	<i>Pertanian dan Manusia/ Agriculture and Man</i>	2	2	0
SSK1000	<i>Pengenalan kepada Teknologi Maklumat/ Introduction to Information Technology</i>	2	1	1
SKP2101	<i>Kenegaraan Malaysia/ Malaysian Nationhood</i>	3	3	0
SKP2203	<i>Tamadun Islam dan Tamadun Asia/ Islamic Civilization and Asian Civilization</i>	2	2	0
SKP2204	<i>Hubungan Etnik/ Ethnic Relation</i>	2	2	0

2. Kursus Teras/ Core Courses (58 Jam Kredit/ Credit Hours)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
SAB2401	<i>Pengkomputaran dalam Perniagaantani/ Computerization in Agribusiness</i>	3	2	1
SAB2403	<i>Pemasaran Perniagaantani/ Agribusiness Marketing</i>	3	2	1
SAB2405	<i>Projek Perniagaantani/ Agribusiness Project</i>	3	0	3
SAC1201	<i>Prinsip Perakaunan/ Accounting Principle</i>	3	2	1
SAC2201	<i>Perakaunan Pengurusan/ Management Accounting</i>	3	2	1
SEC1101	<i>Prinsip Ekonomi/ Principles of Economics</i>	3	2	1
SMG1301	<i>Prinsip Pengurusan/ Principles of Management</i>	3	3	0

SMG1303	Prinsip Pemasaran/ <i>Principles of Marketing</i>	3	3	0
SMG2301	Statistik Perniagaan/ <i>Business Statistics</i>	3	2	1
SMG2302	Undang-Undang Perniagaan/ <i>Business Law</i>	3	3	0
SMG2303	Komunikasi Perniagaan/ <i>Business Communication</i>	3	2	1
AFS2001	Program Buku Hijau/ <i>Green Book Programme</i>	2	2	0
SAB1401	Pengenalan kepada Perniagaantani/ <i>Introduction to Agribusiness</i>	2	2	0
SAB2402	Keusahawantani/ <i>Agro-Entrepreneurship</i>	3	2	1
SAB2404	Perancangan dan Pengurusan Projek Perniagaantani/ <i>Agribusiness Project Planning and Management</i>	3	2	1
SAB2901	Latihan Industri/ <i>Industrial Training</i>	12	0	12
SMG2305	Perundingan dan Kejurujualan/ <i>Negotiation and Salesmanship</i>	3	2	1

3. Kursus Sokongan/ *Support Course* (27 Jam Kredit/ *Credit Hours*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AHP2507	Pengeluaran dan Pemprosesan Hasil Ternakan/ <i>Production and Processing of Livestock Products</i>	3	2	1
CAG2011	Pengeluaran Tanaman Industri/ <i>Industrial Crop Production</i>	3	2	1
CAG2012	Pengeluaran Tanaman Makanan/ <i>Food Crop Production</i>	3	2	1
EAB2501	Teknologi Pemprosesan Hasil Tanaman/ <i>Crop Processing Technology</i>	3	2	1
EAB2602	Jentera Pertanian, Penjenteraan dan Pengautomatan/ <i>Agricultural Machinery and Mechanization</i>	3	2	1
FMA2005	Amalan Akuakultur Bersepadu/ <i>Integrated Aquaculture Practices</i>	3	1	2
SFM1002	Matematik II/ <i>Mathematics II</i>	3	3	0
SFB2101	Biologi Pertanian/ <i>Agricultural Biology</i>	3	2	1

Nota/ *Notes* : Kr = Jam Kredit/ *Credit Hour*, K = Kredit/ *Credit*, A = Amali/ *Laboratory*, T = Tutorial

SKEMA PENGAJIAN/ STUDY SCHEME

TAHUN 1/ 1ST YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
SMG1301	Prinsip Pengurusan/ <i>Principles of Management</i>	3	3	0
BBI2409	<i>English for Academic Purposes</i>	3	2	1
SFB2101	Biologi Pertanian/ <i>Agricultural Biology</i>	3	2	1
SFM1002	Matematik II/ <i>Mathematics II</i>	3	3	0
PRT2008	Pertanian dan Manusia/ <i>Agriculture and Man</i>	2	2	0
SKP2101	Kenegaraan Malaysia/ <i>Malaysian Nationhood</i>	3	3	0
	Ko-kurikulum / <i>Co-Curriculum</i>	1	0	1
JUMLAH /TOTAL		18	15	3

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2420	<i>Oral Interaction Skills</i>	3	2	1
SAB1401	Pengenalan kepada Perniagaantani/ <i>Introduction to Agribusiness</i>	2	2	0
SAC1201	Prinsip Perakaunan/ <i>Accounting Principle</i>	3	2	1
SEC1101	Prinsip Ekonomi/ <i>Principles of Economics</i>	3	2	1
SSK1000	Pengenalan kepada Teknologi Maklumat/ <i>Introduction to Information Technology</i>	2	1	1
SKP2203	Tamadun Islam dan Tamadun Asia/ <i>Islamic Civilization and Asian Civilization</i>	2	2	0
SKP2204	Hubungan Etnik/ <i>Ethnic Relation</i>	2	2	0
	Ko-kurikulum / <i>Co-Curriculum</i>	1	0	1
JUMLAH /TOTAL		18	13	5

TAHUN 2 / 2 YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
CAG2011	Pengeluaran Tanaman Industri/ <i>Industrial Crop Production</i>	3	2	1
FMA2005	Amalan Akuakultur Bersepadu/ <i>Integrated Aquaculture Practices</i>	3	1	2
SAB2401	Pengkomputeran dalam Perniagaantani/ <i>Computerization in Agribusiness</i>	3	2	1
SMG1303	Prinsip Pemasaran/ <i>Principles of Marketing</i>	3	3	0
SMG2301	Statistik Perniagaan/ <i>Business Statistics</i>	3	2	1
SMG2302	Undang-Undang Perniagaan/ <i>Business Law</i>	3	3	0
JUMLAH /TOTAL		18	13	5

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AFS2001	Program Buku Hijau/ <i>Green Book Programme</i>	2	0	2
CAG2012	Pengeluaran Tanaman Makanan/ <i>Food Crop Production</i>	3	2	1
EAB2501	Teknologi Pemprosesan Hasil Tanaman/ <i>Crop Processing Technology</i>	3	2	1
SAB2402	Keusahawantani/ <i>Agro-Entrepreneurship</i>	3	2	1
SAB2403	Pemasaran Perniagaantani/ <i>Agribusiness Marketing</i>	3	2	1
SAB2404	Perancangan dan Pengurusan Projek Perniagaantani/ <i>Agribusiness Project Planning and Management</i>	3	2	1
SMG2303	Komunikasi Perniagaan/ <i>Business Communication</i>	3	2	1
JUMLAH /TOTAL		20	12	8

TAHUN 3/ 3 YEAR YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AHP2507	Pengeluaran dan Pemprosesan Hasil Ternakan/ <i>Production and Processing of Livestock Products</i>	3	2	1
CES2241	Pengembangan Pertanian/ <i>Agricultural Extension</i>	3	2	1
EAB2602	Jentera Pertanian, Penjenteraan dan Pengautomatan/ <i>Agricultural Machinery and Mechanization</i>	3	2	1
SAB2405	Projek Perniagaan/ <i>Agribusiness Project</i>	3	0	3
SAC2201	Perakaunan Pengurusan/ <i>Management Accounting</i>	3	2	1
SMG2305	Perundingan dan Kejurujualan/ <i>Negotiation and Salesmanship</i>	3	2	1
JUMLAH /TOTAL		18	10	8

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
SAB2901	Latihan Industri/ <i>Industrial Training</i>	12	0	12
JUMLAH /TOTAL		12	0	12

Nota/Notes :Pelajar diwajibkan memilih **2 kredit** daripada **kursus ko-kurikulum** yang ditawarkan oleh universiti/ *Students are required to select 2 credits from the co-curriculum courses offered by the university.*

STRUKTUR KURIKULUM/ CURRICULUM STRUCTURE

Nama Program : **Diploma Kejuruteraan Pertanian/ *Diploma in Agricultural Engineering***

Jumlah Kredit Bergraduat : **103 Jam Kredit / *Credit Hours***

Tempoh Pengajian : **6 Semester/Semesters (3 Tahun/ *Years*)**

1. Kursus Universiti/ *University Courses* (17 kredit / *credits*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BB12409	<i>English for Academic Purposes</i>	3	2	1
BB12420	<i>Oral Interaction Skill</i>	3	2	1
PRT2008	Pertanian dan Manusia/ <i>Agriculture and Man</i>	2	2	0
SSK1000	Pengenalan kepada Teknologi Maklumat/ <i>Introduction to Information Technology</i>	2	1	1
SKP2101	Kenegaraan Malaysia/ <i>Malaysian Nationhood</i>	3	3	0
SKP2203	Tamadun Islam dan Tamadun Asia/ <i>Islamic Civilization and Asian Civilization</i>	2	2	0
SKP2204	Hubungan Etnik/ <i>Ethnic Relation</i>	2	2	0

2. Kursus Teras/ *Core Courses* (58 Jam kredit / *credits*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AFS2001	Program Buku Hijau/ <i>Green Book Programme</i>	2	0	2
EAB2201	Struktur Ladang/ <i>Farm Structures</i>	3	3	0
EAB2301	Teknologi Pengairan dan Penyaliran/ <i>Irrigation and Drainage Technology</i>	3	3	0
EAB2401	Teknologi Pengurusan Sisa Biosistem/ <i>Biosystem Waste Management Technology</i>	3	2	1
EAB2501	Teknologi Pemprosesan Hasil Tanaman/ <i>Crop Processing Technology</i>	3	2	1
EAB2601	Pengurusan Jentera Pertanian/ <i>Agricultural Machinery Management</i>	2	2	0
EAB2603	Sistem Kuasa/ <i>Power Systems</i>	3	2	1

EAB2604	Pengautomatan dalam Pertanian/ <i>Automation in Agriculture</i>	3	2	1
EAB2605	Jentera Pertanian dan Penjenteraan/ <i>Agricultural Machinery and Mechanization</i>	3	2	1
EAB2901	Latihan Industri/ <i>Industrial Training</i>	12	0	12
ECV2201	Ukur Kejuruteraan/ <i>Engineering Surveying</i>	3	2	1
EEE2301	Teknologi Elektrik dan Elektronik/ <i>Electrical and Electronic Technology</i>	3	2	1
EMM2201	Lukisan Kejuruteraan/ <i>Engineering Drawing</i>	2	1	1
EMM2301	Bengkel Kejuruteraan/ <i>Engineering Workshop</i>	1	0	1
EMM2401	Mekanik Kejuruteraan/ <i>Engineering Mechanics</i>	3	3	0
EMM2402	Mekanik Bendalir/ <i>Fluid Mechanics</i>	3	2	1
EMM2403	Kekuatan Bahan/ <i>Strength of Materials</i>	3	2	1
EMM2501	Termodinamik dan Pemindahan Haba/ <i>Thermodynamics and Heat Transfer</i>	3	3	0

3. Kursus Sokongan/ *Support Courses* (28 kredit/ *credits*)

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
SFB1001	Prinsip Biologi II/ <i>Principles of Biology I</i>	3	2	1
CAG2011	Pengeluaran Tanaman Industri/ <i>Industrial Crop Production</i>	3	2	1
CES2201	Prinsip Komunikasi dalam Pertanian/ <i>Communication Principles in Agriculture</i>	2	1	1
CES2241	Pengembangan Pertanian/ <i>Agricultural Extension</i>	3	2	1
CFM2201	Pengurusan Ladang/ <i>Farm Management</i>	3	2	1
SFC1100	Kimia Fizik/ <i>Physical Chemistry</i>	3	2	1
CSS1701	Pengenalan kepada Sains Tanah/ <i>Introductory Soil Science</i>	3	2	1
SFM1002	Matematik II/ <i>Mathematics II</i>	3	3	0
SFP1001	Fizik Pengenalan/ <i>Introductory Physics</i>	3	2	1
SAB1101	Pengenalan kepada Ekonomi Pertanian/ <i>Introduction to Agricultural Economics</i>	2	2	0

Nota/ *Notes* : Kr = Jam Kredit/ *Credit Hour*, K = Kredit/ *Credit*, A = Amali/ *Laboratory*, T = Tutorial

SKEMA PENGAJIAN/ STUDY SCHEME

TAHUN 1/ 1ST YEAR

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
SFB1001	Prinsip Biologi I/ <i>Principles of Biology I</i>	3	2	1
BBI2409	<i>English for Academic Purposes</i>	3	2	1
EMM2301	Bengkel Kejuruteraan/ <i>Engineering Workshop</i>	1	0	1
SFP1001	Fizik Pengenalan/ <i>Introductory Physics</i>	3	2	1
PRT2008	Pertanian dan Manusia/ <i>Agriculture and Man</i>	2	2	0
SKP2203	Tamadun Islam dan Tamadun Asia/ <i>Islamic Civilization and Asian Civilization</i>	2	2	0
SKP2204	Hubungan Etnik/ <i>Ethnic Relation</i>	2	2	0
SSK1000	Pengenalan kepada Teknologi Maklumat/ <i>Introduction to Information Technology</i>	2	1	1
JUMLAH /TOTAL		18	13	5

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
BBI2420	<i>Oral Interaction Skills</i>	3	2	1
SFC1100	Kimia Fizik/ <i>Physical Chemistry</i>	3	2	1
CES2201	Prinsip Komunikasi dalam Pertanian/ <i>Communication Principles in Agriculture</i>	2	1	1
EMM2201	Lukisan Kejuruteraan/ <i>Engineering Drawing</i>	2	1	1
SFM1002	Matematik II/ <i>Mathematics II</i>	3	3	0
SAB1101	Pengenalan kepada Ekonomi Pertanian/ <i>Introduction to Agricultural Economics</i>	2	2	0
SKP2101	Kenegaraan Malaysia/ <i>Malaysian Nationhood</i>	3	3	0
	Ko-kurikulum / <i>Co-Curriculum</i>	1	0	1
JUMLAH /TOTAL		19	14	5

SEMESTER 1/ 1 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
CAG2011	Pengeluaran Tanaman Industri/ <i>Industrial Crop Production</i>	3	2	1
CFM2201	Pengurusan Ladang/ <i>Farm Management</i>	3	2	1
EAB2501	Teknologi Pemprosesan Hasil Tanaman/ <i>Crop Processing Technology</i>	3	2	1
ECV2201	Ukur Kejuruteraan/ <i>Engineering Surveying</i>	3	2	1
EMM2401	Mekanik Kejuruteraan/ <i>Engineering Mechanics</i>	3	3	0
EMM2501	Termodinamik dan Pemindahan Haba/ <i>Thermodynamics and Heat Transfer</i>	3	3	0
	Ko-kurikulum / <i>Co-curriculum</i>	1	0	1
	JUMLAH /TOTAL	19	14	5

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
AFS2001	Program Buku Hijau/ <i>Green Book Programme</i>	2	0	2
CSS1701	Pengenalan Kepada Sains Tanah/ <i>Introductory Soil Science</i>	3	2	1
EAB2601	Pengurusan Jentera Pertanian/ <i>Agricultural Machinery Management</i>	2	2	0
EAB2603	Sistem Kuasa/ <i>Power Systems</i>	3	2	1
EEE2301	Teknologi Elektrik dan Elektronik/ <i>Electrical and Electronic Technology</i>	3	2	1
EMM2402	Mekanik Bendalir/ <i>Fluid Mechanics</i>	3	2	1
EMM2403	Kekuatan Bahan/ <i>Strength of Materials</i>	3	2	1
	JUMLAH /TOTAL	19	12	7

TAHUN 3/ 3RD YEAR YEAR

SEMESTER 1/ 1ST SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
CES2241	Pengembangan Pertanian/ <i>Agricultural Extension</i>	3	2	1
EAB2201	Struktur Ladang/ <i>Farm Structures</i>	3	3	0
EAB2301	Teknologi Pengairan dan Penyaliran/ <i>Irrigation and Drainage Technology</i>	3	2	1
EAB2401	Teknologi Pengurusan Sisa Biosistem/ <i>Biosystem Waste Management Technology</i>	3	2	1
EAB2604	Pengautomatan dalam Pertanian/ <i>Automation in Agriculture</i>	3	2	1
EAB2605	Jentera Pertanian dan Penjenteraan/ <i>Agricultural Machinery and Mechanization</i>	3	2	1
JUMLAH /TOTAL		18	13	5

SEMESTER 2/ 2 SEMESTER

KOD KURSUS/ COURSE CODE	NAMA KURSUS/COURSE NAME	Kr	K	A
EAB2901	Latihan Industri/ <i>Industrial Training</i>	12	0	12
JUMLAH /TOTAL		12	0	12

Nota/Notes : Pelajar diwajibkan memilih **2 kredit** daripada **kursus ko-kurikulum** yang ditawarkan oleh universiti/ *Students are required to select 2 credits from the co-curriculum courses offered by the university.*

SINOPSIS KURSUS / COURSE SYNOPSIS

Jabatan Sains Tanaman/ Department of Crop Science

AFS2001 Program Buku Hijau/ *Green Book Programme* 2(0+2)

