POST GRADUATE PROGRAMMES

COLLEGE OF POST GRADUATE STUDIES
G.B. Pant University of Agriculture and Technology
Pantnagar 263145

May, 2023

COMMON REGULATIONS FOR CREDIT REQUIREMENTS AND EVALUATION

I. FOR MASTER'S AND DOCTORAL PROGRAMMES INCLUDING AGRICULTURAL ENGINEERING SUBJECTS (EXCEPT MBA/MCA & M.Tech./Ph.D. in PURE TECHNOLOGY SUBJECTS)

Credit Requirements

i.	Course Work	Master's (Credit Hours)	Ph.D. (Credit Hours)
	Major Courses	20	12
	Seminar	01	02
	Minor/ Optional Courses	08	06
	Supporting Courses	06	06
	Common Courses	05	--
ii.	**Thesis Research**	30	75
	Total	**70**	**101**

MASTER'S DEGREE

Minor Courses (08 Credits)
Will be taken from any one department (other than major department) of the university (600 / 500 series)

OR

Optional Courses (08 Credits)
Will be taken from any department/s (including major department) of the university (600 / 500 series)

Ph.D. DEGREE

Minor Courses (06 Credits)
Will be taken from any one department (other than major department) of the university (not less than 600 series)

OR

Optional Courses (06 Credits)
Will be taken from any department(s) (including major department) of the university, however minimum 6 credits shall be from other than major departments (not less than 600 series)

II. FOR PURE TECHNOLOGY SUBJECTS

Credit Requirements

i. Course Work	Master's (Credit Hours)	Ph.D. (Credit Hours)
Program Core Courses	16	09
Seminar	02	02
Program Electives	19	
Supporting Courses	--	06
Common Courses	03	--
ii. Thesis Research	30	84
Total	**70**	**101**

Program Electives (19 Credits)

(Will be taken from the list of PG courses (500/600 Series for M.Tech.)

i. Any PG Course of the department can be opted by the student as Program Elective if recommended by advisory committee.
ii. The relevant PG course offered by other departments of College of Technology and CBSH may also be opted as Program Elective if recommended by advisory committee.
iii. Any course of 3 credits relevant to chosen stream may be taken from the MOOC courses available on SWAYAM portal in lieu of listed programme electives. The credits of such MOOC course will be accepted and considered as credits required for program elective.

III. MBA/MBA (AGRIBUSINESS)

Credit Requirements

Course Work	MBA (Credit Hours)	MBA (AGRIBUSINESS) (Credit Hours)
Major Courses	26	26
Seminar	01	01
Minor/ Optional courses	08	08
Supporting Courses	06	06
Common Courses	05	05
Summer Internship	08	08
Project	30	30
Total	**84**	**84**

EVALUATION OF COURSE WORK

Multiple tests of evaluation shall continue as per existing Academic Regulations.

I. MASTER'S PROGRAMME

The evaluation of the courses under Ph.D. programmes shall be done as detailed below:

Type of evaluation	Theory courses (%)	Theory + Practical courses (%)	Practical courses (%)
I Pre-final	20	15	
II Pre-final	20	15	
Short Quiz(zes) ***Assignment(s)***	10	10	
Practical	--	20	100*
Theory Final Examination	50	40	
Total	**100**	**100**	**100**

***Distribution of marks will be decided by the Instructor with approval of Head of Department.**
No change in the distribution of marks would be permissible without prior approval of the Head of Department.

II. MBA Programme

The weightage for various types of examinations in Management Programmes will be as under:

Type of evaluation	Theory courses (%)	Theory + Practical courses (%)
Mid-Term Examination	20	20
PGCAP	40	20
Practical		20
Theory Final Examination	40	40
Total	**100**	**100**

III. Ph.D. Programmes

The evaluation of the courses under Ph.D. programmes shall be done as detailed below:

Type of evaluation	Theory courses (%)	Theory + Practical courses (%)	Practical courses (%)
Mid-Term Examination	20	20	--
a) Quiz(zes)	30	20	--
b) Assignment(s)			
c) Group Discussion			
*(Minimum **Any Two** from **a** to **c)***			
Practical	--	20	100*
Theory Final Examination	50	40	
Total	**100**	**100**	**100**

***Distribution of marks will be decided by the Instructor with approval of Head of Department.**

No change in the distribution of marks would be permissible without prior approval of the Head of Department.

AGRICULTURE DISCIPLINES

1. AGRICULTURAL ECONOMICS

M. Sc. (Agri.) Agricultural Economics

Major Courses		
AEC 600*	Micro Economic Theory and Applications	3(3-2-0)
AEC 601*	Macro Economic Theory and Policy	2(2-2-0)
AEC 611*	Econometrics	3(2-0-1)
AEC 615*	Linear Programming Methods	2(1-1-1)
AEC 618*	Research Methodology for Social Sciences	2(1-0-1)
AEC 620*	Agricultural Marketing and Price Analysis	2(1-1-1)
AEC 641*	Agricultural Production Economics	3(2-0-1)
AEC 656*	Agricultural Finance and Project Management	3(2-0-1)
Seminar		
AEC 688	Master's Seminar	1
Optional Courses		8
Supporting Courses		
BPM 601	Linear Algebra and Advanced Calculus	3(2-0-1)
BPS 625	Statistical Methods	3(2-0-1)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
AEC 690	Master's Thesis Research	30
	Total	**70 credits**
Remedial Courses (Non-gradial)		**3 - 6**
AEC 411#	Economic Theory	3(3-2-0)
AEC 412#	Agricultural Economics	3(3-2-0)
AEC 435	Farm Management Analysis	3(2-0-1)

 # For non-agricultural graduates

* Compulsory courses

Ph.D. Agricultural Economics

Major Courses

AEC 700*	Advanced Micro Economic Theory	2(2-2-0)
AEC 701*	Advanced Macro Economic Theory	2(2-2-0)
AEC 710*	Advanced Econometrics	3(2-0-1)
AEC 715*	Operations Research for Agricultural Decisions	3(2-0-1)
AEC 740*	Advanced Production Economics	3(2-0-1)

Seminar

AEC 788	Doctoral Seminar I	1
AEC 789	Doctoral Seminar II	1

Minor/Optional Courses 6

Supporting Courses

BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)

Research

AEC 790	Ph.D. Thesis Research	75
	Total	**102 credits**

Minor Courses (For other departments)

AEC 600	Micro Economic Theory and Applications	3(3-2-0)
AEC 641	Agricultural Production Economics	3(2-0-1)

List of the Post Graduate Courses

AEC 505	Evolution of Economic Thought	1(1-0-0)
AEC 520	Advanced Fisheries Economics	3(2-0-1)
AEC 522	Indian Economy: History and Contemporary Issues	2(2-0-0)
AEC 525	Institutional Economics	1(1-0-0)
AEC 530	International Economics	2(1-0-1)
AEC 564	Consumption Economics	3(2-0-1)
AEC 570	Development Economics	2(2-0-0)
AEC 600*	Micro Economic Theory and Applications	3(3-2-0)
AEC 601*	Macro Economic Theory and Policy	3(3-2-0)
AEC 602	Economics of Development & Growth	3(3-0-0)
AEC 603	Monetary Theory & Policy	2(2-0-0)
AEC 605	Natural Resource and Environmental Economics	2(1-0-1)
AEC 611*	Econometrics	3(2-0-1)

* Compulsory courses

AEC 615*	Linear Programming Methods	2(1-1-1)
AEC 618*	Research Methodology for Social Sciences	2(1-0-1)
AEC 619	Research Methodology	2(1-0-1)
AEC 620*	Agricultural Marketing and Price Analysis	2(1-1-1)
AEC 625	Rural Marketing	2(2-0-0)
AEC 630	Commodity Future Trading	2(2-0-0)
AEC 641*	Agricultural Production Economics	3(2-0-1)
AEC 645	Resource Economics	3(2-0-1)
AEC 651	Agricultural Policy	3(2-0-1)
AEC 655	Economic Planning for Agriculture	3(2-0-1)
AEC 656*	Agricultural Finance and Project Management	3(2-0-1)
AEC 660	Agricultural Development and Policy Analysis	2(2-0-0)
AEC 665	Advance Agricultural Finance	3(2-0-1)
AEC 667	Project Planning, Appraisal and Financing	2(1-0-1)
AEC 687	Master's Special Problem	1 or 2
AEC 688	Master's Seminar	1
AEC 690	Master's Thesis Research	30
AEC 700*	Advanced Micro Economic Theory	3(3-2-0)
AEC 701*	Advanced Macro Economic Theory	3(3-2-0)
AEC 703	Seed Marketing & Management	2(2-2-0)
AEC 710*	Advanced Econometrics	3(2-0-1)
AEC 715*	Operations Research for Agricultural Decisions	3(2-0-1)
AEC 720	Advanced Agricultural Marketing and Price Analysis	3(2-0-1)
AEC 730	Quantitative Development Policy Analysis	2(1-0-1)
AEC 735	Natural Resource Management	3(2-0-1)
AEC 740*	Advanced Production Economics	3(2-0-1)
AEC 745	Environmental Economics	3(2-0-1)
AEC 787	Doctoral Special Problem	1 or 2
AEC 788	Doctoral Seminar I	1
AEC 789	Doctoral Seminar II	1
AEC 790	Ph. D. Thesis Research	75

* Compulsory courses

2. AGRICULTURAL EXTENSION AND COMMUNICATION

M.Sc. (Agri.) Agricultural Extension Education

Major Courses		
AAC 602*	Applied Behaviour Change	3(2-0-1)
AAC 607*	ICTs for Agricultural Extension and Advisory Services	3(2-0-1)
AAC 630*	Research Methodology in Extension	3(2-0-1)
AAC 635*	Capacity Development	3(2-0-1)
AAC 650*	Extension Landscape	2(2-0-0)
AAC 660*	Evaluation and Impact Assessment	3(2-0-1)
AAC 663*	Organizational Behaviour & Development	3(2-0-1)
Seminar		
AAC 688	Master's Seminar	1
Optional Courses		9
AAC 604	Gender Mainstreaming	3(2-0-1)
AAC 606	Media Production and Management	3(2-0-1)
AAC 654	Generation and Adoption of Innovations	2(2-0-0)
Supporting Courses		
BPS 625	Statistical Methods	3(2-0-1)

Remaining 3 credits will be taken from any department(s) of the university, 500/600 series

Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
AAC 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

Ph.D. Agricultural Extension Education

Major Courses

AAC 703*	Advances in Agriculture Extension and Policy Engagement	3(2-0-1)
AAC 706*	Educational Technology & Instructional Design	3(2-0-1)
AAC 708*	Entrepreneurship Development & Technology Commercialization	3(2-0-1)
AAC 730*	Methodologies for Social & Behavioural Sciences	3(2-0-1)
Seminar		
AAC 788	Doctoral Seminar I	1
AAC 789	Doctoral Seminar II	1
Minor/ Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
AAC 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

AAC 606	Media Production and Management	3(2-0-1)
AAC 607	ICTs for Agricultural Extension and Advisory Services	3(2-0-1)

List of the Post Graduate Courses

BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
AAC 602*	Applied Behaviour Change	3(2-0-1)
AAC 604	Gender Mainstreaming	3(2-0-1)
AAC 606	Media Production and Management	3(2-0-1)
AAC 607*	ICTs for Agricultural Extension and Advisory Services	3(2-0-1)
AAC 630*	Research Methodology in Extension	3(2-0-1)
AAC 635*	Capacity Development	3(2-0-1)
AAC 650*	Extension Landscape	2(2-0-0)
AAC 654	Generation and Adoption of Innovations	2(2-0-0)
AAC 660*	Evaluation and Impact Assessment	3(2-0-1)
AAC 663*	Organizational Behaviour & Development	3(2-0-1)

* Compulsory courses

AAC 687	Master's Special Problem	1 or 2
AAC 688	Master's Seminar	1
AAC 690	Master's Thesis Research	30
AAC 703*	Advances in Agriculture Extension and Policy Engagement	3(2-0-1)
AAC 705	Extension Advisory Services for Climate Smart Agriculture	3(2-0-1)
AAC 706*	Educational Technology & Instructional Design	3(2-0-1)
AAC 708*	Entrepreneurship Development & Technology Commercialization	3(2-0-1)
AAC 709	Livelihood Development	2(1-0-1)
AAC 710	Facilitation for People Centric Development	3(2-0-1)
AAC 730*	Methodologies for Social & Behavioural Sciences	3(2-0-1)
AAC 787	Doctoral Special Problem	1 or 2
AAC 788	Doctoral Seminar I	1
AAC 789	Doctoral Seminar II	1
AAC 790	Ph.D. Thesis Research	75

* Compulsory courses

3. AGROMETEOROLOGY

M.Sc. (Agri.) Agricultural Meteorology

Major Courses		
AAM 601*	Fundamentals of Meteorology	3(3-0-0)
AAM 602*	Fundamentals of Agricultural Meteorology	3(2-0-1)
AAM 605*	Crop Micrometeorology	3(2-0-1)
AAM 606*	Evapotranspiration and Soil Water Balance	2(1-0-1)
AAM 607*	Crop Weather Models	3(2-0-1)
AAM 608*	Applied Agricultural Climatology	3(2-0-1)
AAM 610*	RS and GIS Applications in Agricultural Meteorology	3(2-0-1)
Seminar		
AAM 688	Master's Seminar	1
Optional Courses		8
Supporting Courses		
BPP 634	Agro Meteorological Instrumentation	3(2-0-1)
BPS 661	Experimental Statistics	4(3-0-1)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
AAM 690	Master's Thesis Research	30
	Total	**71 credits**