Prasyarat : Tiada

Kursus ini meliputi latihan dan kerja lapangan berkaitan pengeluaran hasil sayur-sayuran, kekacang, tapak semaian, tanaman buah-buahan, pastura dan hidupan akuatik. Latihan dan kerja lapangan sepanjang empat semester ini dikendalikan bersama oleh pegawai akademik dan sokongan

This course covers training and fieldwork in the production of vegetables, legumes, nursery, orchard, pasture and aquatic life. Training and fieldwork conducted for four semesters by the academic and the supporting staffs

SKP2101 Kenegaraan Malaysia/ *Malaysian Nationhood* 3(3+0)

Prasyarat : Tiada

Kursus ini merangkumi sejarah negara, perjuangan mencapai kemerdekaan, penubuhan Persekutuan Malaysia, sejarah, ciri dan masalah masyarakat majmuk, Sistem Demokrasi Berparlimen, sistem pilihanraya, Perlembagaan Malaysia, Rukunegara, Sistem Raja Berpelembagaan, pentadbiran awam dan dasar-dasar negara

This course covers nation's history, the struggle for independence, the formation of the Federation of Malaysia, history, characteristics and problems of plural society, Parliamentary Democracy system, electoral system, Malaysian Constitution, Rukunegara, Constitutional, Monarchy, Public Administration and national policies

SKP2203 Tamadun Islam dan Tamadun Asia/
Islamic Civilization and Asian Civilization 2(2+1)

Prasyarat : Tiada

Kursus ini meliputi ilmu ketamadunan yang mencukupi pengajian ketamadunan, interaksi antara pelbagai tamadun (Melayu, Cina dan India), Islam dalam Tamadun Melayu serta peranannya dalam pembinaan Tamadun Malaysia, isu-isu kontemporari Tamadun Islam dan Tamadun Asia dalam proses pembangunan negara

This course covers civilizational studies which include introduction to civilization, interaction between civilizations (Malay, Chinese, Indian), Islam in Malay Civilization and its role in building Malaysian Civilization, contemporary issues in Islamic Civilization and Asian Civilization in the process of national development

SKP2204 Hubungan Etnik/ *Ethnic Relation* 2(2+0)

Prasyarat : Tiada

Kursus ini meliputi konsep-konsep asas budaya dan hubungan etnik, perkembangan hubungan etnik di Malaysia, cabaran global dalam hubungan budaya dan etnik di peringkat Malaysia dan Asia dan hubungan etnik menurut perspektif Islam

This course covers basic concepts of cultural and ethnic relations, development of ethnic relations in Malaysia, global challenges in cultural and ethnic relations in Malaysia and Asia and ethnic relations from Islamic perspective

CES2241 Pengembangan Pertanian/ *Agricultural Extension* (2+1)

Prasyarat : Tiada

Kursus ini meliputi perancangan, pelaksanaan dan penilaian program pengembangan pertanian. Faktor yang mempengaruhi keberkesanan program pengembangan dan kaedah penyampaian yang berkesan bagi kumpulan sasaran yang berlainan turut ditekankan. Kajian kes di kawasan dan kumpulan sasaran yang terpilih, demonstrasi kaedah dan pemindahan teknologi adalah berdasarkan keperluan sebenar

This course covers planning in conducting and evaluating agriculture extension programmes. Factors that influence the effectiveness of the extension programme and delivery methods for different target groups are also emphasized. Case studies in selected areas and target group, method demonstration and technology transfer are based on actual needs

BIP3301 Prinsip Pemprosesan Bioproduk/
Principles in Bioproduct Processing (2+1)

Prasyarat : Tiada

Kursus ini merangkumi prinsip yang terlibat dalam pemprosesan sumber semulajadi dan bahan hasilan industri pertanian untuk membentuk produk yang mempunyai nilai tambah berasaskan kos yang efektif. Penekanan diberi terhadap aspek fermentasi, biokatalis, dehidrasi dan proses pemanasan, penyejukan dan pembekuan, teknik pemisahan, penyamakan, iradiasi, proses kimia dan proses pemampatan dan pembungkusan

This course covers principles involved in processing of natural resources and agro-industrial materials into value-added products in a cost-effective system. Emphasis is on fermentation, biocatalyst, dehydration and thermal processing, freezing and refrigeration, separation techniques, tanning, irradiation, chemical processes and pressing and packaging

BIP3302 Bioteknologi Bioindustri/ *Bioindustrial Biotechnology* (2+1)

Prasyarat : Tiada

Kursus ini meliputi bioteknologi bioindustri termasuk sejarah dan latarbelakang, kegunaan masa kini dan arah tuju masa hadapan. Teknologi yang digunakan dan aplikasinya dalam bidang bioindustri diuraikan, yang merangkumi teknologi in vitro, teknologi DNA rekombinan, kejuruteraan genetik, teknik penanda molekul dan bioproduk. Aplikasi bioteknologi dalam bioindustri diberi penekanan. Isu budaya dan etika berkaitan bioteknologi juga ditekankan

This course covers bioindustrial biotechnology which includes historical background, current applications and future directions. Technologies employed and their applications in bioindustry are discussed, which include in vitro technology, recombinant DNA technology, genetic engineering, molecular marker techniques and bioproducts. The application of biotechnology in bioindustry is emphasized. Cultural and ethical issues pertaining to biotechnology are also highlighted

BIP3402 Rekabentuk Eksperimen dan Analisis/
Experimental Design and Analysis (2+1)

Prasyarat : Tiada

Kursus ini merangkumi prinsip dan peraturan dalam melakukan eksperimen dengan menggunakan rekabentuk eksperimen dan kaedah analisis statistik yang sesuai. Penekanan diberi kepada pengetahuan dan kemahiran menggunakan rekabentuk eksperimen termasuk rawak lengkap (CRD), blok rawak lengkap (RCBD), dan plot belahan beserta dengan kaedah statistik dan interpretasinya. Teknik-teknik analisis termasuk ujian-t, analisis varians (ANOVA) bagi menguji kesan perlakuan, perbandingan min (menggunakan LSD, ujian julat berganda

Duncan dan kontras berortogonon), analisis regresi linear dan kurvilinear untuk menguji tren, kesan utama dan interaksi dalam eksperimen faktoran dan kaedah tak berparameter juga diperjelaskan

This course covers principles and procedures in experimentation using proper experimental design and statistical analysis. Emphasis is on knowledge and skills on the use of important experimental design that include completely randomized design (CRD), randomized complete block design (RCBD), and split plot design together with statistical analysis including t-test, analysis of variance (ANOVA) to compare treatment effects, mean comparisons (least significant different of LSD, Duncan's multiple range test or DMRT and orthogonal contrast), linear and curvilinear regression analyses to detect trends, main and interaction effects in factorial experiments, and non-parametric methods are also explained

CFP4999	Projek Ilmiah Tahun Akhir/ Final Year Academic Project	6(0+6)
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Prasyarat : Tiada

Kursus ini merangkumi perancangan, perlaksanaan, analisis dan penterjemahan data, menyedia, dan membentangkan laporan saintifik. Pelajar dikehendaki mengenalpasti topik penyelidikan dengan bimbingan penyelia

This course covers planning, implementation, data analysis and interpretation, preparation, and presentation of scientific report. Students are required to identify a research topic with guidance from the supervisor

CHM3010	Kimia Fizik dan Tak Organik/ <i>Physical and Inorganic Chemistry</i>	4(3+1)
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Prasyarat : Tiada

Kursus ini merangkumi beberapa aspek asas dalam kimia fizik dan tak organik meliputi teori atom moden, jadual berkala dan sifat berkala, kimia kumpulan utama, teori pengikatan, sifat-sifat gas, cecair dan pepejal, keseimbangan kimia, elektrokimia, termodinamik, kinetik dan kimia nukleus

This course covers basic aspects of physical and inorganic chemistry, which covers modern atomic theory, periodic table and periodic properties, main group element, theory of bonding, properties of gas, liquid and solids, kinetics and nuclear chemistry

CSS3702	Sumber Air dan Iklim/ <i>Water Resources and Climate</i>	3(2+1)
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Prasyarat : Tiada

Kursus ini merangkumi jenis sumber air dan kitaran hidrologi. Kesan faktor perubahan iklim seperti hujan, suhu, kelembapan udara, angin dan sinaran ke atas sumber air, tanah dan pertanian turut ditekankan

This course covers different types of water resources and hydrologic cycle. The effects of changing climate factors such as precipitation, temperature, humidity, wind and radiation on water resources, land and agriculture are also emphasised

SEC3101	Ekonomi Bioindustri/ Bioindustrial Economics	3(3+0)
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Prasyarat : Tiada

Kursus ini membincangkan mengenai skop ekonomi, teori pengeluaran dan kos, ekonomi sumber, pemasaran, dan perdagangan antarabangsa

This course discusses about the scope of economics, production and cost theories, resource economics, marketing, and international trade

AHP3507	Pengeluaran dan Pengurusan Hasil Ternakan/ <i>Production and Management of Livestock Products</i>	3(2+1)
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Prasyarat : Tiada

Kursus ini meliputi produksi ternakan ruminan dan bukan ruminan secara ekstensif dan intensif, kepentingan industri ternakan, kaedah penternakan moden, serta pengendalian dan pemprosesan hasil ternakan. Penekanan diberi kepada amalan penternakan baik dalam pengeluaran ternakan

This course covers extensive and intensive ruminant and non-ruminant livestock production, the importance of animal industry and modern livestock husbandry, and handling and processing of livestock products. Emphasis is on good husbandry practices in livestock production

BGY3201	Struktur dan Fungsi Tumbuhan/ <i>Plant Structure and Function</i>	3(2+1)
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Prasyarat : Tiada

Kursus ini meliputi kepelbagaian morfologi dan anatomi, pertumbuhan primer dan sekunder akar dan batang, serta penyesuaian organ tumbuhan. Perkembangan debunga dan pundi embrio, persenyawaan, pembentukan buah dan biji benih serta penyebarannya turut dibincangkan

This course covers the diversity of the morphology and anatomy, primary and secondary growth of the root and stem, and adaptation of plant organs. Development of pollen and embryo sac, fertilization, formation of fruit and seed, as well as dispersal are also discussed

CAG1011	Prinsip Pengurusan Tanaman/ <i>Principles of Crop Management</i>	3(3+0)
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Prasyarat : Tiada

Kursus ini merangkumi prinsip sains tanaman termasuk penamaan, pembiakan dan fisiologi tanaman. Faktor yang mempengaruhi tumbesaran tanaman seperti tanah, cahaya, air, nutrien, perosak dan penyakit diberi penekanan. Amalan Pertanian Baik dan aspek lepastuai juga diberi perhatian

This course covers principles of crop science that include crop nomenclature, propagation and physiology. Factors that influence crop growth such as soil, light, water, nutrients, pests and diseases are emphasised. Good Agriculture Practices and postharvest aspects are also addressed

CAG1010	Sains Tanaman Asas/ <i>Basic Crop Science</i>	3(2+1)
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Prasyarat : Tiada

Kursus ini merangkumi prinsip anatomi dan fisiologi tumbuhan, tumbesaran dan perkembangan, termasuk aplikasi genetik dan bioteknologi untuk peningkatan hasil. Interaksi tanaman-persekitaran yang menyumbang kepada penghasilan lestari juga diberi keutamaan

This course covers principles of plant anatomy and physiology, growth and development, including genetics and biotechnology applications for yield improvement. Crop-environment interactions which contribute towards sustainable yields are emphasised

CAG1001	Amalan Perladangan Tanaman Tahunan/ <i>Annual Crop Farming Practices</i>	1(0+1)
Prasyarat : Tiada		
Kursus ini meliputi latihan amali pelbagai tanaman jangka pendek. Penekanan diberi ke atas perancangan, pelaksanaan dan pengendalian perusahaan pengeluaran tanaman, serta aspek sikap dan etika pertanian di samping kemahiran mengurus tanaman tahunan		
<i>This course covers practical training in various short-term crops. Emphasis is on planning, implementation and handling of crop production enterprises, and attitudes and agriculture ethics besides skills in managing annual crops</i>		
CAG1002	Amalan Perladangan Tanaman Saka/ <i>Perennial Crop Farming Practices</i>	1(0+1)
Prasyarat : Tiada		
Kursus ini meliputi latihan amali dalam pengeluaran tanaman buah-buahan, hiasan dan perladangan. Penekanan juga diberikan terhadap perancangan, pelaksanaan dan amalan pertanian yang baik		
<i>This course covers practical training in production of fruits, ornamentals and plantation crops. Emphasis is on planning, implementation and good agriculture practices</i>		
CET2305	Projek Keusahawantani/ <i>Agro-Entrepreneurship Project</i>	2(0+2)
Prasyarat : Tiada		
Kursus ini merangkumi perancangan dan pelaksanaan projek pertanian bersepadu. Pelajar menyediakan perancangan projek perniagaan dengan penekanan kepada pelaksanaan, pengurusan dan penilaian, serta mengusahakan projek sayuran, buah-buahan jangka pendek dan ternakan ayam atau puyuh secara ladang-kongsi komersil		
<i>This course covers the planning and implementation of an integrated agricultural project. Students develop a business plan with emphasis on implementation, management and evaluation, and operate the project as a commercial share-farm. The project involves production of vegetables and short-term fruits, besides chicken or quail production</i>		
SFB2101	Biologi Pertanian/ <i>Agricultural Biology</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini memperkenalkan kepelbagaian organisma dari segi pengelasan, morfologi, anatomi dan fisiologi dalam pertanian. Evolusi organisma, konsep asas genetik, Hukum Mendel dan kepentingannya ditekankan		
<i>This course introduces the diversity of organisms with respect to classification, morphology, anatomy and physiology in agriculture. The evolution of organisms, basic concept of genetics, Mendel's Law and their importance are emphasized</i>		
CAG2011	Pengeluaran Tanaman Industri/ <i>Industrial Crop Production</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi prinsip dan amalan dalam pengurusan tanaman industri. Faktor yang mempengaruhi tumbesaran tanaman seperti tanah, cahaya, air, nutrien, perosak dan penyakit diberi penekanan. Amalan perladangan mesra alam turut diberi perhatian		

This course covers principles and practices in managing industrial crops. Factors that influence crop growth such as soil, light, water, nutrients, pests and diseases are emphasised. Environmental friendly plantation practices are also addressed

CAG2012 Pengeluaran Tanaman Makanan/ *Food Crop Production* 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi prinsip dan amalan pengurusan tanaman dengan tumpuan kepada keperluan prasarana berkaitan pembiakan, semaian, pengurusan tanah, sistem penanaman, penyelenggaraan, penuaian dan pengendalian hasil tanaman sayuran dan buah-buahan utama. Penekanan adalah kepada Pensijilan Amalan Pertanian Baik, pertanian lestari dan keselamatan makanan

This course covers principles and practices in crop management focusing on infrastructure requirements related to propagation, nursery, soil management, planting systems, maintenance, harvesting and handling of major vegetables and fruit crop. Emphasis is on Certifications of Good Agriculture Practices, sustainable agriculture and food safety

CES2201 Prinsip Komunikasi dalam Pertanian/
Communication Principles in Agriculture 2(1+1)

Prasyarat : Tiada

Kursus ini meliputi prinsip dan amalan bagi proses, strategi dan pendekatan komunikasi yang digunakan dalam sektor pertanian; kemahiran komunikasi dalam menyampaikan maklumat, meyakinkan klien, memindahkan teknologi pertanian kepada petani dan memasarkan hasil pertanian; komunikasi lisan dan bertulis, media komunikasi dan saluran komunikasi dalam pertanian

This course covers principles and practices of the communication processes, strategies and approaches used in agriculture sector; communication competency in delivering information, influencing the client, transferring agriculture technology to farmers and marketing agroproducts; oral and written communication, media communication and communication channels in agriculture

CES2241 Pengembangan Pertanian/ *Agricultural Extension* 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi perancangan, pelaksanaan dan penilaian program pengembangan pertanian. Faktor yang mempengaruhi keberkesanan program pengembangan dan kaedah penyampaian yang berkesan bagi kumpulan sasaran yang berlainan turut ditekankan. Kajian kes di kawasan dan kumpulan sasaran yang terpilih, demonstrasi kaedah dan pemindahan teknologi berdasarkan keperluan sebenar

This course covers the planning implementation and evaluation of agricultural extension programmes. Factors that influence the effectiveness of an extension programme and delivery methods for different target groups are also emphasized. Case studies in selected areas and target groups, methods demonstration and technology transfer are based on actual needs