* Compulsory courses

Ph.D. Agricultural Meteorology

Major Courses

AAM 701*	Climate Change and Sustainable Development	3(2-0-1)
AAM 702*	Meteorology of Air Pollution	3(2-0-1)
AAM 704*	Hydrometeorology	3(2-0-1)
AAM 711*	Strategic Use of Climatic Information	3(2-0-1)
Remaining credits will be chosen from the list of post graduate courses of Agricultural Metereology, 700 series		7

Seminar

AAM 788	Doctoral Seminar I	1
AAM 789	Doctoral Seminar II	1

Minor/Optional Courses 6

BPM 605*	Use of Computer Software	2(0-0-2)
BPM 650*	Introduction to Computers and Programming	2(1-0-1)

Remaining 2 credits will be chosen from any department/s other than Agricultural Metereology, above 600 series

Supporting Courses

BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)

Research

AAM 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

AAM 601	Fundamentals of Meteorology	3(2-0-1)
AAM 610	RS and GIS Applications in Agricultural Meteorology	3(2-0-1)

List of the Post Graduate Courses

AAM 601*	Fundamentals of Meteorology	3(3-0-0)
AAM 602*	Fundamentals of Agricultural Meteorology	3(2-0-1)
AAM 603	Crop Weather Relationships	2(2-0-0)

* Compulsory courses

AAM 605*	Crop Micrometeorology	3(2-0-1)
AAM 606*	Evapotranspiration and Soil Water Balance	2(1-0-1)
AAM 607*	Crop Weather Models	3(2-0-1)
AAM 608*	Applied Agricultural Climatology	3(2-0-1)
AAM 609	Weather Forecasting	3(2-0-1)
AAM 610*	RS and GIS Applications in Agricultural Meteorology	3(2-0-1)
AAM 612	Weather and Climate Risk Management	2(2-0-0)
AAM 613	Aerobiometeorology	3(2-0-1)
AAM 687	Master's Special Problem	1 or 2
AAM 688	Master's Seminar	1
AAM 690	Master's Thesis Research	30
AAM 701*	Climate Change and Sustainable Development	3(2-0-1)
AAM 702*	Meteorology of Air Pollution	3(2-0-1)
AAM 703	Livestock and Fisheries Meteorology	3(2-0-1)
AAM 704*	Hydrometeorology	3(2-0-1)
AAM 705	Analytical Tools and Methods for Agro- meteorology	2(1-0-1)
AAM 707	Environmental Physics for Agricultural Meteorology	3(2-0-1)
AAM 711*	Strategic Use of Climatic Information	3(2-0-1)
AAM 787	Doctoral Special Problem	1 or 2
AAM 788	Doctoral Seminar I	1
AAM 789	Doctoral Seminar II	1
AAM 790	Ph.D. Thesis Research	75

* Compulsory courses

4. AGRONOMY

M.Sc. (Agri.) Agronomy

Major Courses		
APA 601*	Modern Concepts in Crop Production	3(3-0-0)
APA 602*	Principles and Practices of Soil Fertility and Nutrient Management	4(2-0-2)
APA 603*	Principles and Practices of Weed Management	3(2-0-1)
APA 604*	Principles and Practices of Water Management	3(2-0-1)
Remaining credits will be chosen from the list of post graduate courses of Agronomy, 600 series		7
Seminar		
APA 688	Master's Seminar	1
Optional Courses		8
Supporting Courses		
BPY 614	Principles of Plant Physiology- I : Plant Water Relations & Mineral Nutrition	3(2-0-1)
BPS 625	Statistical Methods	3(2-0-1)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
APA 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

Ph.D. Agronomy

Major Courses

APA 701*	Current Trends in Agronomy	3(3-0-0)
Remaining credits of major courses will be chosen from the list of post graduate courses of Agronomy, 700 series		9
Seminar		
APA 788	Doctoral Seminar I	1
APA 789	Doctoral Seminar II	1
Minor/Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
APA 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

APA 601	Modern Concepts in Crop Production	3(2-0-1)
APA 611	Cropping Systems and Sustainable Agriculture	3(2-0-1)

List of Post Graduate Courses

APA 601*	Modern Concepts in Crop Production	3(2-0-1)
APA 602*	Principles and Practices of Soil Fertility and Nutrient Management	3(2-0-1)
APA 603*	Principles and Practices of Weed Management	3(2-0-1)
APA 604*	Principles and Practices of Water Management	3(2-0-1)
APA 605	Conservation Agriculture	2(1-0-1)
APA 606	Agronomy of *Kharif* Crops	3(2-0-1)
APA 607	Agronomy of *Rabi* Crops	3(2-0-1)
APA 608	Agronomy of Medicinal, Aromatic and Underutilized Crops	3(2-0-1)
APA 609	Applied Statistics for Agronomic Experimentation	1(0-0-1)
APA 610	Agrostology and Agro-forestry	3(2-0-1)

* Compulsory courses

APA 611	Cropping Systems and Sustainable Agriculture	3(2-0-1)
APA 612	Dryland Farming and Watershed Management	3(2-0-1)
APA 613	Principles and Practices of Organic Farming	3(2-0-1)
APA 687	Master's Special Problem	1 or 2
APA 688	Master's Seminar	1
APA 690	Master's Thesis Research	30
APA 701*	Current Trends in Agronomy	3(3-0-0)
APA 702	Recent Trends in Crop Growth and Productivity	3(2-0-1)
APA 704	Recent Trends in Weed Management	2(2-0-0)
APA 705	Integrated Farming Systems for Sustainable Agriculture	2(2-0-0)
APA 706	Soil Conservation and Watershed Management	3(2-0-1)
APA 707	Stress Crop Production	3(2-0-1)
APA 708	Mineral Nutrition of Crop Plants	3(2-0-1)
APA 709	Irrigation Management	3(2-0-1)
APA 787	Doctoral Special Problem	1 or 2
APA788	Doctoral Seminar I	1
APA 789	Doctoral Seminar II	1
APA 790	Ph.D. Thesis Research	75

* Compulsory courses

5. ENTOMOLOGY

M.Sc. (Agri.) Entomology

Major Courses

APE 601*	Insect Morphology	3(2-0-1)
APE 602*	Insect Anatomy and Physiology	3(2-0-1)
APE 603*	Insect Taxonomy	3(1-0-2)
APE 604*	Insect Ecology	3(2-0-1)
APE 605*	Biological Control of Insect Pests and Weeds	3(2-0-1)
APE 606*	Toxicology of Insecticides	3(2-0-1)
APE 608*	Concepts of Integrated Pest Management	2(2-0-0)
Seminar		
APE 688	Master's Seminar	1
Optional Courses		8
APE 609	Pests of Field Crops	3(2-0-1)
APE 610	Pests of Horticultural and Plantation Crops	3(2-0-1)
APE 611	Post Harvest Entomology	2(1-0-1)
Supporting Courses		
BPS 661	Experimental Statistics	4(3-0-1)

Remaining 2 credits will be taken from any department(s) of the university, 500/600 series

Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
APE 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

Ph.D. Entomology

Major Courses

APE 701*	Insect Phylogeny and Systematics	3(1-0-2)
APE 702*	Insect Physiology and Nutrition	3(2-0-1)
APE 703*	Insect Ecology and Diversity	3(2-0-1)
APE 705*	Bio-inputs for Pest Management	3(2-0-1)
APE 706*	Insect Toxicology and Residues	3(2-0-1)
Seminar		
APE 788	Doctoral Seminar I	1
APE 789	Doctoral Seminar II	1
Minor/ Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
APE 790	Ph.D. Thesis Research	75
	Total	**104 credits**

Minor Courses (For other departments)

APE 605	Biological Control of Insect Pests and Weeds	3(2-0-1)
APE 608	Concepts of Integrated Pest Management	2 (2-0-0)
APE 615	Techniques in Plant Protection	1(0-0-1)

List of the Post Graduate Courses

APE 601*	Insect Morphology	3(2-0-1)
APE 602*	Insect Anatomy and Physiology	3(2-0-1)
APE 603*	Insect Taxonomy	3(1-0-2)
APE 604*	Insect Ecology	3(2-0-1)
APE 605*	Biological Control of Insect Pests and Weeds	3(2-0-1)
APE 606*	Toxicology of Insecticides	3(2-0-1)
APE 607	Host Plant Resistance	2(1-0-1)
APE 608*	Concepts of Integrated Pest Management	2(2-0-0)
APE 609	Pests of Field Crops	3(2-0-1)

* Compulsory courses

APE 610	Pests of Horticultural and Plantation Crops	3(2-0-1)
APE 611	Post-Harvest Entomology	2(1-0-1)
APE 615	Techniques in Plant Protection	1(0-0-1)
APE 616	Apiculture	3(2-0-1)
APE 617	Sericulture	3(2-0-1)
APE 619	Molecular Approaches in Entomology	3(2-0-1)
APE 620	Plant Quarantine, Biosafety and Biosecurity	2(2-0-0)
APE 624	Commercial Entomology	2(1-0-1)
APE 687	Master's Special Problem	1 or 2
APE 688	Master’s Seminar	1
APE 690	Master’s Thesis Research	30
APE 701*	Insect Phylogeny and Systematics	3(1-0-2)
APE 702*	Insect Physiology and Nutrition	3(2-0-1)
APE 703*	Insect Ecology and Diversity	3(2-0-1)
APE 704	Insect Behaviour	2(1-0-1)
APE 705*	Bio-inputs for Pest Management	3(2-0-1)
APE 706*	Insect Toxicology and Residues	3(2-0-1)
APE 707	Plant Resistance to Insects	2(1-0-1)
APE 709	Molecular Entomology	2(1-0-1)
APE 787	Doctoral Special Problem	1 or 2
APE 788	Doctoral Seminar I	1
APE 789	Doctoral Seminar II	1
APE 790	Ph.D. Thesis Research	75

* Compulsory courses

6. FOOD SCIENCE & TECHNOLOGY

M. Tech. Food Processing Technology

Major Courses		
AFS 611*	Principles of Food Processing	3(2-0-1)
AFS 626*	Food Chemistry and Nutrition	3(3-0-0)
AFS 631*	Food Microbiology	4(2-0-2)
AFS 641*	Technology of Milk and Milk Products	3(2-0-1)
AFS 661*	Technology of Cereals, Pulses and Oilseeds	3(2-0-1)
AFS 671*	Technology of Fruits and Vegetables	3(2-0-1)
AFS 682*	Food Analysis and Quality Management	3(1-0-2)
Seminar		
AFS 688	Master's Seminar	1
Optional Courses		8
Supporting Courses		
BPS 625	Statistical Methods	3(2-0-1)
Remaining 3 credits will be taken from any department/s of the university (600/500 series)		
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
AFS 690	Master's Thesis Research	30
	Total	**72 credits**

* Compulsory courses

Ph.D. Food Processing Technology

Major Courses

AFS 712*	Modern Techniques in Food Processing	2(2-0-0)
AFS 722*	Advanced Food Chemistry	2(2-0-0)
AFS 733*	Advances in Food Microbiology	2(1-0-1)
AFS 741*	Current Topics in Food Science & Technology	2(2-0-0)
AFS 781*	Advanced Food Analysis	2(0-0-2)
AFS 786	Product Design & Development	2(2-0-0)
Seminar		
AFS 788	Doctoral Seminar I	1
AFS 789	Doctoral Seminar II	1
Minor /Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
AFS 790	Ph.D. Thesis Research	75
		Total 101 credits

Minor Courses (For other departments)

AFS 611	Principles of Food Processing	3(2-0-1)
AFS 626	Food Chemistry & Nutrition	3(3-0-0)

List of the Post Graduate Courses

AFS 611*	Principles of Food Processing	3(2-0-1)
AFS 623	Additives, Ingredients and EnzymeTechnology	3(2-0-1)
AFS 626*	Food Chemistry & Nutrition	3(3-0-0)
AFS 631*	Food Microbiology	4(2-0-2)
AFS 641*	Technology of Milk & Milk Products	3(2-0-1)
AFS 661*	Technology of Cereals, Pulses & Oilseeds	3(2-0-1)
AFS 671*	Technology of Fruits & Vegetables	3(2-0-1)
AFS 680	Food Plant Sanitation	3(2-0-1)

* Compulsory courses

AFS 682*	Food Analysis & Quality Management	3(1-0-2)
AFS 685	Beverage and Snack Food Technology	3(2-0-1)
AFS 687	Master's Special Problem	1 or 2
AFS 688	Master’s Seminar	1
AFS 690	Master’s Thesis Research	30
AFS 712*	Modern Techniques in Food Processing	2(2-0-0)
AFS 722*	Advanced Food Chemistry	2(2-0-0)
AFS 733*	Advances in Food Microbiology	2(1-0-1)
AFS 741*	Current Topics in Food Science & Technology	2(2-0-0)
AFS 781*	Advanced Food Analysis	2(0-0-2)
AFS 786	Product Design & Development	2(2-0-0)
AFS 787	Doctoral Special Problem	1 or 2
AFS 788	Doctoral Seminar I	1
AFS 789	Doctoral Seminar II	1
AFS 790	Ph. D. Thesis Research	75

* Compulsory courses

7. GENETICS AND PLANT BREEDING

M.Sc. (Agri.) Genetics and Plant Breeding

Major Courses		
AGP 601*	Principles of Genetics	3(2-0-1)
AGP 602*	Principles of Plant Breeding	3(2-0-1)
AGP 603*	Fundamentals of Quantitative Genetics	3(2-0-1)
AGP 605*	Principles of Cytogenetics	3(2-0-1)
AGP 606*	Molecular Breeding and Bioinformatics	3(2-0-1)
AGP 611*	Crop Breeding I	3(2-0-1)
AGP 612*	Crop Breeding II	3(2-0-1)
Seminar		
AGP 688	Master's Seminar	1
Optional Courses		8
Supporting Courses		
BBC 603	Basic Biochemistry	3(3-0-0)
BPS 661	Experimental Statistics	4(3-0-1)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
AGP 690	Master's Thesis Research	30
	Total	**72 credits**