CFM2402	Keselamatan dalam Pegurusan Operasi Perladangan/ <i>Safety in Plantation Operations Management</i>	2(1+1)
Prasyarat : Tiada		
Kursus ini merangkumi prinsip keselamatan dalam operasi perladangan. Amalan keselamatan dalam pelaksanaan tugas dan peningkatan produktiviti di tempat kerja diberi penekanan <i>This course covers the principles in safety of farm operations. Safety practices in conducting tasks and increasing farm productivity at the work place are given emphasis</i>		
CHS2502	Pengeluaran Tanaman Hortikultur/ <i>Horticultural Crop Production</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi sistem pengeluaran tanaman hortikultur terpilih, termasuk pembiakan, operasi tapak semaian, pengurusan dan pengendalian lepastuai. Pemilihan sistem pengeluaran yang bersesuaian diutamakan <i>This course covers production systems of selected horticultural crops, including propagation, nursery operation, management and postharvest handling. Selection of appropriate production systems are emphasised</i>		
CHS2501	Tanaman Hiasan dan Hortikultur Landskap/ <i>Ornamental Crops and Landscape Horticulture</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi tanaman hiasan, rumput turf dan hortikultur landskap yang menjurus kepada pengecaman, pembiakan, penanaman dan pengurusan tanaman hiasan dan rumput turf. Penekanan diberikan kepada kemahiran rekabentuk, penanaman, penggunaan tumbuhan dalam perlandskap dan penyelenggaraan landskap <i>This course covers ornamental crops, turf and landscape horticulture, focusing on identification, propagation, establishment and management of ornamental crops and turf grasses. Skills on the design, establishment, use of plants in landscaping and landscape maintenance are emphasised</i>		
CPP1601	Pengenalan kepada Perosak Tanaman/ <i>Introduction to Crop Pests</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi perosak tanaman seperti patogen, serangga, rumpai dan lain-lain invertebrat dan vertebrat. Sifat perosak, pengelasan, perkembangan, diagnosis simptom kerosakan dan pengenalpastian perosak turut diberi penekanan <i>This course covers crop pests such as pathogens, insects, weeds and other invertebrates and vertebrates. Pest characteristics, classification, development, diagnosis of damage symptoms and pest identification are also emphasized.</i>		
CPP2602	Amalan Pengurusan Perosak Tanaman/ <i>Crop Pest Management Practices</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi kesihatan tanaman, persekitaran dan isu ekonomi berkaitan pengurusan perosak. Pengenalpastian simptom kerosakan, pemantauan, penilaian kerosakan dan proses membuat keputusan, kaedah pengawalan perosak semasa serta		

amalan pengurusan perosak bersepadu turut diberi penekanan

This course covers crops health, environmental and economic issues related to pest management. Identification of damage symptoms, monitoring, damage assessment and decision making process, current methods of pest control as well as integrated pest management practices are also emphasised

CPT2802 Pengendalian dan Pemprosesan Produk Pertanian/
 Handling and Processing of Agricultural Products 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi kesan amalan pra-penuaian dan lepastuai terhadap mutu dan jangka hayat simpanan tanaman serta produk hiliran. Keutamaan diberi terhadap kemahiran dalam pengendalian tanaman, penggredan, pemasakan, pembungkusan, pengawetan, pemprosesan dan penyimpanan, teknologi pemprosesan dan peralatan

This course covers effects of pre-harvest and postharvest practices on quality and storage life of crops and their downstream products. Skill in crop handling, grading, ripening, packaging, preservation, processing and storage, processing technology and equipment are emphasised

CAG1003 Amalan Perladangan Kelapa Sawit/
 Oil Palm Plantation Practices 1(0+1)

Prasyarat : Tiada

Kursus ini merangkumi latihan amali dalam perladangan kelapa sawit. Penekanan diberi kepada perancangan, pelaksanaan, dan pengurusan perladangan kelapa sawit. Amalan baik dalam perladangan serta etika dan profesionalisma diberi keutamaan

This course involves practical training in oil palm plantation. Emphasis is on planning, implementation, and management of oil palm plantations. Good plantation practices as well as plantation ethics and professionalism are stressed

CET2304 Keusahawanan Agroteknologi/
 Agrotechnology Entrepreneurship 3(1+2)

Prasyarat : Tiada

Kursus ini merangkumi ciri-ciri keusahawanan dalam mencapai matlamat perniagaan, strategi untuk menjayakan perniagaan, aspek penting dalam perancangan perniagaan, tanggungjawab pengarah, pemegang saham dan setiausaha syarikat, serta insentif dan kemudahan kewangan sedia ada bagi sektor pertanian. Persekitaran operasi sebenar dalam perniagaan yang berkaitan diberi penekanan

This course covers entrepreneurship characteristics for achieving business objectives, strategies for business success, important aspects in business planning, responsibilities of a company director, shareholders, and company secretary, as well as incentives and financial facilities available for the agricultural sector. Actual operating situations in relevant businesses are given emphasis.

Prasyarat : Tiada

Kursus ini merangkumi prinsip dan kaedah dalam pembangunan sistem perladangan bersepadu dengan penekanan kepada pengurusan sumber, produktiviti, keselamatan makanan, kestabilan pendapatan dan kelestarian. Perancangan dan pembangunan sistem perladangan bersepadu yang mapan diutamakan

This course covers principles and methods in the development of integrated farming systems with emphasis on resource management, productivity, food security, income stability and sustainability. Planning and development of sustainable integrated farming systems are stressed

PRT2008

Pertanian dan Manusia/ *Agriculture and Man*

2(2+0)

Prasyarat : Tiada

Kursus ini meninjau evolusi pertanian daripada permulaan kepada status masa kini sebagai aktiviti terancang dan terurus, didorong oleh kemajuan ekonomi dan teknologi. Pertanian moden dipaparkan sebagai sains, seni dan bisnes yang meliputi peranan dan impaknya terhadap pengurusan sumber dan pembangunan manusia. Perbincangan merangkumi senario pertanian Malaysia.

This course explores the evolution of agriculture from the beginnings to its present status as planned and managed activities, driven by economics and technological advancement. Modern agriculture is presented as a science, an art and a business encompassing its role and impact on resource management and human development. Discussion incorporates Malaysian agriculture scenarios

CSS1701

Sains Tanah Pengenalan/ *Introductory Soil Science*

3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi pembentukan, sifat fizik, kimia dan biologi, dan pengelasan tanah serta gunatanah di Malaysia. Pengenalpastian sifat dan ciri tanah yang sesuai bagi menjalankan aktiviti pertanian juga dibincangkan

This course covers soil formation, physical, chemical and biological properties, and classification, as well as landuse in Malaysia. Identification of soil properties and characteristics that are suitable for agriculture activities are also discussed

CSS2702

Pengurusan Tanah/ *Land Management*

2(1+1)

Prasyarat : Tiada

Kursus ini meliputi pengurusan tanah lestari, nutrien tumbuhan dan pembajaan, keasidan tanah, degradasi tanah, pencemaran tanah dan pemuliharaan tanah. Pengurusan tanah gambut, tanah pasir, tanah asid sulfat, tanah terluhawa dan tanah terendam diberi penekanan

This course covers sustainable land management, plant nutrients and fertilization, soil acidification, soil degradation, soil pollution and conservation. Management of peat soils, sandy soils, acid sulphate soils, highly weathered soils and flooded soils are emphasised

CAG1004	Amalan Perladangan Tanaman Industri/ <i>Plantation Practices in Industrial Crops</i>	1(0+1)
<p>Prasyarat : Tiada</p> <p>Kursus ini merangkumi amalan komersil dalam pengurusan tanaman industri termasuk pengendalian hasil lepastuai, penggredan dan pemprosesan. Latihan amali meliputi pengendalian serta operasi mesin dan peralatan pertanian yang diperlukan dalam pembangunan perladangan</p> <p><i>This course covers commercial management practices in industrial crops including postharvest handling, grading and processing. The practical training includes handling and operating agriculture machinery and implements required in plantation development</i></p>		
CAG2013	Tanaman Bijirin dan Bijian/ <i>Grain and Cereal Crops</i>	3(2+1)
<p>Prasyarat : Tiada</p> <p>Kursus ini merangkumi penanaman dan pengendalian lepastuai tanaman bijirin dan bijian. Amalan pertanian mesra alam dan sistem pertanian keberkesanan kos diberi penekanan. Amalan pengurusan tanaman bersepadu dan aspek keselamatan makanan turut diberi perhatian</p> <p><i>This course covers farming and postharvest handling of cereal and grain crops. Cost effective farming systems and environmental friendly agriculture practices are emphasised. Integrated crop management practices and food safety aspects are also addressed</i></p>		
CIT2901	Latihan Industri/ Industrial Training	12(0+12)
<p>Prasyarat : Tiada</p> <p>Kursus ini melibatkan latihan industri selama 24 minggu di salah satu daripada agensi kerajaan, syarikat atau kilang yang terpilih. Latihan ini dikendalikan oleh penyelia atau pengurus agensi, syarikat atau kilang dengan penyelarasan oleh penyelararas</p> <p><i>This course involves industrial training for a period of 24 weeks at any one of selected government agencies, company or factory. The training is organised by the course coordinator and conducted by the supervisor or manager of the agency, company or factory</i></p>		
CAG3000	Diversiti Mikroorganisma dan Tumbuhan/ <i>Microorganism and Plant Diversity</i>	3(2+1)
<p>Prasyarat : Tiada</p> <p>Kursus ini merangkumi filum utama organisma yang hidup di dunia. Penekanan diberikan kepada pengkelasan organisma berdasarkan ciri-ciri ketara pada mereka. Kepentingan interaksi antara spesies dan persekitarannya juga dibincangkan</p> <p><i>The course covers major phylum of organisms on earth. Emphasize is given to differentiate organisms based on their distinct characteristics. The importance of interspecific interactions and its surroundings are also discussed</i></p>		
CAG3001	Amalan Perladangan Tanaman Tahunan/ <i>Annual Crop Farming Practices</i>	1(0+1)
<p>Prasyarat : Tiada</p> <p>Kursus ini meliputi latihan amali pelbagai tanaman jangka pendek. Penekanan diberi kepada perancangan, pelaksanaan dan pengendalian perusahaan pengeluaran tanaman, sikap dan etika pertanian di samping kemahiran mengurus tanaman tahunan</p>		

This course covers practical training in various short-term crops. Emphasis is on planning, implementation and handling of crop production enterprises, attitudes and agriculture ethics, besides skills in managing annual crops

CAG3002 Amalan Perladangan Tanaman Industri/
Plantation Practices in Industrial Crops 1(0+1)

Prasyarat : Tiada

Kursus ini merangkumi amalan pengurusan komersil bagi tanaman industri termasuk pengendalian hasil lepastuai, penggredan dan pemprosesan. Latihan amali meliputi pengendalian serta operasi mesin dan peralatan pertanian yang diperlukan dalam pembangunan perladangan

This course covers commercial management practices in industrial crops including postharvest handling, grading and processing. The practical training includes handling and operating agriculture machineries and equipments required in plantation development

CAG3003 Pengeluaran dan Pengurusan Tanaman/
Crop Production and Management 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi prinsip dan amalan dalam pengurusan tanaman. Faktor yang mempengaruhi tumbesaran tanaman seperti tanah, cahaya, air, nutrien, perosak dan penyakit diberi penekanan. Amalan perladangan mesra alam turut dibincangkan

This course covers principles and practices in managing crops. Factors influencing crop growth such as soil, light, water, nutrients, pests and diseases are emphasised. Environmental friendly farming practices are also discussed

CAG3004 Pembiakan Tumbuhan dan Pengurusan Semaian/
Plant Propagation and Nursery Management 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi faktor berkenaan kejayaan pembiakan tanaman dari segi faktor biotik dan juga abiotik. Penekanan diberi kepada penggunaan hormon, manipulasi air, media dan kemudahan tapak semaian, dan pengurusan benih semaian di peringkat tapak semaian

This course covers factors associated with propagation success from the aspect of biotic and abiotic factors. Emphasis is on application of hormones, water manipulation, media and nursery facilities, and seedling management in the nursery stage

CPP3600 Perlindungan Tumbuhan/ *Plant Protection* 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi asas perlindungan tumbuhan termasuk entomologi, patologi tumbuhan, sains rumpai dan nematologi. Penekanan diberi kepada biologi, fisiologi, ekologi dan epidemiologi perosak dan penyakit utama, pengesanan dan klasifikasi, perosak biotik dan abiotik serta beberapa spesies berguna, diagnosis dan penyelesaian masalah perosak dan penyakit dalam pertanian dan bioindustri serta pengurusannya

This course covers basic plant protection including entomology, plant pathology, weed science and nematology. Emphasis is on the biology, physiology, ecology and epidemiology of major pests and diseases, identification and classification, biotic and abiotic pests and some beneficial species, diagnosis and solving pest and disease problems in agriculture and bioindustry as well as their management

CIT4901	Latihan Industri/ <i>Industrial Training</i>	12(0+12)
Prasyarat : Tiada		
Kursus ini melibatkan latihan industri selama 24 minggu di salah satu daripada agensi kerajaan, syarikat atau kilang yang terpilih. Latihan ini dikendalikan oleh penyelia atau pengurus agensi, syarikat atau kilang dengan penyelarasan oleh penyelarar kursus		
<i>This course involves industrial training for a period of 24 weeks at any one of selected government agencies, company or factory. The training is organised by the course coordinator and conducted by the supervisor or manager of the agency, company or factory</i>		
CSS3700	Sains Tanah/ <i>Soil Science</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi pembentukan tanah, sifat kimia, fizikal dan biologi tanah, pemakanan tumbuhan dan baja, survei tanah, pengelasan dan penilaian tanah		
<i>This course covers soil formation, chemical, physical and biological characteristics of soil, plant nutrition and fertilizer, soil survey, classification and soil evaluation</i>		
CSS3701	Pengurusan Kesuburan Tanah dan Tanaman/ <i>Crop and Soil Fertility Management</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi ciri tanah di Malaysia dan kaitannya dengan sektor pertanian. Ekologi tanah dan hubungannya dengan tanaman serta pengurusan kesuburan tanah diberi penekanan		
<i>This course covers characteristics of Malaysian soils and their relationship to agriculture sector. Ecology of soils in relation to plants and the management of soil fertility are emphasised</i>		
MGM3180	Asas Keusahawanan/ <i>Basic Entrepreneurship</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi pendedahan mengenai ilmu keusahawanan kepada pelajar yang meliputi kaedah melaksanakan aktiviti keusahawanan dan kemahiran pengurusan asas yang diperlukan untuk pengendalian perusahaan perniagaan		
<i>The course covers the exposure of entrepreneurial knowledge to student that includes techniques to carry out entrepreneurial activities and basic management skills required in a business undertaking</i>		
MTH3003	Statistik bagi Sains Gunaan/ <i>Statistics for Applied Sciences</i>	4(3+1)
Prasyarat : Tiada		
Kursus ini merangkumi pemerihalan data, kebarangkalian, pembolehubah rawak, beberapa taburan yang penting dan pentakbiran statistik yang meliputi taburan pensampelan, penganggar titik, penganggar selang dan ujian hipotesis. Analisis varians, reka bentuk ujikaji, regresi dan korelasi diberi penekanan		
<i>This course covers data descriptive, probability, random variables, several important distributions and inferential statistics including the sampling distribution, point estimation, confidence intervals and hypothesis testing. Analysis of variance, experimental designs, simple linear regressions and correlations are emphasised</i>		

Prasyarat : Tiada

Kursus ini merangkumi proses biokimia dalam sistem eukariot termasuk organel sel, sifat air dan interaksi molekul dalam persekitaran akuus, struktur dan peranan biomolekul, pemangkinan dan kawalan tindakbalas biokimia, peranan membran dan hormon, metabolisme dan bioenergetik serta aliran maklumat biologi

This course covers biochemical processes in eukaryotic system which include cell organization, properties of water and molecular interactions in aqueous environment, structure and roles of biomolecules, catalysis and control of biochemical reactions, structure and roles of membranes and hormones, metabolism and bioenergetics and flow of biological information

Prasyarat : Tiada

Kursus ini merangkumi konsep dan amalan pertanian presisi dalam konteks pertanian moden yang lestari berhubung perkembangan teknologi pertanian dalam era maklumat. Aspek-aspek yang penting dalam mengukur variabiliti amalannya meliputi prosedur pensampelan, pemetaan nutrien, hasil dan perosak, interpolasi corak ruang dan sistem maklumat geografi (GIS); model dan simulasi pertumbuhan tanaman, penggunaan data remote sensing dan kaedah statistik analisis data; operasi dan penggunaan peralatan seperti GPS (Global Positioning System), kamera infra-red satelit bumi, satelit angkasa, pengesanan hasil dan pelbagai perisian komputer

This course covers concepts and practices on precision agriculture in the context of modern sustainable agriculture in relation to agricultural development technologies in the information age. The important aspects in measuring variability of its practice covers sampling procedures, nutrient, yield and pest mapping, interpolation of spatial patterns and geographical information system (GIS); modeling and simulation of crop growth, use of remote sensing data and statistical methods of data analysis; operation and usage of instruments such as GPS (Global Positioning System), earth satellite infra-red camera, space satellites, yield sensors and various computer software

Prasyarat : Tiada

Kursus ini merangkumi proses pembentukan, perkembangan, percambahan, kedormanan, ujian dan penyimpanan biji benih. Pengeluaran dan pemprosesan biji benih juga diberi keutamaan

This course covers the process of formation, development, germination, dormancy, testing and storage of seeds. Seed production and processing are also emphasized

Prasyarat : Tiada

Kursus ini meliputi jenis-jenis sisa pertanian, masalah pencemaran alam sekitar dan pengurusan pelupusan dan/atau penggunaan semula secara mesra alam, kitaran semula sisa hijau sebagai sungkupan dan sumber nutrien, pengkomposan dan aspek peraturan penguatkuasaan alam sekitar

This course covers different types of agricultural wastes, environmental problems and environmental friendly waste management for disposal and/or utilization, recycling of green wastes as mulches and source of nutrients, composting and environmental regulatory enforcement aspects

CPP4600 Sains Racun Perosak/ *Pesticide Science* 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi ciri fiziko-kimia racun perosak, penggunaan, cara tindakan, interaksi dengan sistem hidupan sasaran, ketoksikan, pemilihan, keresistanan, penggunaan agen biologi, formulasi, peranan surfaktan/adjuvan, teknologi aplikasi racun perosak serta kaedah mengkaji dan mengukur gerakbalas perosak kepada racun perosak

This course covers the physico-chemical properties of pesticides in relation to their usage, activities, interaction with living systems, toxicity, selectivity, resistancy, use of biological agents, formulation, role of surfactants/adjuvants, pesticide application technology as well as methods of studying and measuring pest response to pesticide

CPT4800 Kimia dan Pemprosesan Hasil Komoditi Tumbuhan/
Chemistry and Processing of Plant Based Commodities 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi perubahan fisiko-kimia dan biokimia komoditi berasaskan tumbuhan semasa pengendalian, pemprosesan dan penyimpanan. Kandungan kursus meliputi teknologi pemprosesan hasil tumbuhan seperti lemak dan minyak, buah, sayuran, kekacang dan bijirin

This course covers physico-chemical and biochemical changes of plant based commodities during handling, processing and storage. The course content encompasses processing technology for plant products such as fats, oils, fruits, vegetables, cereals and legumes

CPT4801 Kimia dan Pemprosesan Hasil Komoditi Haiwan/
Chemistry and Processing of Animal Based Commodities 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi perubahan fisiko-kimia dan biokimia komoditi berasaskan haiwan semasa pengendalian, pemprosesan dan penyimpanan. Kandungan kursus meliputi teknologi pemprosesan daging, ayam, ikan, tenusu dan berbagai hasil haiwan

This course covers physico-chemical and biochemical changes of selected commodities based on food of animal origin during handling, processing and storage. The course content encompasses the technology for the processing of meat, poultry, fish, dairy and other animal products

AHP4401 Pemakanan Ternakan/ *Animal Nutrition* 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi pemakanan makro, mineral dan makanan sampingan yang lain yang diperlukan oleh ternakan. Penekanan adalah diberi dalam penghasilan makanan ternakan menggunakan sumber-sumber sedia ada dan menumpu kepada perumusan makanan ternakan

The course covers macro nutrition, minerals and complimentary supplements in producing livestock. Emphasis is given on the production of livestock feed using available resources and focus on formulation of animal feeds

AHP4504

Sistem Penternakan Bersepadu/
Integrated Livestock Systems

3(2+1)

Prasyarat : Tiada

Kursus ini meliputi prinsip dan konsep dalam sistem integrasi ternakan. Penekanan diberi terhadap aspek pembangunan sistem ternakan bersepadu dalam pengeluaran ternakan yang berdaya saing dan mesra alam yang mengambil kira kesan biologi serta ekonomi

This course covers the principles and concepts in integrated livestock systems. Emphasis is on the development aspect of integrated farming system that is competitive and environmental friendly that takes into account biological and economic effect

CAG4000

Pemakanan Tanaman/ *Crop Nutrition*

3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi peranan dan fungsi unsur pemakanan utama, metabolisme, penyerapan, interaksi antaranya dan keupayaan media untuk membekal nutrien, kesan kekurangan berlebihan dan ketoksikan kepada tumbesaran, penghasilan tanaman dan alam sekitar serta pengaruh kandungan nutrien terhadap penggunaan produk tumbuhan

This course encompasses the role and function of major nutrient elements, metabolism, absorption, interactions amongst nutrients and the capacity of media to supply nutrients, effect of nutrient deficiencies, excesses and toxicity on growth, yield of crops and the environment, as well as influence of nutrient composition on the utilization of plant products

CAG4001

Pembiakan Tumbuhan/ *Plant Breeding*

3(2+1)

Prasyarat : Tiada

Kursus ini meliputi sistem pembiakan tumbuhan, pewarisan sifat kuantitatif dan kualitatif, heritabiliti, kaedah pemilihan tanaman pendebungaan sendiri dan kacuk, kaedah pembiakbakaan melalui kacukan, mutasi, kacukan antara individu berpertalian genetik jauh dan kaedah pembiakbakaan yang lain

The course covers plant reproductive systems, inheritance of qualitative and quantitative characters, heritability, selection methods for self and cross-pollinated crops, breeding through hybridization, mutation, wide hybridization and other breeding methods

CAG4002

Botani Tumbuhan/ *Plant Botany*

3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi tanaman pertanian dan bertumpu kepada morfologi, anatomi dan taksonomi tumbuhan. Morfologi tumbuhan meliputi morfologi vegetatif dan reproduktif manakala anatomi berhubungkait dengan struktur dan fungsi sel dan tisu tumbuhan. Taksonomi tumbuhan meliputi proses-proses yang terlibat di dalam penamaan dan pengelasan tumbuhan

This course covers agricultural crops and focuses on plant morphology, anatomy and taxonomy. Plant morphology includes vegetative and reproductive morphology while anatomy relates to structure and function of plant cells and tissues. Plant taxonomy covers processes of nomenclature and classification of plants

CAG4003

Ekonomi Botani/ *Economic Botany*

3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi sejarah pengkomersialan tanaman, proses manipulasi tumbuhan, pengecaman bahagian bernilai dalam tumbuhan dan sumbangan tanaman kepada manusia

sejagat. Ini termasuk penilaian jenis-jenis tumbuhan penting dalam industri rempah ratus, makanan, minuman, perubatan dan kosmetik

This course covers history of crop commercialization, plant manipulation process, identification of valuable parts of plants and the benefit of crops to humans worldwide. This includes the evaluation of plants important in the spice, food, beverage, medical and cosmetic industries

CAT4102 Kultur Tisu Tumbuhan/ *Plant Tissue Culture* 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi prinsip dan teknik pembiakan tumbuhan secara in vitro, dengan penekanan kepada sistem pengeluaran dan pengurusan semasa dan aplikasinya dalam pembiakan tanaman hortikultur terpilih

This course covers principles and techniques of in vitro plant propagation, with emphasis on current production and management systems and their application in the propagation of selected horticultural crops

CAT4103 Mikrobiologi Gunaan/ *Applied Microbiology* 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi morfologi dan sifat-sifat pertumbuhan bakteria, mikoplasma, kulat, aktinomiset, alga dan virus; metabolisme, biokimia dan genetik mikrob, teknik-teknik mikrobiologi dan aseptik. Penekanan adalah kepada pengenalanpastian dan membezakan kepelbagaian biologi mikrob dengan kaedah serta peralatan yang bersesuaian

This course covers morphological and growth characteristics of bacteria, mycoplasma, fungi, actinomycetes, algae and viruses, metabolism, biochemistry and genetics of microbes, microbiological and aseptic techniques. Emphasis is on identification and differentiate diversify of microbes using suitable methods and equipment

CAT4104 Mikrobiologi Makanan/ *Food Microbiology* 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi peranan mikroorganisma dalam pemprosesan makanan dan pengawetan, perkaitan mikroorganisma dengan kerosakan makanan, penyakit dan keracunan, kualiti makanan secara umum dan peranan mikroorganisma dalam meningkatkan kesihatan

This course covers role of microorganisms in food processing and preservation, relation of microorganisms to food spoilage, foodborne illness and intoxication, general food quality, and role of microorganisms in health promotion

CAT4105 Teknologi Fermentasi/ *Fermentation Technology* 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi aspek penting teknologi fermentasi seperti pemencilan dan peningkatan strain mikrob untuk kegunaan di dalam industri, penyimpanan mikroorganisma, formulasi media, proses pensterilan, penyediaan inokulum, rekaan bioreaktor, kawalan proses untuk fermentasi, berbagai mod operasi fermentasi dan aspek asas kinetik fermentasi dan permodelan. Penekanan adalah terhadap penghasilan produk fermentasi dari sumber mikrob, haiwan dan tumbuhan

This course covers important aspects of fermentation technology such as isolation of microbes and improvement of strains for industrial applications, storage of microorganisms, media formulation, sterilization process, inocula preparation, bioreactor design, process control in fermentation, various modes of fermenter operation and basic aspects of fermentation kinetics and modeling. Emphasis is on fermentation products from microbial, animal and plant sources

CAT4107 Rawatan Air dan Air Kumbahan/
Water and Waste Water Treatment 3(2+1)

Prasyarat : Tiada

Kursus ini memberi penumpuan kepada kaedah penganalisaan dan perawatan air dan air kumbahan. Penekanan adalah kepada penggunaan teknologi yang mesra alam dan berkesan dalam mengawal punca pencemaran sumber-sumber air

This course focuses on the methods of analyzing and treatment of water and waste water. Emphasis is on application of technologies that are environmental friendly and effective in controlling sources of pollution of water resources

CAT4108 Pengurusan Sisa Perbandaran, Berbahaya dan
Bioperubatan/ Municipal, Hazardous and Biomedical
Waste Management 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi pelbagai aspek dalam mengatasi masalah pelupusan dan perawatan sisa. Penekanan adalah kepada aspek perawatan sisa berasaskan bioteknologi

This course covers various aspects in waste disposal and treatment. Emphasis is on the aspects of waste treatment based on biotechnology

CPP4601 Pengurusan Perosak/ Pest Management 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi prinsip dan kaedah pengawalan perosak (serangga, penyakit dan nematod parasit) pada tanaman-tanaman pertanian. Penekanan adalah dibuat terhadap aspek ekologi pengawalan perosak, kaedah penilaian infestasi perosak, kerugian tanaman dan penggunaan langkah kawalan sesuai terutama sekali kawalan perosak secara bersepadu

This course covers principles and methods in pest control (insects, diseases and nematode parasite) of agricultural crops. Emphasis is on ecological aspects of pest control, pest infestation evaluation, crop loss and adoption of suitable control measures especially on integrated pest management

CPT4802 Teknologi Lepastuai/ Postharvest Technology 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi prinsip dan teknologi yang digunakan dalam pengendalian lepastuai hasil tanaman. Fokus adalah kepada hormon, manipulasi suhu dan kelembapan bagi mengawal pemasakan serta penyimpanan. Penggunaan teknologi bersesuaian dalam penggredan, pemprosesan dan penyimpanan diutamakan

This course covers principles and technology in postharvest handling of crop product. Focus is on hormone, temperature and moisture manipulation for controlling ripening and storage. Suitable technology for grading, processing and storing are emphasised

CSS4701 Pengurusan Tanah Lestari/ *Sustainable Land Management* 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi konsep penggunaan tanah secara lestari, cara menilai kualiti tanah dan keperluan pemuliharaan serta peranan tanah sebagai singki untuk bahan pencemaran. Penekanan dibuat terhadap cara pengurusan dan penggunaan tanah

This course encompasses the concept of sustainable land use, methods of assessing land quality and improvement requirement as well as land purpose as sink for pollutants. Emphasis is given on the management and uses of land

SAB4401 Pemasaran Produk Agri-Bio/
Marketing of Agro-bio Product

3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi prinsip pemasaran, arah aliran dan masalah pemasaran produk agro-bio. Struktur, gelagat dan sistem aktiviti pemasaran meliputi risiko pasaran juga diberi tumpuan. Kursus ini juga menekankan pengurusan aktiviti pemasaran dalam industri agro-bio dengan menekankan penggunaan campuran pemasaran dalam membentuk pelan pemasaran lestari

This course covers principles of marketing, trends and problems in marketing of agro-bio products. Structure, behaviour, and system of marketing activities, which include marketing risk are also being emphasised. This course also focuses on the management of marketing activities in agro-bio industries which emphasises on the application of marketing mix in the formation of a sustainable marketing plan

SFC3200 Kaedah Instrumentasi/ *Instrumental Methods*

3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi pengetahuan secara teori dan praktik tentang pelbagai kaedah instrumentasi. Kursus ini menumpukan kepada penggunaan instrumen moden yang biasa digunakan di dalam makmal penyelidikan dan industri. Teori dan aplikasi teknik instrumen seperti spektroskopi, kromatografi, analisis terma dan bioteknologi turut dibincangkan. Teknik membangunkan kaedah, penyediaan sampel, mengoptimumkan keadaan operasi untuk mendapatkan ketepatan tinggi, mendapatkan keputusan yang boleh diulangi dan analisis data juga diperkenalkan

This course covers theoretical and practical knowledge of a variety of analytical instrumentation. The course concentrates on the modern instrumentation commonly use in industrial and research laboratories. The theory and application of instrumental techniques such as spectroscopy, chromatography, thermal analysis and biotechnology are discussed. The techniques of method development, sample preparation, optimization of operating conditions to obtain high accuracy, reproducible results and data analysis are also introduced

Jabatan Sains Perhutanan/Department of Forestry Science

AFS2001	Program Buku Hijau/ <i>Green Book Programme</i>	2(0+2)
Prasyarat : Tiada		
Kursus ini meliputi latihan dan kerja lapangan berkaitan pengeluaran hasil sayur-sayuran, kekacang, tapak semaian, tanaman buah-buahan, pastura dan hidupan akuatik. Latihan dan kerja lapangan sepanjang empat semester ini dikendalikan bersama oleh pegawai akademik dan sokongan		
<i>This course covers training and fieldwork in the production of vegetables, legumes, nursery, orchard, pasture and aquatic life. Training and fieldwork conducted for four semesters by the academic and the supporting staffs</i>		
FDE2101	Survei Hutan/ <i>Forest Survey</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi prinsip asas survei termasuk ukuran linear dan sudut, penggunaan peralatan survei, penentuan terabes dan pengiraan luas, kaedah ukur rantai, ukur kompas dan ukur aras, survei kontor dan topografi serta pemetaan		
<i>This course covers basic principles of surveying which involves linear and angular measurements, use of survey equipments, traverse determination and computation of area, chaining, compassing and levelling methods, contouring and topographic survey as well as mapping</i>		
FDE2102	Operasi Perhutanan/ <i>Forestry Operations</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi operasi dan teknik pembalakan serta sistem penuaian termasuk penebangan, penarikan dan pengangkutan. Perancangan jalan hutan, pengurusan jentera dan penyelenggaraan, serta keselamatan dan kesihatan pekerja turut diberi penekanan		
<i>This course covers logging operations and techniques, harvesting systems including felling, skidding and hauling. Forest road planning, machinery management and maintenance, as well as safety and health of workers are emphasised</i>		
FDM2308	Perlindungan Hutan/ <i>Forest Protection</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi perosak dan penyakit termasuk agen penyebab biotik dan abiotik, dan impaknya ke atas pertumbuhan pokok. Api sebagai agen pemusnah dan teknik perlindungan hutan turut diberi keutamaan		
<i>This course covers pest and diseases including biotic and abiotic causative agents, and their impact on tree growth. Fire as a destructive agent and forest protection techniques are also emphasised</i>		
FDP2403	Ekologi Hutan/ <i>Forest Ecology</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi ekologi hutan, faktor iklim dan biotik yang mempengaruhi pertumbuhan dan perkembangan tumbuhan edafik. Pengelasan hutan Malaysia, dinamik tumbuhan, proses pengeluaran bahan organik, aliran tenaga dan kitaran nutrien turut dibincangkan		

This course covers forest ecology, climatic and biotic factors influencing the growth and development of edaphic vegetation. Classification of Malaysian forest, plant dynamics, process of organic matter production, energy flow and nutrient cycling are discussed

FDP2404 Sains Tanah Hutan/ *Forest Soil Science* 2(1+1)

Prasyarat : Tiada

Kursus ini merangkumi ciri fizikal, kimia dan biologi tanah. Faktor yang mempengaruhi kualiti tanah, kaedah pengawalan dalam pemuliharaan dan pemulihan tanah, serta hubungan antara tumbesaran pokok dan ciri tanah turut dibincangkan

This course covers soil physical, chemical and biological properties. Factors affecting soil quality, control measures in soil conservation and rehabilitation, as well as relationships between tree growth and soil properties are discussed

FDP2405 Silvikultur Hutan/ *Forest Silviculture* 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi asas sistem, amalan dan kaedah silvikultur. Pemilihan spesies dan pengeluaran bahan tanaman, penubuhan dan pengurusan tapak samaian, serta penubuhan dan penyelenggaraan ladang juga diberi penekanan

This course covers fundamentals of silvicultural systems, practices and methods. Species selection and production of planting materials, nursery establishment and management, as well as plantation establishment and maintenance are emphasised

FDM2302 Sukatan Hutan/ *Forest Mensuration* 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi prinsip pengukuran vegetasi hutan, kaedah pengukuran dimensi pokok dan perlaksanaan inventori hutan. Hubungan asas antara dirian dan luas pangkal dirian, ketinggian dan isipadu dirian, tambahan dan hasil, indeks tapak, stok dan kepadatan dirian turut dibincangkan