* Compulsory courses

Ph.D. Genetics and Plant Breeding

Major Courses		
AGP 701*	Advances in Plant Breeding Systems	3(3-0-0)
AGP 702*	Advances in Biometrical Genetics	3(2-0-1)
AGP 703*	Molecular Cytogenetics for Crop Improvement	2(2-0-0)
AGP 705*	Genomics in Plant Breeding	3(3-0-0)
AGP 709*	IPR and Regulatory Mechanism	1(1-0-0)
Seminar		
AGP 788	Doctoral Seminar I	1
AGP 789	Doctoral Seminar II	1
Minor / Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
AGP 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

AGP 601	Principles of Genetics	3(2-0-1)
AGP 602	Principles of Plant Breeding	3(2-0-1)

List of the Post Graduate Courses

AGP 518	Intellectual Property and its Management	1(1-0-0)
AGP 601*	Principles of Genetics	3(2-0-1)
AGP 602*	Principles of Plant Breeding	3(2-0-1)
AGP 603*	Fundamentals of Quantitative Genetics	3(2-0-1)
AGP 604	Varietal Development & Maintenance Breeding	2(1-0-1)
AGP 605*	Principles of Cytogenetics	3(2-0-1)
AGP 607	Breeding for Quality & Special Traits	3(2-0-1)
AGP 609	Hybrid Breeding	3(2-0-1)
AGP 610	Seed Production and Certification	2(1-0-1)

* Compulsory courses

AGP 611*	Crop Breeding I (*Kharif* crops)	3(2-0-1)
AGP 612*	Crop Breeding II (*Rabi* crops)	3(2-0-1)
AGP 616	Breeding for Stress Resistance & ClimateChange	3(2-0-1)
AGP 687	Master's Special Problem	1 or 2
AGP 688	Master's Seminar	1
AGP 690	Master's Thesis Research	30
AGP 701*	Advances in Plant Breeding Systems	3(3-0-0)
AGP 702*	Advances in Biometrical Genetics	3(2-0-1)
AGP 703*	Molecular Cytogenetics for Crop Improvement	2(2-0-0)
AGP 705*	Genomics in Plant Breeding	3(3-0-0)
AGP 709*	IPR and Regulatory Mechanism	1(1-0-0)
AGP 787	Doctoral Special Problem	1 or 2
AGP 788	Doctoral Seminar I	1
AGP 789	Doctoral Seminar II	1
AGP 790	Ph.D. Thesis Research	75

* Compulsory courses

8. HORTICULTURE

M.Sc. (Hort.) Fruit Science

Major Courses		
APH 601*	Tropical Fruit Production	3(2-0-1)
APH 602*	Sub-tropical and Temperate Fruit Production	3(2-0-1)
APH 603*	Propagation and Nursery Management of Horticultural Crops	3(2-0-1)
APH 604*	Breeding of Fruit Crops	3(2-0-1)
APH 608*	Nutrition of Fruit Crops	3(2-0-1)
APH 618*	Minor Fruit Production	3(2-0-1)
APH 620*	Post Harvest Management of Horticultural Crops	3(2-0-1)
Seminar		
APH 688	Master's Seminar	1
Optional Courses		8
Supporting Courses		
BPS 661	Experimental Statistics	4(3-0-1)
Remaining 2 credits will be taken from any department/s of the university, 500/600 series		
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
APH 690	Master's Thesis Research	30
	Total	**71 credits**

* Compulsory courses

Ph.D. Fruit Science

Major Courses		
APH 701*	Innovative Approaches in Fruit Breeding	3(3-0-0)
APH 702*	Modern Trends in Fruit Production	3(3-0-0)
APH 703*	Recent Development in Growth Regulation of Horticultural Crops	3(3-0-0)
APH 707*	Biodiversity and Conservation of Fruit Crops	3(2-0-1)
Seminar		
APH 788	Doctoral Seminar I	1
APH 789	Doctoral Seminar II	1
Minor/Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
APH 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

APH 601	Tropical Fruit Production	3(2-0-1)
APH 602	Sub-tropical and Temperate Fruit Production	3(2-0-1)

* Compulsory courses

M.Sc. (Hort.) Floriculture and Landscaping

Major Courses		
APH 603*	Propagation and Nursery Management of Horticultural Crops	3(2-0-1)
APH 620*	Post Harvest Management of Horticultural Crops	3(2-0-1)
APH 622*	Breeding of Ornamental Plants	3(2-0-1)
APH 623*	Commercial Production of Cut Flowers	3(2-0-1)
APH 624*	Commercial Production of Loose Flowers	3(2-0-1)
APH 625*	Ornamental Gardening and Landscaping	3(2-0-1)
APH 626*	Indoor Plants and Interiorscaping	2(1-0-1)
Seminar		
APH 688	Master's Seminar	1
Optional Courses		8
Supporting Courses		
BPS 661	Experimental Statistics	4(3-0-1)
Remaining 2 credits will be taken from any department(s) of the university, 500/600 series		
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
APH 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

Ph.D. Floriculture and Landscaping

Major Courses

APH 703*	Recent Development in Growth Regulation of Horticultural Crops	3(3-0-0)
APH 735*	Advances in Landscaping	3(2-0-1)
APH 737*	Modern Approaches in Breeding of Floricultural Crops	3(2-0-1)
APH 738*	Current Trends in Production Technology of Floricultural Crops	3(2-0-1)
Seminar		
APH 788	Doctoral Seminar I	1
APH 789	Doctoral Seminar II	1
Minor/ Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
APH 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

APH 623	Commercial Production of Cut Flowers	3(2-0-1)
APH 624	Commercial Production of Loose Flowers	3(2-0-1)

List of the Post Graduate Courses

APH 601*	Tropical Fruit Production	3(2-0-1)
APH 602*	Sub-tropical and Temperate Fruit Production	3(2-0-1)
APH 603*	Propagation and Nursery Management of Horticultural Crops	3(2-0-1)
APH 604*	Breeding of Fruit Crops	3(2-0-1)
APH 606	Canopy Management in Fruit Crops	2(1-0-1)
APH 608*	Nutrition of Fruit Crops	3(2-0-1)
APH 618*	Minor Fruit Production	3(2-0-1)

* Compulsory courses

APH 620*	Post Harvest Management of Horticultural Crops	3(2-0-1)
APH 622*	Breeding of Ornamental Plants	3(2-0-1)
APH 623*	Commercial Production of Cut Flowers	3(2-0-1)
APH 624*	Commercial Production of Loose Flowers	3(2-0-1)
APH 625*	Ornamental Gardening and Landscaping	3(2-0-1)
APH 626*	Indoor Plants and Interiorscaping	2(1-0-1)
APH 687	Master's Special Problem	1 or 2
APH 688	Master’s Seminar	1
APH 690	Master’s Thesis Research	30
APH 701*	Innovative approaches in Fruit Breeding	3(3-0-0)
APH 702*	Modern Trends in Fruit Production	3(3-0-0)
APH 703*	Recent Developments in Growth Regulation of Horticultural Crops	3(3-0-0)
APH 707*	Biodiversity and Conservation of Fruit Crops	3(2-0-1)
APH 735*	Advances in Landscaping	3(2-0-1)
APH 737*	Modern Approaches in Breeding of Floriculture Crops	3(2-0-1)
APH 738*	Current Trends in Production Technology of Floriculture Crops	3(2-0-1)
APH 787	Doctoral Special Problem	1 or 2
APH 788	Doctoral Seminar I	1
APH 789	Doctoral Seminar II	1
APH 790	Ph.D. Thesis Research	75

* Compulsory courses

9. PLANT PATHOLOGY

M.Sc. (Agri.) Plant Pathology

Major Courses		
APP 631*	Mycology	3(2-0-1)
APP 632*	Plant Virology	3(2-0-1)
APP 633*	Plant Pathogenic Prokaryotes (Plant Bacteriology)	3(2-0-1)
APP 634*	Plant Nematology	3(2-0-1)
APP 635*	Principles of Plant Pathology	3(2-0-1)
APP 636*	Techniques in Detection and Diagnosis of Plant Diseases	2(0-0-2)
APP 637*	Chemicals and Botanicals in Plant Disease Management	3(2-0-1)
Seminar		
APP 688	Master's Seminar	1
Optional Courses		8
Supporting Courses		
BBC 603	Basic Biochemistry	3(3-0-0)
BPS 625	Statistical Methods	3(2-0-1)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
APP 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

Ph.D. Plant Pathology

Major Courses

APP 704*	Molecular Basis of Host-pathogen Interaction	3(2-0-1)
APP 707*	Plant Biosecurity and Biosafety	2(2-0-0)
APP 712*	Ecology of Soil borne Plant Pathogens	2(1-0-1)
APP 713*	Disease Resistance in Plants	2(2-0-0)
APP 718*	Epidemiology and Forecasting of Plant Diseases	3(2-0-1)
Seminar		
APP 788	Doctoral Seminar I	1
APP 789	Doctoral Seminar II	1
Minor/ Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
APP 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

APP 635	Principles of Plant Pathology	3(2-0-1)
APP 637	Chemicals and Botanicals in Plant Disease Management	3(2-0-1)

List of the Post Graduate Courses

APP 631*	Mycology	3(2-0-1)
APP 632*	Plant Virology	3(2-0-1)
APP 633*	Plant Pathogenic Prokaryotes (Plant Bacteriology)	3(2-0-1)
APP 634*	Plant Nematology	3(2-0-1)
APP 635*	Principles of Plant Pathology	3(2-0-1)
APP 636*	Techniques in Detection and Diagnosis of Plant Diseases	2(0-0-2)
APP 637*	Chemicals and Botanicals in Plant Disease Management	3(2-0-1)
APP 638	Principles of Plant Disease Management	3(2-0-1)
APP 639	Detection and Management of Seed Borne Pathogens	3(2-0-1)

* Compulsory courses

APP 640	Biological Control of Plant Diseases	2(1-0-1)
APP 641	Integrated Disease Management	3(2-0-1)
APP 642	Diseases of Field and Medicinal Crops	3(2-0-1)
APP 643	Diseases of Fruits, Plantation and Ornamental Crops	3(2-0-1)
APP 644	Diseases of Vegetable and Spice Crops	3(2-0-1)
APP 645	Post-Harvest Diseases	3(2-0-1)
APP 646	Plant Quarantine and Regulatory Measures	1(1-0-0)
APP 647	Mushroom Production Technology	3(2-0-1)
APP 687	Master's Special Problem	1 or 2
APP 688	Master’s Seminar	1
APP 690	Master’s Thesis Research	30
APP 704*	Molecular Basis of Host-pathogen Interaction	3(2-0-1)
APP 707*	Plant Biosecurity and Biosafety	2(2-0-0)
APP 712*	Ecology of Soil Borne Plant Pathogens	2(1-0-1)
APP 713*	Disease Resistance in Plants	2(2-0-0)
APP 718*	Epidemiology and Forecasting of Plant Diseases	3(2-0-1)
APP 787	Doctoral Special Problem	1 or 2
APP 788	Doctoral Seminar I	1
APP 789	Doctoral Seminar II	1
APP 790	Ph.D. Thesis Research	75

* Compulsory courses

10. SOIL SCIENCE AND AGRICULTURAL CHEMISTRY

M.Sc. (Agri.) Soil Science

Major Courses		
APS 602*	Soil Physics	3 (2-0-1)
APS 616*	Soil Fertility and Fertilizer use	4 (3-0-1)
APS 617*	Soil Chemistry	3 (2-0-1)
APS 618*	Soil Biology and Biochemistry	3 (2-0-1)
APS 619*	Soil Mineralogy, Genesis, Classification and Survey	3 (2-0-1)
APS 622*	Soil Fertility Evaluation and Fertilizer Recommendations	2 (1-0-1)
APS 624*	Analytical techniques and Instrumental methods in Soil and Plant analysis	2 (0-0-2)
Seminar		
APS 688	Master's Seminar	1
Optional Courses		8
Supporting Courses		
BPC 641	Physical Chemistry	3(2-0-1)
BPS 661	Experimental Statistics	4(3-0-1)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
APS 690	Master's Thesis Research	30
	Total	**71 credits**

* Compulsory courses

Ph.D. Soil Science

Major Courses

APS 710*	Advances in Soil Physics	2(2-0-0)
APS 720*	Advances In Soil Fertility	2(2-0-0)
APS 725*	Soil-Plant Microbe Relationships	2(2-0-0)
APS 730*	Biochemistry of Soil Organic Matter	2(2-0-0)
APS 735*	Physical Chemistry of Soil	2(2-0-0)
APS 740*	Soil Genesis and Micromorphology	2(2-0-0)
Seminar		
APS 788	Doctoral Seminar I	1
APS 789	Doctoral Seminar II	1
Minor/ Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
APS 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

APS 616	Soil Fertility and Fertilizer Use	4(3-0-1)
APS 624	Analytical Techniques and Instrumental Methods in Soil and Plant Analysis	2(0-0-2)

List of the Post Graduate Courses

APS 602*	Soil Physics	3(2-0-1)
APS 605	Soil Erosion and Conservation	3(3-0-0)
APS 610	Management of Problematic Soils and Water	3(2-0-1)
APS 615	Fertilizer Technology	1(1-0-0)
APS 616*	Soil Fertility and Fertilizer Use	4(3-0-1)
APS 617*	Soil Chemistry	3(2-0-1)
APS 618*	Soil Biology and Biochemistry	3(2-0-1)