This course covers principles of forest vegetation measurements, methods of measuring tree dimensions and implementation of forest inventory. Fundamental relationships between stand and basal area, height and volume, increment and yield, site index, stand stocking and density are discussed

FDM2301 Kaedah Komputer Dalam Perhutanan/
Computing Methods in Forestry 2(1+1)

Prasyarat : Tiada

Kursus ini meliputi teknik asas pengaturcaraan, penggunaan pakej perisian komputer yang lazim digunakan dalam bidang perhutanan, pengurusan jujukan fail dan maklumat. Kaedah penggunaan perisian penganalisan data yang berkaitan dalam bidang perhutanan dibincangkan

This course covers basic programming techniques, software packages relevant to forestry, files and information managements. Method of data analyses using software packages relevant to forestry disciplines are discussed

FDI2202	Pemprosesan Kayu/ <i>Wood Processing</i>	4(2+2)
Prasyarat : Tiada		
Kursus ini meliputi prinsip asas dalam industri perkayuan dari penyediaan bahan sehingga ke pemprosesan hiliran. Proses pemesanan kayu termasuk bahan, alatan dan mesin digunakan dalam industri hiliran perkayuan, bahan perekat dan kaedah penyalutan dalam industri papan komposit. Kemerosotan kayu dan langkah pengawalan akibat proses pengeringan dan pengawetan dan langkah pengawalan dibincangkan		
<i>This course covers the fundamentals of the wood industry from materials preparation to downstream processing. Wood machining process including raw materials, tools and machinery used in downstream wood industries, adhesives and coating methods in wood composite industries. Wood deterioration due to drying and preservation processes and their control measured are discussed</i>		
FDR2502	Penyampaian Khidmat Rekreasi/ <i>Recreation Services Delivery</i>	2(1+1)
Prasyarat : Tiada		
Kursus ini merangkumi sumber dan perkhidmatan hutan, sistem pemrograman dan penyampaian serta kepuasan pengguna. Penekanan juga diberikan kepada penilaian dan penambahbaikan penyampaian khidmat rekreasi		
<i>This course covers the forest resources and services, programming and delivery systems along with visitor satisfaction. Emphasis on recreation service assessment and improvement are given</i>		
FDM2304	Ekonomi Hutan/ <i>Forest Economics</i>	2(1+1)
Prasyarat : Tiada		
Kursus ini meliputi ekonomi pengeluaran barangan dan perkhidmatan hutan, tanah, tenaga kerja, modal dan kombinasinya. Pengurusan perniagaan perhutanan, analisis pelaburan, penilaian projek, ekonomi penggunaan tanah, perakaunan dan pemasaran turut ditekankan		
<i>This course covers the production economics of forest goods and services, land, labour, capital and their combinations. Forest business management, investment analysis, project evaluation, land use economics, accounting and marketing are emphasised</i>		
FDM2305	Pengurusan Hutan Asli/ <i>Natural Forest Management</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi fungsi utama proses pengurusan hutan asli. Hasil berkekalan, amalan giliran dan kitaran tebangan turut ditekankan. Organisasi hutan, catuan hasil, penyediaan rancangan kerja, konsep pengurusan persekitaran dan kaedah penilaian persekitaran serta pemuliharaan juga dibincangkan		
<i>This course covers the major functions in natural forest management process. Sustained yield, rotation and cutting cycle practices are emphasised. Forest organization, yield regulation, preparation of working plan, environmental management concept and environmental assessment methods including conservation are discussed</i>		

FDM2306 Dasar dan Undang-Undang Hutan/ *Forest Policy and Law* 2(2+0)

Prasyarat : Tiada

Kursus ini meliputi dasar awam dan hutan, proses penggubalan dan perlaksanaannya. Undang-undang hutan, isu dan jenis kesalahan dalam perhutanan di Malaysia dibincangkan. Kaedah penguatkuasaan dan langkah pencegahan, termasuk prosedur penyiasatan dan pendakwaan diberi penekanan

This course covers public and forest policies, formulation and implementation processes. Forest laws, issues and types of offences in Malaysian forestry are discussed. Enforcement methods and preventive measures, including investigation and prosecution procedures are emphasised

FDM2309 Pengurusan Ladang Hutan/ *Forest Plantation Management* 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi organisasi, struktur dan pengurusan ladang hutan. Pemilihan spesies, pengeluaran bahan tanaman, penubuhan dan penyelenggaraan, dan penuaian diberi penekanan. Kitaran penanaman, cabaran dan isu dalam menguruskan ladang hutan turut dibincangkan

This course covers the organisation, structure and management of forest plantations. Species selection, production of planting materials, establishment and maintenance, and harvesting are emphasised. Planting rotation, challenges and issues in managing forest plantations are also discussed

FDP2401 Botani Bukan Diterokarp/ *Botany of Non-Dipterocarps* 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi prinsip asas taksonomi tumbuhan hutan yang merangkumi terminologi ciri-ciri, kekunci taksonomi tumbuhan, taburan ekologi dan potensi penggunaan spesies pokok. Penekanan juga diberikan kepada penggunaan spesimen herbarium dan ciri lapangan dalam pengecaman takson tumbuhan bukan-dipterokarp penting di Malaysia

This course covers the basic principles in forest plant taxonomy which include plant characteristic terminologies, taxonomy keys, ecological distribution and potential uses of tree species. Emphasise on the use of herbarium specimens and field characteristics in taxa identification of important non-dipterocarp plants in Malaysia are given

FDP2402 Botani Diterokarp/ *Botany of Dipterocarps* 2(1+1)

Prasyarat : Tiada

Kursus ini meliputi prinsip asas pengecaman Dipterocarpaceae termasuk terminologi ciri-ciri, kekunci taksonomi tumbuhan, taburan ekologi dan potensi penggunaan spesies pokok. Penekanan juga diberikan kepada penggunaan spesimen herbarium dan ciri lapangan dalam mengcam takson dipterokarp penting di Malaysia.

This course covers the basic principles in Dipterocarpaceae identification including plant characteristic terminologies, taxonomy keys, ecological distribution and potential uses of tree species. Emphasis on the use of herbarium specimens and field characteristics in taxa identification of important dipterocarp in Malaysia are given

FDS2900	Kem Perhutanan/ <i>Forestry Camp</i>	1(0+1)
Prasyarat : Tiada		
Kursus ini meliputi pengenalan kepada asas kemahiran hidup dalam hutan. Bidang perhutanan yang merangkumi ekologi, pengecaman pokok dan hidupan liar, penilaian persekitaran dan aktiviti rekreasi juga diperkenalkan. Pengurusan masa, organisasi dan tekanan turut diberi penekanan		
<i>This course covers survival skills in forest. Discipline in forestry including ecology, trees and wildlife identification, environmental assesement and recreation activities are introduced. Emphasise on time, organization and stress management techniques are given</i>		
FDM2303	Kaedah Kuantitatif dalam Perhutanan/ <i>Quantitative Methods in Forestry</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi penghuraian data, kebarangkalian, pembolehubah rawak dan beberapa taburan statistik yang umum. Statistik inferens termasuk taburan pensampelan, ujian hipotesis, reka bentuk eksperimen, analisis parametrik dan bukan parametrik, regresi dan korelasi linear turut ditekankan		
<i>This course covers data description, probability, random variables and several common statistical distributions. Inferential statistics including sampling distribution, hypothesis testing, experimental designs, parametric and non-parametric analyses, linear regression and correlations are emphasised</i>		
FDS2901	Latihan Industri/ <i>Industrial Training</i>	12(0+12)
Prasyarat : Tiada		
Kursus ini meliputi latihan industri selama 24 minggu di agensi kerajaan atau beberapa syarikat atau kilang industri yang terpilih. Latihan dikendalikan bersama oleh penyelaras dan seorang penyelia atau pengurus dari agensi atau syarikat atau kilang tersebut		
<i>This course covers an industrial training for a period of 24 weeks at various selected government agencies, companies or factories. The training is organized jointly by the coordinator and supervisor or the manager from the related agencies, company or factory</i>		
FDM2307	Pengurusan dan Pemuliharaan Hidupan Liar/ <i>Wildlife Management and Conservation</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi konsep dan prinsip pengurusan hidupan liar, pengelasan spesies dan status, ekologi dan keperluan habitat, aktiviti pengurusan dan pemuliharaan serta akta hidupan liar yang berkaitan dengan amalan pemuliharaan hidupan liar		
<i>This course covers the concepts and principles of wildlife management, species classification and status, ecology and habitat requirements, management and conservation activities, and the wildlife act in relation to conservation practices</i>		
FDI2201	Sifat Kayu/ <i>Wood Properties</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi struktur anatomi dan pembentukan jenis sel kayu dan pengecaman kayu komersil. Ciri fizikal, kimia dan mekanikal kayu dibincangkan		

This course covers the anatomical structure and formation of wood cell types and, commercial woods identification. Physical, chemical and mechanical characteristics of wood are discussed

FDR2501 Komunikasi Interpretif/ *Interpretive Communication* 2(1+1)

Prasyarat : Tiada

Kursus ini merangkumi prinsip dan amalan komunikasi untuk sumber asli, sejarah dan budaya. Prinsip dan teknik interpretasi, penyampaian, penulisan dan komunikasi interpretasi turut dibincangkan

This course covers principles and practices of communication for natural, historical and cultural resources. Principles and techniques of interpretation, delivery, interpretive writing and communication are discussed

FDR2503 Perancangan dan Pembangunan Kawasan Rekreasi Luar/
Planning and Development of Outdoor Recreation Area 2(1+1)

Prasyarat : Tiada

Kursus ini meliputi konsep dan prinsip reka bentuk dalam perancangan kawasan rekreasi, kemudahan dan program aktiviti. Perbincangan tentang teknik perancangan termasuk inventori sumber rekreasi, susun atur kemudahan, dan pemilihan tapak aktiviti dilakukan. Penekanan juga diberikan kepada hubungkait fungsi antara kemudahan, aktiviti, operasi penyelenggaraan, perkhidmatan dan impak persekitaran

This course covers the concepts and design principles in planning recreation areas, facilities and programme activities. Discussion on planning techniques including recreation resources inventory, facilities layout, and selection of activity site are made. Emphasis on functional relationships between facilities, activities, maintenance, service operations, and environmental impact are given

Jabatan Sains Haiwan dan Perikanan/ Department of Animal Science and Fishery

AFS2001 Program Buku Hijau/ *Green Book Programme* 2(0+2)

Prasyarat : Tiada

Kursus ini meliputi latihan dan kerja lapangan berkaitan pengeluaran hasil sayur-sayuran, kekacang, tapak semaian, tanaman buah-buahan, pastura dan hidupan akuatik. Latihan dan kerja lapangan sepanjang empat semester ini dikendalikan bersama oleh pegawai akademik dan sokongan

This course covers training and fieldwork in the production of vegetables, legumes, nursery, orchard, pasture and aquatic life. Training and fieldwork conducted for four semesters by the academic and the supporting staffs

FMA1001 Penyakit Ikan/ *Fish Diseases* 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi faktor tekanan yang menjejaskan kesihatan ikan, pelbagai ektoparasit, endoparasit, bakteria dan kulat yang biasa dalam industri akuakultur serta kaedah pengawalan dan cara diagnose pengenalpastian penyakit ikan

This course covers stress factors which affect fish health, various common ectoparasites, endoparasites, bacteria and fungus in aquaculture industry as well as methods of control and diagnosis of fish diseases

FMA2001 Prinsip Akuakultur/ *Principles of Aquaculture* 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi sejarah dan perkembangan bidang akuakultur, bezantara amalan akuakultur, prinsip biologi dan ekonomi dalam akuakultur. Keperluan serta kualiti fiziko-kimia air turut ditekankan.

This course covers the history and development of aquaculture, differences between aquaculture practices, biological and economics principles in aquaculture. The needs and physico-chemical quality of water is also emphasized

FMA2002 Teknik Penetasan dan Semaian/
Hatchery and Nursery Techniques 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi prinsip dan kepentingan teknik penetasan dan semaian serta sejarah perkembangannya, kepentingan mutu air dan bekalannya, sistem penapisan biologi, fizik dan kimia. Biologi pembiakan, ternakan dan teknik pembiakan spesies ikan tempatan, penyediaan kolam dan tangki semaian serta pengurusannya, penghasilan, pembungkusan dan pengangkutan benih ikan turut dibincangkan

This course covers principles and importance of hatchery and nursery techniques and the history of its development, the importance of water quality and its supply, biological, physical and chemical filter systems. Biology of fish production and breeding techniques of local species, preparation and management of nursery pond and tank, production, packaging and transportation of fish fries are discussed

FMA2003 Pemakanan Ikan/ *Fish Nutrition* 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi bentuk mulut ikan dan hubungkaitnya dengan tabiat pemakanan, prinsip asas pemakanan, pengkelasan, keperluan dan fungsi zat makanan, perumusan, pemprosesan dan penyimpanan makanan ikan. Amalan pemakanan dan penyakit pemakanan turut dibincangkan

This course encompasses the mouth structure and their relationship to feeding habits, basic principles of nutrition, classification, requirement and function of nutrients, formulation, processing and storage of fish feed. Nutritional practices and nutritional diseases are also discussed

FMA2004 Pengurusan Kualiti Air dan Tanah/
Water and Soil Quality Management 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi kandungan nutrien dalam air dan kaitan dengan kualiti air, konsep asas dalam analisis kualiti air dengan menggunakan kaedah titrasi, ekstrak pelarut, spektrofotometer dan penggunaan alat mudah alih terkini. Jenis tanah dan kesesuaiannya untuk projek akuakultur, baik pulih mutu air dan tanah melalui rawatan fizikal dan kimia juga dititikberatkan

This course covers nutrient contents in water and its relation to water quality, basic concept in analysis of water quality using methods of titration, solvent extraction, spectrophotometer and latest portable equipments. Soil types and their suitability for aquaculture project, water and soil quality improvement through physical and chemical treatments are also emphasized

FMA2005 Amalan Akuakultur Barsepadu/
Integrated Aquaculture Practices 3(1+2)

Prasyarat : Tiada

Kursus ini memberi penekanan kepada kaedah dan penggunaan teknologi dalam bidang akuakultur bersepadu; kaedah pembiakan, pengurusan makanan, pengkulturan dan teknik pasca-tuai. Pelajar didedahkan kepada teknik pembiakan, pengurusan kolam untuk semaian dan tumbesaran ikan/udang termasuk pembungkusan dan pemasaran benih dan saiz pasaran ikan/udang. Penyediaan rekod dan laporan juga dititikberatkan.

This course emphasizes on the methods and uses of technologies in an integrated aquaculture; breeding method, nutrition management, culture and post-harvest techniques. Students are exposed to techniques in fish/prawn breeding, nursery and grow out pond management including packing, transporting and marketing of the seed and marketable size fish/prawn. Record and report preparation are also emphasized.