* Compulsory courses

APS 619*	Soil Mineralogy, Genesis, Classification and Survey	3(2-0-1)
APS 621	Land Degradation and Restoration	1(1-0-0)
APS 622*	Soil Fertility Evaluation and Fertilizer Recommendations	2(1-0-1)
APS 624*	Analytical Techniques and Instrumental Methods in Soil and Plant Analysis	2(0-0-2)
APS 625	Soil and Water Pollution	2(1-0-1)
APS 630	Biofertilizer Production Technology	2(1-0-1)
APS 687	Master's Special Problem	1 or 2
APS 688	Master’s Seminar	1
APS 690	Master’s Thesis Research	30
APS 710*	Advances in Soil Physics	2(2-0-0)
APS 715	Clay Mineralogy of Soil	2(2-0-0)
APS 720*	Advances in Soil Fertility	2(2-0-0)
APS 725*	Soil-Plant Microbe Relationships	2(2-0-0)
APS 730*	Biochemistry of Soil Organic Matter	2(2-0-0)
APS 735*	Physical Chemistry of Soil	2(2-0-0)
APS 740*	Soil Genesis and Micromorphology	2(2-0-0)
APS 787	Doctoral Special Problem	1 or 2
APS 788	Doctoral Seminar I	1
APS 789	Doctoral Seminar II	1
APS 790	Ph.D. Thesis Research	75

* Compulsory courses

11. VEGETABLE SCIENCE

M.Sc. (Hort.) Vegetable Science

Major Courses

APV 601*	Production of Cool Season Vegetable Crops	3(2-0-1)
APV 602*	Production of Warm Season Vegetable Crops	3(2-0-1)
APV 603*	Growth and Development of Vegetable Crops	3(2-0-1)
APV 604*	Principles of Vegetable Breeding	3(2-0-1)
Remaining credits of major courses will be chosen from the list of post graduate courses of Vegetable Science, 600 series		8
Seminar		
APV 688	Master's Seminar	1
Optional Courses		8
Supporting Courses		
BPS 661	Experimental Statistics	4(3-0-1)
Remaining 2 credits will be taken from any department(s) of the university, 500/600 series		
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
APV 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

Ph.D. Vegetable Science

Major Courses

APV 701*	Recent Trends in Vegetable Production	3(3-0-0)
APV 702*	Advances in Breeding of Vegetable Crops	3(3-0-0)
Remaining credits of major courses will be chosen from the list of post graduate courses of Vegetable Science, 700 series		6
Seminar		
APV 788	Doctoral Seminar I	1
APV 789	Doctoral Seminar II	1
Minor/ Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
APV 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

APV601	Production of Cool Season Vegetable Crops	3(2-0-1)
APV 602	Production of Warm Season Vegetable Crops	3(2-0-1)

List of the Post Graduate Courses

APV 601*	Production of Cool Season Vegetable Crops	3(2-0-1)
APV 602*	Production of Warm Season Vegetable Crops	3(2-0-1)
APV 603*	Growth and Development of Vegetable Crops	3(2-0-1)
APV 604*	Principles of Vegetable Breeding	3(2-0-1)
APV 605	Breeding of Self -Pollinated Vegetable Crops	3(2-0-1)
APV 606	Breeding of Cross-Pollinated Vegetable Crops	3(2-0-1)
APV 607	Protected Cultivation of Vegetable Crops	2(1-0-1)
APV 608	Seed Production of Vegetable Crops	3(2-0-1)
APV 609	Production of Underutilized Vegetable Crops	3(2-0-1)
APV 610	Systematics of Vegetable Crops	2(1-0-1)

* Compulsory courses

APV 611	Organic Vegetable Production	2(1-0-1)
APV 612	Production of Spice Crops	3(2-0-1)
APV 613	Processing of Vegetable Crops	2(1-0-1)
APV 614	Post-harvest Management of Vegetable Crops	3(2-0-1)
APV 687	Master's Special Problem	1 or 2
APV 688	Master’s Seminar	1
APV 690	Master’s Thesis Research	30
APV 701*	Recent Trends in Vegetable Production	3(3-0-0)
APV 702*	Advances in Breeding of Vegetable Crops	3(3-0-0)
APV 703	Abiotic Stress Management in Vegetable Crops	3(2-0-1)
APV 704	Seed Certification, Processing and Storage of Vegetable Seeds	3(2-0-1)
APV 705	Breeding for Special Traits in Vegetable Crops	2(2-0-0)
APV 706	Biodiversity and Conservation of Vegetable Crops	3(2-0-1)
APV 707	Biotechnological Approaches in Vegetable Crops	3(2-0-1)
APV 708	Advanced Laboratory Techniques for Vegetable Crops	3(1-0-2)
APV 787	Doctoral Special Problem	1 or 2
APV 788	Doctoral Seminar I	1
APV 789	Doctoral Seminar II	1
APV 790	Ph.D. Thesis Research	75

* Compulsory courses

BASIC SCIENCE DISCIPLINES

1. BIOCHEMISTRY

M.Sc. / M.Sc. (Agri.) Biochemistry

Major Courses		
BBC 603*	Basic Biochemistry	3(3-0-0)
BBC 612*	Techniques in Biochemistry I	2(2-0-0)
BBC 613*	Techniques in Biochemistry II	2(0-0-2)
BBC 630*	Enzymology	3(2-0-1)
BBC 640*	Intermediary Metabolism I	2(2-0-0)
BBC 641*	Intermediary Metabolism II	2(2-0-0)
Remaining credits will be chosen from the list of post graduate courses of Biochemistry, 600 series		6
Seminar		
BBC 688	Master's Seminar	1(0-0-1)
Minor /Optional Courses		8
Supporting Courses		
BBM 601	Principles of Microbiology	3(3-0-0)
BMB 621	Fundamentals of Molecular Biology	3(3-0-0)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
BBC 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

BBC 603	Basic Biochemistry	3(3-0-0)
BBC 605	Basic Techniques in Biochemistry	1(0-0-1)

Remaining 4 credits will be chosen from the list of post graduate courses of Biochemistry, 600 series

* Compulsory courses

Ph.D. Biochemistry

Major Courses

BBC 711*	Application of Techniques in Biochemistry	3(1-0-2)
BBC 731*	Advanced Enzymology	3(2-0-1)
Remaining credits will be chosen from the list of Post Graduate Courses of Biochemistry , 700 Series		6
Seminar		
BBC 788	Doctoral Seminar I	1 (1-0-0)
BBC 789	Doctoral Seminar II	1(1-0-0)
Minor/ Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
BBC 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

BBC 612	Techniques in Biochemistry I	2(2-0-0)
BBC 640	Intermediary Metabolism I	2(2-0-0)
BBC 641	Intermediary Metabolism II	2(2-0-0)

List of the Post Graduate Courses

BBC 602	Chemistry of Biomolecules	3(3-0-0)
BBC 603 *	Basic Biochemistry	3(3-0-0)
BBC 605	Basic Techniques in Biochemistry	1(0-0-1)
BBC 610	Biophysical and Bioanalytical Chemistry	2(2-0-0)
BBC 612*	Techniques in Biochemistry I	2(2-0-0)
BBC 613*	Techniques in Biochemistry II	2(0-0-2)
BBC 621	Nutritional Biochemistry	3(2-0-1)
BBC 630 *	Enzymology	3(2-0-1)
BBC 640 *	Intermediary Metabolism I	2(2-0-0)
BBC 641 *	Intermediary Metabolism II	2(2-0-0)
BBC 645	Plant Biochemistry	3(3-0-0)
BBC 651	Animal Biochemistry	3(3-0-0)
BBC 655	Carbon and Nitrogen Metabolism	2(2-0-0)
BBC 656	Nitrogen and Sulfur Metabolism	2(2-0-0)
BBC 657	Biochemistry on Xenobiotics	2(2-0-0)