FMB1110 Biologi Ikan/ *Fish Biology* 3(2+1)

Prasyarat : Tiada

Kursus ini memperkenalkan asas anatomi dan fisiologi ikan, termasuk perbincangan mengenai kepelbagaian struktur, fungsi dan habitat dengan menitikberatkan perlakuan makanan, tumbesaran, pembiakan dan sejarah hidup. Pengkelasan dan pengecaman spesies dagangan yang penting juga turut diberi penekanan

This course introduces the basic anatomy and physiology of fish including discussion on diversity of structures, functions and habitat with emphasis on feeding growth, reproduction and life history. Classification and identification of commercially-important species are also emphasized

FMB1111	Biologi Invertebrata Akuatik/ <i>Biology of Aquatic invertebrates</i>	3(2+1)
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Prasyarat : Tiada

Kursus ini memperkenalkan kumpulan utama dan spesies invertebrat akuatik tempatan yang terdapat dalam ekosistem marin. Ia akan membincangkan ciri utama filum, struktur luaran dan dalaman, fungsi setiap struktur tersebut dalam mempengaruhi corak perkembangan hidup invertebrat akuatik. Penjelasan juga akan dititikberatkan pada sistem fisiologi utama badan terutama proses pernafasan, pemakanan, perkumuhan dan pembiakan. Kepentingan ekologi dan keertian ekonomi spesies dan filum juga akan turut diperbincangkan

This course introduces the important groups and locally important aquatic invertebrates species found in our marine ecosystem. Discussion will include topics such as phylum characteristics, external and internal structures, their function and roles in influencing the life development of aquatic invertebrates. All the different physiological systems adopted by the organisms including its respiration, feeding, excretion and reproduction will be discussed. Their ecological and economic importance for both the species and phylum would also be included

FMB2110	Ekologi Akuatik/ <i>Aquatic Ecology</i>	2(1+1)
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Prasyarat : Tiada

Kursus ini meliputi konsep dan perinsip ekosistem, aliran tenaga dan edaran biogeokimia. Ini termasuk faktor komponen ekologi seperti suhu, keamatan cahaya dan organisasi serta dinamik sesetengah ekosistem akuatik. Konsep struktur komuniti, populasi, spesies dan individu dalam pelbagai ekosistem akuatik serta beberapa aspek ekologi gunaan termasuk pencemaran, pengurusan ekosistem dan pemeliharaan diberi penekanan

This course covers ecosystem concept and principle, energy flow and biogeochemical cycles. This includes ecological component factors such as temperature, light intensity and organization, and the dynamics of some aquatic ecosystems. Concept on community structure, population, species and individuals in an ecosystem and several aspects of applied ecology including pollution, ecosystem management and conservation are given emphasis

FMB2111	Mikrobiologi Akuatik/ <i>Aquatic Microbiology</i>	2(1+1)
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Prasyarat : Tiada

Kursus ini meliputi asas mikrobiologi dengan menitikberatkan sistem akuatik, biologi bakteria, aktinomises, kulat, alga, protozoa dan virus. Pengenalpastian, pengiraan, pembelaan dan pemencilan mikroorganisma di alam sekitar perairan serta hasil perikanan diberi penekanan

This course covers fundamental microbiology with emphasis on the aquatic system, biology of bacteria, actinomycetes, fungi, algae, protozoa and virus. Identification, enumeration, cultivation and isolation of microorganisms from the aquatic environment and fish products are emphasized

FMM2312

Limnologi dan Oseanografi/ *Limnology and Oceanography* 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi ciri fizikal dan kimia air, taburan dan morfologi sistem air tawar dan marin, kitaran hidrologi dan keseimbangan air sedunia. Pengezonan mengikut kedalaman berdasarkan jenis ekosistem seperti tasik dan laut serta hubungkaitnya dengan komuniti fitoplankton, zooplankton, makrofit, bentos, fenomena eutrofikasi dan hamparan merah diberi penekanan

This course covers the physical and chemical characteristics of water, distribution and morphology of freshwater and marine systems, hydrological cycles and global water balance. Zonation according to depth based on types of ecosystem such as lake and seas as well as their relationship with phytoplankton, zooplankton, macrophytes and benthic communities, eutrophication phenomenon and red tides are emphasized

FMS2000

Renang dan Keselamatan Air/ *Swimming and Water Safety* 1(0+1)

Prasyarat : Tiada

Kursus ini meliputi latihan berenang dengan teknik yang betul bagi gaya bebas, kuak dada, mengapung, terjun dan berenang di bawah permukaan air. Latihan kaedah keselamatan air, teknik asas menyelamatkan nyawa dan teori bantu mula adalah dititikberatkan

This course covers the training of the correct swimming techniques for free style, breast stroke, floating, diving and underwater swimming. Training in water safety methods, basic rescue techniques and first aid theory are emphasized

FMS2001

Ladang Kongsi/ *Share Farm*

4(0+4)

Prasyarat : Tiada

Kursus ini meliputi latihan berorganisasi dalam amalan ladang kongsi. Penekanan diberi kepada pengurusan ternakan akuakultur dan poultry melalui perancangan dan pengurusan yang sistematik. Pelaburan, pengurusan harian, perekodan maklumat dan pengurusan belanjawan adalah dititikberatkan

This course covers the organizational training in a share farm practices. Emphasis is given to management of aquaculture and poultry production through systematic planning and management. Investment, daily management, record of data and budget management are emphasized

FMS2803

Pengurusan dan Undang-undang Perikanan/
Fisheries Management and Legislation

2(2+0)

Prasyarat : Tiada

Kursus ini meliputi sejarah, latarbelakang, perkembangan industri perikanan dan konsep pengurusan sumber perikanan akuatik di Malaysia. Dasar berkaitan pengurusan sumber perikanan di Malaysia, akta dan peraturan kecil seperti Akta Perikanan, Akta Zon Ekonomi Eksklusif (ZEE) dan Akta Pelanta Benua; undang-undang dan dasar pengurusan perikanan global seperti "Fishing Code and Conduct" dan "Convention on Highly Migratory Fishes" adalah dibincangkan

This course covers the history, background, the development of fishery industry and management concept of fisheries and other aquatic resources in Malaysia. Relevant Acts, laws and relevant subsidiary legislations pertaining to management of fisheries in Malaysia, such as Fisheries Act, Economic Exclusive Zone (EEZ) Act and Continental Act; laws and policies in global fisheries management such as Fishing Code of Conduct, and Convention on Highly Migratory Fishes are discussed

SAB2404 Perancangan dan Pengurusan Projek Keusahawanan Tani/
 Agribusiness Project Planning and Management 3(2+1)

Prasyarat : Tiada

Kursus ini memfokuskan kepada perancangan, tatacara serta kaedah penilaian dan pengurusan projek keusahawanan tani. Ia meliputi elemen dalam pengurusan projek, sistem jaringan maklumat bersepadu serta penyelenggaraan projek untuk menjamin keberkesanan perancangan, pengorganisasian dan pelaksanaan sesuatu projek

This course focuses on planning, procedures and methods of evaluating agribusiness project. It covers the elements in project management, integrated system of information networking to ensure the effectiveness of the project planning, organizing and implementation

FMS2901 Latihan Industri/ *Industrial Training* 12(0+12)

Prasyarat : Telah mengikuti sekurang-kurangnya 70% daripada kursus Diploma Perikanan.

Kursus ini meliputi latihan industri selama 24 minggu di agensi kerajaan atau beberapa syarikat atau kilang industri yang terpilih. Latihan dikendalikan bersama oleh pensyarah dan seorang penyelia atau pengurus dari agensi atau syarikat atau kilang tersebut

This course covers an industrial training for a period of 24 weeks at various selected government agencies, companies or factories. The training is organized jointly by the lecturer and supervisor or the manager from the related agencies, company or factory

FMT1210 Teknologi Penangkapan Ikan/ *Fishing Technology* 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi pengelasan alatan yang digunakan dalam eksploitasi sumber akuatik, kaedah, rekabentuk dan pembinaan alatan menangkap ikan serta faktor yang mempengaruhi kecekapan alatan. Pembangunan masa depan kawasan sumber perikanan juga dibincangkan

This course covers the classification of gears used in the exploitation of aquatic resources, methods, designs and construction of fishing gears as well as factors which influence their efficiency. Future development of fishery resource grounds is discussed.

FMT2210 Ilmu Perkapalan dan Pelayaran/
 Seamanship and Navigation 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi bahagian dan dimensi utama kapal, 'tonnage' dan kestabilan, struktur organisasi dan tugas di atas kapal, peralatan untuk berlabuh, pelayaran, pengendalian kargo dan keselamatan. Ilmu pelayaran difokuskan kepada penggunaan carta nautikal, teknik pelayaran, asas astronomi, elektronik, sistem boya antarabangsa dan ramalan pasang surut

This course covers the parts of a ship and principal dimensions, tonnage and stability, organizational structure and duty keeping on board a ship, deck gears and instrumentations for berthing, navigation, cargo handling and safety. Navigational knowledge is focused on usage of nautical charts, techniques for navigation, basic astronomical, electronic, international buoyage systems and tidal predictions

FMT2211	Teknologi Pasca Tuai dan Pemprosesan Produk Perikanan/ <i>Post-harvest Technology and Processing Fisheries Products</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi kaedah penuaian, pengendalian dan pengangkutan hasil perikanan. Aspek pengawetan, penyimpanan, pemprosesan dan pembungkusan diberi penekanan bagi menjamin jangka hayat, pemasaran dan keselamatan makanan produk perikanan <i>This course covers harvesting techniques, handling and transportation of fishery products. Aspects on preservation, storage, processing and packaging are given emphasis to ensure product lifespan, marketing and food safety of fishery products</i>		
FMA2006	Teknologi Akuakultur/ <i>Aquaculture Technology</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi kepentingan ekosistem dan persekitaran akuatik dalam pembangunan teknologi akuakultur. Arah dan perkembangan terkini teknologi sistem ternakan dan status teknologi pembiakan ikan dan kerangan, makanan akuatik dan pasca tuai diberi penekanan <i>This course covers importance of aquatic ecosystems and environment in the development of aquaculture technology. Trends and latest technologies in culture system and the status of technologies in fish and shellfish breeding, aqua feed and post-harvest are emphasized</i>		
AHP2307	Pengeluaran dan Pemprosesan Hasil Ternakan/ <i>Production and Processing of Livestock Products</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi produksi ternakan ruminan dan bukan ruminan secara ekstensif dan intensif, kepentingan industri ternakan, kaedah penternakan moden, serta pengendalian dan pemprosesan hasil ternakan. Penekanan diberi kepada amalan baik dalam pengeluaran ternakan <i>This course covers extensive and intensive ruminant and non-ruminant livestock production, the importance of animal industry and modern livestock husbandry, and handling and processing of livestock products. Emphasis is on good husbandary practices in livestock production</i>		
AHP2301	Genetik dan Pembiakbakaan Ternakan/ <i>Genetic and Livestock Breeding</i>	3(3+0)
Prasyarat : Tiada		
Kursus ini meliputi konsep asas genetik, pewarisan kualitatif dan kuantitatif, genetik populasi, sistem pembiakan dan program pembiakbakaan khas untuk ternakan. Ini termasuk kaedah pemilihan dan ujian prestasi untuk pemilihan haiwan ternakan <i>This course covers basic concepts in genetics, qualitative and quantitative inheritance, population genetics, reproduction systems and breeding programmes specific for livestock. These include the selection methods and performance testing for livestock selection</i>		
AHP2101	Statistik untuk Sains Haiwan/ <i>Statistics for Animal Science</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi konsep asas dan penggunaan statistik dan inferens statistik dalam kajian sains haiwan. Pelajar dikehendaki mengaplikasi statistik dan membentangkan hasil penemuan		

This course covers the basic concepts and their application of statistic and statistical inferences in an animal science research. Student are required to apply statistic and present their findings

AHP2506 Produksi Ruminan/ *Ruminant Production* 4(3+1)

Prasyarat : Tiada

Kursus ini meliputi pengurusan dan pengeluaran haiwan ruminan secara ekstensif dan intensif. Penekanan diberi kepada pengeluaran daging dan susu. Kemahiran dalam menjalankan ujian kualiti susu, penilaian dan pengendalian karkas turut diberi perhatian

This course covers extensive and intensive management and production of ruminants. The emphasis is on meat and milk production. Skills in milk quality testing, carcass evaluation and handling are also addressed

AHP2501 Sains Foraj/ *Forage Science* 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi spesies rumput dan kekacang yang digunakan sebagai sumber makanan ruminan. Ciri botani dan fisiologi, kaedah penanaman, pembajaan, pemotongan, pengawetan foraj, sistem ragutan, kadar penstokan dan integrasi ternakan-tanaman turut diberi penekanan

This course covers species of grass and legumes used as feed resources for ruminants. The botanical and physiological features, methods of planting, fertilizing, cutting, preservation of forages, grazing systems, stocking rate and crop-livestock integration are emphasized

AHP2401 Prinsip Pemakanan Ternakan/
Principles of Livestock Nutrition 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi aspek asas pemakanan ternakan termasuk jenis, fungsi, klasifikasi dan kandungan nutrien dalam bahan makanan. Keperluan nutrien untuk saraan, pertumbuhan dan pengeluaran juga dibincangkan

This course covers basic aspects of nutrition of livestock which includes types, functions, classification and content of nutrients in feed. Nutrient requirements for maintenance, growth and production and methods to improve feed quality are discuss

AHP2203 Pembiakan Haiwan/ *Animal Reproduction* 2(1+1)

Prasyarat : Tiada

Kursus ini meliputi anatomi dan fisiologi sistem pembiakan jantan dan betina, kitaran estrus, kebuntingan, kelahiran dan pernianan beradas. Faktor yang mempengaruhi fertiliti juga dibincangkan. Teknik pembiakan seperti mengekang haiwan, mengesan estrus, pernianan beradas serta mengumpul dan menilai semen turut diberi penekanan

This course covers anatomy and physiology of male and female reproductive systems, estrous cycle, pregnancy, parturition and artificial insemination. Factors that influence fertility are also discussed. Reproduction techniques such as animal restraining, estrous detection, artificial insemination including semen collection and evaluation are emphasized

AHP2402 Teknologi Makanan Ternakan/ *Livestock Feed Technology* 2(1+1)

Prasyarat : AHP2401

Kursus ini meliputi ciri-ciri bahan makanan ternakan konvensional dan bukan konvensional. Kaedah pemprosesan dan perumusan rangsum dengan menggunakan perisian komputer, teknik pengawetan, penyimpanan makanan, pengilangan, peralatan pemprosesan dan penggunaan aditif dalam rangsum ternakan juga diberi penekanan

This course covers the features of conventional and non-conventional feedstuffs. Methods of processing and ration formulation using computer software, preservation techniques, feed storage, milling and processing equipment, including the use of feed additives in livestock rations are emphasized

AHP2502 Produksi Poltri/ *Poultry Production*

4(2+2)

Prasyarat : Tiada

Kursus ini meliputi prinsip dan amalan pengurusan produksi ayam komersil dan produksi spesies poltri yang lain di kawasan tropika. Penekanan diberi terhadap aspek genetik dan pembiakbakaan, biosekuriti, perumahan dan peralatan, pemakanan, pengurusan dan penetapan matlamat pengeluaran dan hasil. Isu dan cabaran industri poltri dan strategi untuk mengatasinya adalah diberi perhatian

This course covers the principles and management practices in the production of commercial chickens and other poultry species in the tropics. Emphasis is on the genetics and breeding, biosecurity, housing and equipments, nutrition, management, including the setting up of production goals and products. Issues and challenges in poultry industry and strategies for resolving them are addressed.

AHP2503 Produksi Babi/ *Swine Production*

3(2+1)

Prasyarat : Tiada

Kursus ini meliputi sistem pengeluaran babi di Malaysia, pengurusan bagi semua peringkat termasuk pemakanan dan sistem pembiakbakaan. Masalah dan kekangan yang dihadapi oleh penternak tempatan serta cara mengatasi juga dititikberatkan

This course covers the swine production system in Malaysia, management at all stages including nutrition and breeding systems. Problems and constraints faced by local farmers and ways to resolving them are emphasized

AHP2504 Produksi Daging/ *Meat Production*

3(2+1)

Prasyarat : Tiada

Kursus ini meliputi sistem pengeluaran daging termasuk sistem ternak-tanaman bersepadu dan sistem pengeluaran intensif, penggunaan sisa pertanian sebagai makanan ternakan, amalan ternakan baik, jenis ternakan daging dan baka turut dibincangkan. Prinsip penghasilan produk, penyimpanan dan faktor terlibat juga dibincangkan.

This course covers the systems in meat production, which includes integrated livestock-primary crop and the intensive production systems, utilisation of agricultural by-products as feedstuffs, proper livestock husbandry, types of meat livestock and breeds for the production systems are discussed. Principles in product processing, storage and factors are also emphasized

AHP2505	Produksi Tenusu/ <i>Dairy Production</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi aspek pengurusan lembu tenusu dari lahir hingga dewasa. Pemberian makanan, pengurusan pembiakan, kebersihan dan ujian kualiti susu dari ladang hingga pasaran juga dibincangkan		
<i>This course covers aspects of managing of dairy cows from birth to adult. Feeding and breeding management, cleanliness and quality testing of milk from farm to market are discussed</i>		
AHP2508	Pengurusan Hasil Ternakan/ <i>Livestock Product Management</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi pengurusan dan pemprosesan hasil ternakan. Penekanan diberi kepada faktor yang mempengaruhi kualiti dan keselamatan makanan. Peningkatan aktiviti nilai tambah hasil ternakan melalui pemprosesan hiran turut diutamakan		
<i>This course covers management and processing of livestock products. Factors that influence product quality and safety are emphasised. Livestock value-added activities through downstream processing are optimized</i>		
AHP2901	Latihan Industri/ <i>Industrial Training</i>	12(0+12)
Prasyarat : Tiada		
Kursus ini meliputi latihan industri selama 24 minggu di agensi kerajaan atau beberapa syarikat atau kilang industri yang terpilih. Latihan dikendalikan bersama oleh staf akademik dan seorang penyelia atau pengurus dari agensi atau syarikat atau kilang tersebut		
<i>This course covers an industrial training for a period of 24 weeks at various selected government agencies, companies or factories. The training is organized jointly by the academic staff and supervisor or the manager from the related agencies, company or factory</i>		
AHP2604	Penyakit Haiwan/ <i>Diseases of Animals</i>	3(3+0)
Prasyarat : Tiada		
Kursus ini meliputi petanda penyakit haiwan kesayangan dan ternakan di Malaysia. Ia menekankan etiologi, epidemiologi, pengawalan dan pencegahan penyakit. Akta Ordinan Haiwan dan pemberian Sijil Kesihatan Haiwan juga dibincangkan		
<i>This course covers signs of diseases of pets and livestock in Malaysia. It emphasizes on aetiology, epidemiology, control and disease eradication. The Animal Ordinance Act and the issuance of Animal Health Certificate are discussed</i>		
AHP2601	Kesihatan Haiwan I/ <i>Animal Health I</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi struktur dan ciri agen penyakit seperti virus, bakteria, parasit dan kulat. Penekanan kepada penyakit dan pengelasan agen penyakit dan lesi yang dihasilkan		
<i>This course covers the structure and characteristics of infectious agents such as viruses, bacteria, protozoa and fungi. Emphases are on topics in diseases and the lesions produced by the infectious agent</i>		

AHP2602	Kesihatan Haiwan II/ <i>Animal Health II</i>	3(2+1)
Prasyarat : AHP2601		
Kursus ini meliputi penyebab dan kesan penyakit berjangkit yang disebabkan oleh parasit, bakteria, kulat dan virus pada ternakan dan haiwan kesayangan		
<i>This course covers the causes and effects of infectious diseases by parasites, bacteria, fungi and viruses in livestock and companion animal</i>		
AHP2202	Fisiologi Haiwan/ <i>Animal Physiology</i>	4(3+1)
Prasyarat : Tiada		
Kursus ini meliputi fungsi normal fisiologi haiwan. Ini merangkumi fisiologi umum sel, sistem saraf, kardiovaskular, pernafasan, pencernaan, ginjal, endokrin, pembiakan, laktasi dan hubungannya dengan persekitaran		
<i>This course covers normal physiological functions of animals. These include general physiology of cells, nervous, cardiovascular, respiratory, digestive, renal, endocrine and reproductive systems, lactation and relation to the environment</i>		
AHP2201	Anatomi Haiwan/ <i>Animal Anatomy</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi anatomi dan histologi pelbagai sistem dalaman haiwan. Ini merangkumi struktur sel dan tisu asas, sistem rangka, edaran darah, pernafasan, pencernaan, urinari, endokrin, pembiakan dan deria		
<i>This course covers gross anatomy and histology of various systems in animals and avians. These include structures of cell and basic tissues, skeletal, blood circulation, respiratory, digestive, urinary, endocrine, reproductive and sensory systems</i>		
AHP2603	Kesihatan Awam Veterinar/ <i>Veterinary Public Health</i>	2(1+1)
Prasyarat : Tiada		
Kursus ini meliputi kewujudan jangkitan dan kaedah jangkitan penyakit zoonosis. Prinsip, cara kawalan penyakit zoonosis serta kawalan kualiti dalam pemprosesan makanan berasal haiwan adalah dibincangkan		
<i>This course covers the occurrence and mode of transmission of zoonotic diseases. Principle, control procedure and quality control of processing of food of animal origin are discussed</i>		
AHP2605	Amalan Perubatan Veterinar/ <i>Practices of Veterinary Medicine</i>	3(1+2)
Prasyarat : Tiada		
Kursus ini meliputi prinsip asas farmakologi, toksikologi, pemberian dan interaksi ubatan ke atas sistem badan. Pengurusan peralatan surgery, amalan rutin klinik, pengurusan dan penjagaan ladang ternakan turut dibincangkan		
<i>This course covers the basic principles in pharmacology, toxicology, administration and interaction of drugs in body systems. Management of surgical instruments, routine clinic practices, management and care of livestock farm are discussed</i>		

Jabatan Sains Asasi Dan Kejuruteraan/ Department Of Basic Science And Engineering

AFS2001 Program Buku Hijau/ *Green Book Programme* 2(0+2)

Prasyarat : Tiada

Kursus ini meliputi latihan dan kerja lapangan berkaitan pengeluaran hasil sayur-sayuran, kekacang, tapak semaian, tanaman buah-buahan, pastura dan hidupan akuatik. Latihan dan kerja lapangan sepanjang empat semester ini dikendalikan bersama oleh pegawai akademik dan sokongan

This course covers training and fieldwork in the production of vegetables, legumes, nursery, orchard, pasture and aquatic life. Training and fieldwork conducted for four semesters by the academic and the supporting staffs

SFB1001 Prinsip Biologi I/ *Principles of Biology I* 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi alam tumbuhan dan haiwan dari segi pengkelasan, morfologi dan anatomi. Kitar hidup dan penyesuaian kepada habitat bagi organisma yang penting dari segi ekonomi dibincangkan

This course covers the plant and animal kingdoms with respect to classification, morphology and anatomy. Life cycles and adaptations to habitat of economically important organisms are discussed

SFB1002 Prinsip Biologi III/ *Principle of Biology II* 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi struktur, fungsi, proses fizikal dan kimia sel serta aliran tenaga untuk hidupan. Konsep asas genetik, Hukum Mendel, proses fisiologi tumbuhan dan haiwan dan ekologi ditekankan

This course covers cellular structures, functions, physical and chemicals processes, and energy flow in living things. Basic concepts in genetics, Mendel's Laws, physiological processes in plant and animal, and ecology are emphasized

SFC1100 Kimia Fizik/ *Physical Chemistry* 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi struktur atom, jadual berkala, hukum gas, ikatan kimia, stoikiometri tindak balas, tindak balas pengoksidaan dan penurunan, elektrolisis dan elektrokimia, keseimbangan kimia, kinetik tindak balas, koloid, dan kimia unsur

This course covers atomic structures and the periodic table, gas law, chemical bonding, stoichiometry, oxidation and reduction reactions, electrolysis and electrochemistry, chemical equilibrium, reaction kinetics, colloids and chemistry of element

Prasyarat : Tiada

Kursus ini meliputi tajuk umum dalam bidang kimia fizik, tak organik dan organik. Tajuk yang dibincangkan ialah struktur atom dan jadual berkala, ikatan kimia dan struktur, stoikiometri, keadaan jirim, keseimbangan kimia, kinetik kimia, elektrokimia, kimia bukan logam dan logam. Penamaan, sifat dan tindak balas beberapa kumpulan berfungsi sebatian organik juga dibincangkan

This course covers general topics in physical, inorganic and organic chemistry. The topics discussed are atomic structure and periodic table, stoichiometry, state of matter, chemical equilibrium, chemical kinetics, electrochemistry, chemistry of nonmetals and metals. Nomenclature, properties, and reactions of various functional groups of organic compounds are also discussed

SFC2200

Kimia Pengenalan/ Introductory Chemistry

3(2+1)

Prasyarat : Tiada

Kursus ini meliputi tajuk umum dalam bidang kimia fizik, organik dan tak organik. Tajuk yang dibincangkan ialah struktur atom dan jadual berkala, ikatan kimia dan struktur, stoikiometri, keadaan jisim, keseimbangan kimia, kinetik kimia dan elektrokimia. Penamaan, sifat, tindak balas beberapa kumpulan berfungsi sebatian organik dan isu-isu alam sekitar berkaitan kimia juga dibincangkan

This course covers general topics in physical, organic and inorganic chemistry. The topics discussed are atomic structure and periodic table, stoichiometry, state of matter, chemical equilibrium, chemical kinetics and electrochemistry. Nomenclature, properties, and reactions of various functional groups of organic compounds and chemistry-related environmental issues are also discussed

SFC2202

Kimia Pertanian/ Agricultural Chemistry

3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi pencirian komponen mikro kimia dalam haiwan dan tumbuhan, penggunaan dan pencirian baja dan racun perosak mengikut struktur kimia dan mod tindakan. Kesan hubungkait di antara aktiviti air dengan pemprosesan, pengawetan dan penyimpanan makanan turut dibincangkan

This course covers the properties and micro chemical components in animal and plants, usage and classification of fertilizers and pesticides according to their chemical structures and mode of actions. Effects of interaction between water activity, processing, preservation and food storage are also discussed

SFM1002

Matematik II/ Mathematics II

3(3+0)

Prasyarat : Tiada

Kursus ini merangkumi konsep had, fungsi selanjur dan diskrit, pembezaan dan pengamiran fungsi, petua rantai, pembezaan tersirat, penggunaan nilai ekstremum, kamiran bahagian demi bahagian dan persamaan pembezaan. Penjadualan dan perwakilan data, sukatan kecenderungan memusat, sukatan serakan, pilihatur dan gabungan serta kebarangkalian turut dibincangkan

This course covers the concepts of limits, continuous and discrete functions, differentiation and integration of functions, chain rule, implicit differentiation, application of extreme values, integration by parts and differential equations. Tabulation and representation of data, central tendency measures, dispersion measures, permutation and combination and probability are discussed

SFP1001	Fizik Pengenalan/ <i>Introductory Physics</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi hukum asas gerakan, daya, tenaga dan momentum. Prinsip kejuruteraan fizik jentera, kuasa dan mekanik bendalir; teori molekul jirim, sifat pepejal dan cecair, haba dan sifat-sifatnya, pengukuran dan pemindahan, teori kinetik gas, hukum-hukum gas, adiabatik dan pengembangan isoterma serta haba tentu		
<i>Fundamental laws of motion, force, energy and momentum. Principles of engineering physics-machines, power and fluid mechanics. Molecular theory of matter-behaviour of solids and liquids. Heat: its nature, measurement and transference. Kinetic theory of gases, gas laws, adiabatic and isothermal expansion. Specific heats</i>		
EAB2201	Struktur Ladang/ <i>Farm Structures</i>	3(3+0)
Prasyarat : Tiada		
Kursus ini meliputi perancangan pusat ladang dan kekuatan bahan pembinaan. Struktur persekitaran terkawal, struktur simenfero, struktur konkrit, struktur kayu, struktur besi dan rekabentuk struktur ladang diberi penekanan		
<i>This course covers farmstead planning and strengths of construction materials. Controlled environment structures, ferrocement structures, concrete structures, timber structures, steel structures and farm structural designs are emphasised</i>		
EAB2301	Teknologi Pengairan dan Penyaliran/ <i>Irrigation and Drainage Technology</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi rekabentuk dan pengurusan sistem pengairan dan penyaliran termasuk pam. Sumber air dan hubungan tanaman-air-tanah turut dibincangkan		
This course covers design and management of irrigation and drainage systems including pumps. Water sources and plant-water-soil relationships are also discussed		
EAB2401	Teknologi Pengurusan Sisa Biosistem/ <i>Biosystem Waste Management Technology</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi ciri sisa, kaedah pelupusan, serta teknologi pengurusan sisa dan enapecemar. Sisa pertanian dan biosistem diberi penekanan		
<i>This course covers waste characteristics, disposal methods, as well as sludge and waste management technology. Agricultural and biosystem waste are emphasised</i>		
EAB2501	Teknologi Pemprosesan Hasil Tanaman/ <i>Crop Processing Technology</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi prinsip dan amalan dalam teknologi pemprosesan hasil tanaman. Pemprosesan hasil kelapa sawit, getah, padi dan koko serta pengendalian sisa dari pemprosesan hasil tanaman turut dititikberatkan		
<i>This course covers principles and practices in crop processing technology. Processing of oil palm, rubber, rice and cocoa as well as handling of wastes from crop processing are also emphasised</i>		

EAB2601	Pengurusan Jentera Pertanian/ <i>Agricultural Machinery Management</i>	3(2+0)
Prasyarat : Tiada		
Kursus ini meliputi konsep pengurusan penjenteraan, termasuk prestasi traktor, prestasi operator dan analisis jentera. Keberkesanan penyediaan tanah dan analisis kos operasi jentera turut dibincangkan		
<i>This course covers concepts in mechanization management, including tractor performance, operator performance and machine analysis. Land preparation efficiency and cost analyses of machinery operation are also discussed</i>		
EAB2602	Jentera Pertanian, Penjenteraan dan Pengautomatan/ <i>Agricultural Machinery and Mechanization</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi operasi jentera, kepentingan dan halangan penjenteraan, enjin pembakaran dalaman, traktor pertanian serta peralatan penyediaan tanah, penanaman dan penuaian. Jentera untuk tanaman terlindung turut diberi penekanan		
<i>This course encompasses machinery operation, importance and obstacles to mechanization, internal combustion engines, agricultural tractors, as well as equipment for land preparation, planting and harvesting. Machinery for sheltered crops is also emphasised</i>		
EAB2603	Sistem Kuasa/ <i>Power Systems</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi prestasi enjin pembakaran dalaman, pemilihan dan operasi pam, pemilihan dan kecekapan dandang, dan bahan bakar. Analisis perlakuan turbin hidraul, serta operasi dan prestasi kipas dan penghembus turut dititikberatkan		
<i>This course covers internal combustion engine performance, pump selection and operation, boiler selection and efficiency, and fuel. Characteristic analysis of hydraulic turbines, as well as operation and performance of fans and blowers are also emphasised</i>		
EAB2604	Pengautomatan dalam Pertanian/ <i>Automation in Agriculture</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi pengautomatan dalam pertanian berserta aplikasinya. Operasi penderia, peralatan dan sistem kawalan, komponen Kawalan Logik Berprogram (PLC), litar elektrik dan pemrograman PLC turut diberi penekanan		
<i>This course covers automation in agriculture as well as its applications. Sensor operation, equipment and control systems, Programmable Logic Control (PLC) components, electrical circuits and PLC programming is also emphasised</i>		
EAB2605	Jentera Pertanian dan Penjenteraan/ <i>Agricultural Machinery and Mechanization</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi operasi jentera, kepentingan dan halangan penjenteraan, enjin pembakaran dalaman, traktor pertanian serta peralatan penyediaan tanah, penanaman dan penuaian. Jentera untuk tanaman terlindung turut diberi penekanan		

This course encompasses machinery operation, importance and obstacles to mechanization, internal combustion engines, agricultural tractors, as well as equipment for land preparation, planting and harvesting. Machinery for sheltered crops is also emphasised

EAB2901 Latihan Industri/ *Industrial Training* 12(0+12)
Prasyarat : Tiada

Kursus ini meliputi latihan industri selama 24 minggu di agensi kerajaan atau beberapa syarikat atau kilang industri yang terpilih. Latihan dikendalikan bersama oleh penyelaras dan seorang penyelia atau pengurus dari agensi atau syarikat atau kilang tersebut.

This course covers an industrial training for period of 24 weeks at various selected government agencies, companies or factories. The training is organized jointly by the coordinator and supervisor or the manager from the related agencies, company or factory

ECV2201 Ukur Kejuruteraan/ *Engineering Surveying* 3(2+1)
Prasyarat : Tiada

Kursus ini merangkumi ukur kejuruteraan, termasuk pengukuran jarak, jarak pugak, sudut dan arah, jarak kawalan, serta luas dan isipadu. Kaedah pengukuran jarak tak langsung turut dititikberatkan

This course encompasses methods in engineering survey, including measurement of distance, vertical distance, angle and direction, control traverse, as well as area and volume. Indirect distance measurement methods are also emphasised

EEE2301 Teknologi Elektrik dan Elektronik/
Electrical and Electronic Technology 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi litar elektrik, analisis rangkaian berperintang, analisis rangkaian ulang-alik AC, kuasa AC, separuh pengalir dan diod, transistor, penguat operasi dan litar logik digit. Instrumentasi dan penyukatan elektronik, serta mesin elektrik turut diberi penekanan

This course covers electrical circuits, resistor network analysis, AC circuit analysis, AC power, semiconductors and diodes, transistors, operational amplifiers and digital logic circuits. Electronic instrumentation and measurements, as well as electrical machines are also emphasised

EMM2201 Lukisan Kejuruteraan/ *Engineering Drawing* 2(1+1)
Prasyarat : Tiada

Kursus ini merangkumi penggunaan dan penyelenggaraan alatan melukis. Unjuran ortografik, lukisan bergambar, penamparan persilangan dan pendimensionan serta persembahan bebanang skru dan elemen mesin di dalam lukisan kejuruteraan, pengkeratan serta lukisan kerja turut dibincangkan

This course encompasses use and maintenance of drawing instruments. Orthographic projections, pictorial drawings, inter-section layout and dimensioning as well as presentation of screw threads, machine elements in engineering drawing, sectioning as well as working drawings are also discussed

EMM2301	Bengkel Kejuruteraan/ <i>Engineering Workshop</i>	1(0+1)
Prasyarat : Tiada		
Kursus ini meliputi operasi dan pengurusan bengkel yang merangkumi perkakasan dan peralatan, bahan, pengukuran, kerja pateri dan kimpal, kerja larik, dan kerja kisar. Pembaikan dan penyelenggaraan enjin turut dititikberatkan		
<i>This course covers workshop operation and management including, tools and equipment, materials, measurements, soldering and welding, lathe work and forming. Engine repair and maintenance are also emphasised</i>		
EMM2401	Mekanik Kejuruteraan/ <i>Engineering Mechanics</i>	3(3+0)
Prasyarat : Tiada		
Kursus ini merangkumi prinsip statik dan dinamik, kaedah vektor, geseran keseimbangan partikal, mekanik bahan pepejal, kerja dan tenaga. Tenaga terikan dan getaran mekanikal turut dibincangkan		
<i>This course covers principles of statics and dynamics, vector methods, friction, particle equilibrium, solid mechanics, work and energy. Strain energy and mechanical vibration are also discussed</i>		
EMM2402	Mekanik Bendalir/ <i>Fluid Mechanics</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi konsep asas bendalir dan tekanan bendalir. Prinsip pergerakan bendalir, persamaan momentum, aliran laminar, aliran gelora dan lapisan sempadan diberi penekanan		
<i>This course covers fundamental concepts of fluids and fluid pressure. Principles of fluid flow, momentum equation, laminar flow, turbulent flow and boundary layers are emphasised</i>		
EMM2403	Kekuatan Bahan/ <i>Strength of Materials</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi analisa tegasan dan terikan, bebanan paksi, kilasan dan lenturan, kriteria kegagalan dan analisa rasuk. Bebanan gabungan dan analisa tiang juga diberi penekanan		
<i>This course covers stress and strain analysis, axial, torsion and bending load, failure criteria and beam analysis. Combined load and column analysis also emphasized</i>		
EMM2501	Termodinamik dan Pemindahan Haba/ <i>Thermodynamics and Heat Transfer</i>	3(3+0)
Prasyarat : Tiada		
Kursus ini merangkumi termodinamik dan aplikasinya dalam kejuruteraan. Tenaga dalam termodinamik, sistem unit, bentuk tenaga, imbangan tenaga, dan sifat termodinamik, penggunaan jadual, carta dan persamaan berkaitan proses termodinamik, serta kitaran wap dan gas turut dibincangkan		
<i>This course covers thermodynamics and its engineering applications. Energy in thermodynamics, system of units, forms of energy, energy balance and thermodynamic properties, use of tables, charts and relevant thermodynamic process equations, as well as gas and vapour cycles are also discussed</i>		

CAG2011 Pengeluaran Tanaman Industri/ *Industrial Crop Production* 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi prinsip dan amalan dalam pengurusan tanaman industri. Faktor yang mempengaruhi tumbesaran tanaman seperti tanah, cahaya, air, nutrien, perosak dan penyakit diberi penekanan. Amalan perladangan mesra alam turut diberi perhatian

This course covers principles and practices in managing industrial crops. Factors that influence crop growth such as soil, light, water, nutrients, pests and diseases are emphasised. Environmental friendly plantation practices are also addressed

Jabatan Sains Sosial/ Department of Social Science

AFS2001 Program Buku Hijau/ *Green Book Programme* 2(0+2)

Prasyarat : Tiada

Kursus ini meliputi latihan dan kerja lapangan berkaitan pengeluaran hasil sayur-sayuran, kekacang, tapak semaian, tanaman buah-buahan, pastura dan hidupan akuatik. Latihan dan kerja lapangan sepanjang empat semester ini dikendalikan bersama oleh pegawai akademik dan sokongan

This course covers training and fieldwork in the production of vegetables, legumes, nursery, orchard, pasture and aquatic life. Training and fieldwork conducted for four semesters by the academic and the supporting staffs

SAB1401 Pengenalan kepada Perniagaantani/
Introduction to Agribusiness 2(2+0)

Prasyarat : Tiada

Kursus ini memperkenalkan kepada perniagaantani, kepentingan dan hubungannya dengan sektor ekonomi secara am dan peluang pekerjaan di dalam bidang perniagaantani. Ia juga meliputi pengeluaran perniagaantani, pemprosesan dan pemasaran produk perniagaantani, pengguna, kredit dan kewangan, peranan kerajaan, dan masa depan perniagaantani

This course introduces to agribusiness, its importance and relationship to the general economy and employment opportunities in the field. It also covers agribusiness production, processing and marketing of product, consumers, credit and finance, roles of government, and the future of agribusiness

SAB2401 Pengkomputeran dalam Perniagaantani/
Computerization in Agribusiness 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi aplikasi komputer di dalam aktiviti perniagaantani. Ini termasuk penggunaan perisian automasi pejabat, penyuntingan grafik, persembahan multimedia dan pembangunan laman web

This course encompasses the application of computer in agribusiness activities. It includes the use of office automation software, graphic editing, multimedia presentation and website development

SAB2402 Keusahawantani/ *Agro-Entrepreneurship* 3(2+1)

Prasyarat : Tiada

Kursus ini memfokuskan kepada keusahawantani, strategi dalam kejayaan perniagaan, aspek penting dalam rancangan perniagaan dan persediaan sebagai usahawantani yang berjaya saing

This course focuses on agro-entrepreneurship, strategies for business success, the important aspects in business planning and preparation as competitive agro-entrepreneur

SAB2403	Pemasaran Perniagaantani/ <i>Agribusiness Marketing</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi tentang pemasaran perniagaantani, kegiatan dan fungsi utama pemasaran pertanian, penentuan harga pertanian, indeks harga, promosi dan pengagihan produk pertanian, perdagangan pertanian antarabangsa, cabaran dan isu semasa pemasaran perniagaantani		
<i>This course covers agribusiness marketing, activity and major functions of agribusiness marketing, determination of agricultural prices, promotion and distribution of agricultural products, international trade in agriculture, challenges and current issues in agriculture marketing</i>		
SAB2405	Projek Perniagaantani/ <i>Agribusiness Project</i>	3(0+3)
Prasyarat : Tiada		
Kursus ini memberi latihan amali dalam pengurusan projek perniagaantani. Pelajar dikehendaki menyediakan satu cadangan projek perniagaantani, melaksanakan projek dan menghantar laporan komprehensif setelah projek tamat		
<i>This course provides practical training in agribusiness project management. Students are required to prepare an agribusiness project proposal, implement the project and submit a comprehensive report upon project completion</i>		
SAB2901	Latihan Industri/ <i>Industrial Training</i>	12(0+12)
Prasyarat : Tiada		
Kursus ini meliputi latihan industri selama 24 minggu di agensi kerajaan atau beberapa syarikat atau kilang industri yang terpilih. Latihan dikendalikan bersama oleh penyelaras dan seorang penyelia atau pengurus dari agensi atau syarikat atau kilang tersebut		
<i>This course covers an industrial training for a period of 24 weeks at various selected government agencies, companies or factories. The training is organized jointly by the coordinator and supervisor or the manager from the related agencies, company or factory</i>		
SAC2201	Perakaunan Pengurusan/ <i>Management Accounting</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini meliputi konsep pengekosan, keluaran, perhubungan kos-volum-untung, belanjawan, pengekosan piawai, tanggungjawab perakaunan, pengekosan relevan dan harga pindahan. Penekanan diberikan kepada aspek perancangan dan kawalan dengan menggunakan maklumat perakaunan		
<i>This course covers the concepts of product costing, cost-volume-profit relationship, budgeting and budget control, standard costing, responsibilities of accounting, relevant costing and transfer pricing. Emphasis is given to the aspects of planning and control with the use of accounting information</i>		
SEC1101	Prinsip Ekonomi/ <i>Principles of Economics</i>	3(2+1)
Prasyarat : Tiada		
Kursus ini merangkumi prinsip mikroekonomi dan makroekonomi. Teori mikroekonomi meliputi konsep permintaan dan penawaran, kos dan kecekapan pengeluaran, dan struktur pasaran. Teori makroekonomi pula membincangkan konsep berkaitan pendapatan negara, pasaran wang, dasar fiskal dan monetari, inflasi dan pengangguran, dan perdagangan antarabangsa		

This course encompasses the principles of microeconomics and macroeconomics. Microeconomics theory covers the concepts of demand and supply, production cost and efficiency, and market structure. Macroeconomics theory discusses the concepts related to national income, money markets, fiscal and monetary policy, inflation and unemployment, and international trade

SMG1301 Prinsip Pengurusan/ *Principles of Management* 3(3+0)

Prasyarat : Tiada

Kursus ini meliputi fungsi dan proses pengurusan bagi organisasi. Penekanan diberikan kepada pembentukan dasar, pembangunan asas organisasi, tanggungjawab dan kewibawaan pemimpin, pengurusan personel dan beberapa teknik dalam membuat keputusan pengurusan

This course covers the management's functions and processes for organization. Emphasis is given to policy formulation, basic development in organization, leader's responsibilities and credibility, personnel management and several techniques in management decision making

SMG2301 Statistik Perniagaan/ *Business Statistics* 3(2+1)

Prasyarat : Tiada

Kursus ini menekankan kepada konsep asas statistik dan kaedah untuk mengumpul, menyimpan serta menganalisis maklumat dan data perniagaan dan ekonomi; dan mentafsir analisis dalam pembuatan keputusan

This course emphasizes the basic concepts of statistics and methods of collecting, storing and analyzing business and economic information and data; and interpretation of analysis in decision making

SMG2302 Undang-undang Perniagaan/ *Business Law* 3(3+0)

Prasyarat : Tiada

Kursus ini merangkumi prinsip undang-undang berkaitan penubuhan dan pengurusan sesuatu perniagaan tertentu. Penekanan diberikan kepada sistem perundangan Malaysia, undang-undang kontrak dan undang-undang syarikat

This course encompasses the principles of law relating to the establishment and management of particular types of business. Emphasis is given to Malaysian legal system, law of contracts and company law

SMG2303 Komunikasi Perniagaan/ *Business Communication* 3(2+1)

Prasyarat : Tiada

Kursus ini merangkumi fungsi komunikasi dan kepentingannya dalam dunia perniagaan. Tumpuan diberikan ke atas aspek kemanusiaan dengan menekankan strategi dan teknik komunikasi yang efektif untuk mencapai matlamat organisasi

This course encompasses the functions and importance of communication in the business world. It focuses on the human aspects with emphasis given to effective communication strategies and techniques to achieve the organization's goal

SMG2305	Perundingan dan Kejurujualan/ <i>Negotiation and Salesmanship</i>	3(2+1)
<p>Prasyarat : Tiada</p> <p>Kursus ini meliputi penyediaan dan proses pembentukan asas teori dalam kaedah penjualan. Teknik perundingan dan kejurujualan untuk mewujudkan penjualan diberi penekanan <i>This course covers preparation and basic process formation of theory in selling methods. Negotiation techniques and salesmanship for creating sales are emphasized</i></p>		
BBI2409	Bahasa Inggeris untuk Tujuan Akademik/ <i>English For Academic Purpose</i>	3(2+1)
<p>Prasyarat : Tiada</p> <p>Kursus ini meliputi pembinaan kemahiran belajar, strategi membaca untuk tujuan akademik, latihan bertutur dan menulis dalam situasi akademik dan pembinaan kemahiran tatabahasa. <i>This course covers developing study skills, reading strategies for academic purposes, practice in speaking and writing in academic settings and developing grammar skills</i></p>		
BBI2420	Kemahiran Berinteraksi Secara Lisan/ <i>Oral Interaction Skills</i>	3(2+1)
<p>Prasyarat : Tiada</p> <p>Kursus ini merangkumi penyebutan yang betul, tekanan suara dan intonasi yang sesuai, kemahiran dan strategi bertutur dalam pelbagai situasi formal dan tidak formal, dan membuat persembahan lisan untuk tujuan akademik dan profesional, penggunaan tatabahasa dalam konteks komunikatif, latihan perbualan tidak formal, simulasi temubual, merangka dan membuat persembahan lisan. <i>This course covers correct pronunciation, appropriate stress and intonation skills, speaking skills and strategies in a variety of formal and informal situations, and making oral presentations for academic and professional purposes, correct grammar usage in communicative contexts, informal conversation practice, interview simulations, and outlining and delivering oral presentations</i></p>		
SAB1101	Pengenalan kepada Ekonomi Pertanian/ <i>Introduction to Agricultural Economics</i>	2(2+0)
<p>Prasyarat : Tiada</p> <p>Kursus ini meliputi prinsip asas ekonomi pengeluaran dan penggunaannya dalam menyelesaikan permasalahan dalam sektor pertanian. Struktur pasaran, pemasaran produk makanan dan peranan institusi pemasaran di Malaysia juga dibincangkan. <i>This course covers the basic principles of production economics and its application in solving the problems in agricultural sector. Market structures, food product marketing and the roles of marketing institutions in Malaysia are also discussed</i></p>		
CFM2201	Pengurusan Ladang/ <i>Farm Management</i>	3(2+1)
<p>Prasyarat : Tiada</p> <p>Kursus ini merangkumi prinsip, konsep dan teknik pengurusan ladang dengan menekankan proses perancangan, analisis kewangan, kajian ladang, pelaksanaan dan kawalan projek dari segi belanjawan kewangan serta ciri dan budaya keusahawantani</p>		

This course covers the principle, concept and technique of farm management with emphasis on planning process, financial analysis, farm research and project implementation and control in terms of financial budgeting, characteristic and culture of agripreneurship

SAC1201 Prinsip Perakaunan/ Accounting Principle 3(2+1)

Prasyarat : Tiada

Kursus ini meliputi sejarah dan perkembangan perakaunan, peranan dan persekitaran perakaunan, piawai, konsep dan teori perakaunan, perniagaan dan persekitaran, sistem perakaunan dan kawalan. Peraturan simpan kira, rangka kerja kitaran perakaunan dan penyimpanan rekod, perakaunan untuk hasil, belanja, aset, liabiliti dan ekuiti pemilik. Perakaunan akhir tempoh, perbandingan penyata kewangan antara industri, dan pengenalan kepada penggunaan, analisis dan interpretasi penyata kewangan

This course encompasses the history and development of accounting, accounting roles and environments, standards, basic concepts and theories of accounting, business and environments, accounting systems and control. Rules of book keeping, accounting cycles and record keeping, accounting for revenues, expenses, assets, liabilities and owner's equity. Year end accounting, comparison of financial statements among industries, and introduction to uses, analysis and interpretation of financial statement

SEC1100 Ekonomi Asas/ Basic Economics 2(2+0)

Prasyarat : Tiada

Kursus ini merangkumi konsep utama ekonomi mikro dan makro; penawaran dan permintaan, fungsi dan kos pengeluaran, struktur pasaran; perakaunan pendapatan negara, penggunaan, simpanan dan pelaburan; penentuan pendapatan, inflasi dan pengangguran dan ekonomi terbuka

This course covers key concepts of microeconomics and macroeconomics; supply and demand, production function and cost of product, market structure; national income accounting, consumption, saving and investment; income determination, inflation and unemployment and open economics

SKP2101 Kenegaraan Malaysia/ Malaysian Nationhood 3(3+0)

Prasyarat : Tiada

Kursus ini merangkumi sejarah negara, perjuangan mencapai kemerdekaan, penubuhan Persekutuan Malaysia, sejarah, ciri dan masalah masyarakat majmuk, Sistem Demokrasi Berparlimen, sistem pilihanraya, Perlembagaan Malaysia, Rukunegara, Sistem Raja Berpelembagaan, pentadbiran awam dan dasar-dasar negara.

This course encompasses on the nation's history, the struggle for independence, the formation of the Federation of Malaysia, history, characteristics and problems of plural society, Parliamentary Democracy system, electoral system, Malaysian Constitution, Rukunegara, Constitutional, Monarchy, Public Administration and national policies

SKP2203 Tamadun Islam dan Tamadun Asia/
Islamic Civilization and Asian Civilization 2(2+1)

Prasyarat : Tiada

Kursus ini meliputi ilmu ketamadunan yang mencakupi pengajian ketamadunan, interaksi antara pelbagai tamadun (Melayu, Cina dan India), Islam dalam Tamadun Melayu serta peranannya dalam pembinaan Tamadun Malaysia, isu-isu kontemporari Tamadun Islam dan Tamadun Asia dalam proses pembangunan negara.

This course covers civilizational studies which include introduction to civilization, interaction between civilizations (Malay, Chinese, Indian), Islam in Malay Civilization and its role in building Malaysian Civilization, contemporary issues in Islamic Civilization and Asian Civilization in the process of national development

SKP2204 Hubungan Etnik/ *Ethnic Relation* 2(2+0)

Prasyarat : Tiada

Kursus ini meliputi konsep-konsep asas budaya dan hubungan etnik, perkembangan hubungan etnik di Malaysia, cabaran global dalam hubungan budaya dan etnik di peringkat Malaysia dan Asia dan hubungan etnik menurut perspektif Islam.

This course covers basic concepts of cultural and ethnic relations, development of ethnic relations in Malaysia, global challenges in cultural and ethnic relations in Malaysia and Asia and ethnic relations from Islamic perspective

KURSUS TAWARAN FAKULTI LAIN

(Sila rujuk sinopsis pada fakulti berkenaan)

1. FAKULTI PERTANIAN

1.1 PRT2008 Pertanian dan Manusia/ *Agriculture and Man* 2(2+0)

2. FAKULTI EKOLOGI MANUSIA

2.1 SKP2101 Kenegaraan Malaysia/ *Malaysian Nationhood* 3(3+0)

2.2 SKP2203 Tamadun Islam dan Tamadun Asia/ *Islamic Civilization and Asian Civilization* 2(2+0)

2.3 SKP2204 Hubungan Etnik/ *Ethnic Relation* 2(2+0)

3. FAKULTI EKONOMI PENGURUSAN

3.1 MGM3180 Asas Keusahawanan/ *Basic Entrepreneurship* 3(3+0)

4. FAKULTI BAHASA MODEN DAN KOMUNIKASI

4.1 BBI2420 *Oral Interaction Skills* 3 (2+1)

4.2 BBI2421 *General Writing Skills* 3 (2+1)

4.3 BBI2423 *Academic Interaction & Presentation* 3 (2+1)

4.4 BBI2424 *Academic Writing* 3 (2+1)

4.5 KOM3403 Pengucapan Awam/ *Public Oration* 3 (3+0)

5. FAKULTI SAINS KOMPUTER DAN TEKNOLOGI MAKLUMAT

5.1 SSK3000 Teknologi Maklumat dan Penggunaannya/
Information Technology and its Applications 3 (2+1)

6. FAKULTI SAINS

6.1 MTH3003 Statistik bagi Sains Gunaan/
Statistics for Applied Sciences 4 (3+1)