* Compulsory courses

BBC 661	Concepts in Biochemical Diagnosis	3(2-0-1)
BBC 687	Master's Special Problem	1 or 2
BBC 688	Master's Seminar	1
BBC 690	Master Thesis Research	30
BBC 711*	Application of Techniques in Biochemistry	3(1-0-2)
BBC 731*	Advanced Enzymology	3(2-0-1)
BBC 740	Advanced Biochemistry &Molecular Biology	3(3-0-0)
BBC 750	Biochemistry and Molecular Probes	2(2-0-0)
BBC 751	Biomembranes	2(2-0-0)
BBC 756	Biochemistry of Biotic and Abiotic Stresses	3(3-0-0)
BBC 761	Concepts and Application of Omics in BiologicalScience	3(3-0-0)
BBC 766	Frontier Topics in Biochemistry	2(2-0-0)
BBC 787	Doctoral Special Problem	1or 2
BBC 788	Doctoral Seminar I	1
BBC 789	Doctoral Seminar II	1
BBC 790	Ph.D. Thesis Research	75

* Compulsory courses

2. BIOLOGICAL SCIENCES

M.Sc. Botany

Major Courses		
BBB 601*	Plant Diversity I	3(2-0-1)
BBB 602*	Plant Diversity II	3(2-0-1)
BBB 610*	Plant Morphology and Anatomy	2(1-0-1)
BBB 625*	Angiosperms: Diversity and Resource Utilization	3(2-0-1)
BBB 645*	Biology of Plant Reproduction	2(1-0-1)
Remaining credits will be chosen from the list of post graduate courses of Biological Sciences, 600 Series		7
Seminar		
BBB 688	Master's Seminar	1
Minor /Optional Courses		8
Supporting Courses		
BBC 603	Basic Biochemistry	3(3-0-0)
BPY 615	Principles of Plant Physiology-II: Metabolic Processes and Growth Regulation	3(2-0-1)
Common Courses		
BHS 500	Technical Writing and Communications Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
BBB 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

BBB 601	Plant Diversity I	3(2-0-1)
BBB 602	Plant Diversity II	3(2-0-1)

Remaining 2 credits will be chosen from the list of post graduate courses of Biological Sciences, 600 series

* Compulsory courses

Ph.D. Botany

Major Courses

BBB 701*	Plant Taxonomy	3(2-0-1)
BBB 705*	Plants in Extreme Habitats	2(2-0-0)
BBB 710*	Rhizosphere Biology	2(2-0-0)
BBB 720*	Economic Botany	3(3-0-0)
Remaining credits will be chosen from the list of post graduate courses of Biological Sciences, 700 Series		2

Seminar

BBB 788	Doctoral Seminar I	1
BBB 789	Doctoral Seminar II	1
Minor/ Optional Courses		6

Supporting Courses

BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)

Research

BBB 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

BBB 701	Plant Taxonomy	3(2-0-1)
BBB 720	Economic Botany	3(3-0-0)

List of the Post Graduate Courses

BBB 601*	Plant Diversity I	3(2-0-1)
BBB 602*	Plant Diversity II	3(2-0-1)
BBB 610*	Plant Morphology and Anatomy	2(1-0-1)
BBB 615	Economic Botany of Cryptogams	2(2-0-0)
BBB 625*	Angiosperms: Diversity and Resource Utilization	3(2-0-1)
BBB 635	Plant Ecology	2(2-0-0)
BBB 645*	Biology of Plant Reproduction	2(1-0-1)
BBB 655	Mycology	3(2-0-1)
BBB 687	Master's Special Problem	1 or 2

* Compulsory courses

BBB 688	Master's Seminar	1
BBB 690	Master's Thesis Research	30
BBB 701*	Plant Taxonomy	3(2-0-1)
BBB 705*	Plants in Extreme Habitats	2(2-0-0)
BBB 710*	Rhizosphere Biology	2(2-0-0)
BBB/BBE 713	Biodiversity: Concepts and Management Practices	2(2-0-0)
BBB 720*	Economic Botany	3(3-0-0)
BBB 721	Ethnobotany	2(2-0-0)
BBB 730	Recent Advances in Biosystematics	2(2-0-0)
BBB 787	Doctoral Special Problem	1 or 2
BBB 788	Doctoral Seminar I	1
BBB 789	Doctoral Seminar II	1
BBB 790	Ph.D. Thesis Research	75

* Compulsory courses

3. CHEMISTRY

M.Sc. (Agri.) Agricultural Chemicals

Major Courses

BPC 603*	Basic Chemistry	4(3-0-1)
BPC 606*	Agrochemicals for Insects, Mites and Termites Management	3(2-0-1)
BPC 607*	Agrochemicals for Disease Management	3(2-0-1)
BPC 608*	Agrochemicals for Weeds and Crops Management	3(2-0-1)
BPC 620*	Agrochemical Regulation, Quality Control and Management	2(2-0-0)
BPC 630*	Natural Product Chemistry	3(2-0-1)
BPC 645*	Pesticide Residue Chemistry	3(2-0-1)
Seminar		
BPC 688	Master's Seminar	1
Optional Courses		8

To be taken from the list of post graduate courses of the department, 500/600 series

Supporting Courses		
BBC 603	Basic Biochemistry	3(3-0-0)
BPS 625	Statistical Methods	3(2-0-1)
Common Courses		
BHS 500	Technical Writing and Communications Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
BPC 690	Master's Thesis Research	30
	Total	**71 credits**

Minor Courses (For other departments)

BPC 505	Introduction to Agrochemicals	2(2-0-0)
BPC 510	Chemical Laboratory Techniques	3(1-0-2)
BPC 603	Basic Chemistry	4(3-0-1)

* Compulsory courses

Ph.D. Agricultural Chemicals

Major Courses		
BPC 701*	Chemistry of Biopesticides	3(2-0-1)
BPC 707*	Agrochemical Formulation Technology	3(2-0-1)
BPC 710*	Pesticide Metabolism, persistence and Decontamination	3(2-0-1)
BPC 730*	Advanced Organic Chemistry for Agrochemicals	3(2-0-1)
Seminar		
BPC 788	Doctoral Seminar I	1
BPC 789	Doctoral Seminar II	1
Minor/ Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
BPC 790	Ph.D. Thesis Research	75
	Total	**101 credits**
Minor Courses (For other departments)		
BPC 606	Agrochemicals for Insects, Mites and Termites Management	3(2-0-1)
BPC 607	Agrochemicals for Disease Management	3(2-0-1)

* Compulsory courses

M.Sc. Chemistry

Major Courses

BPC 623*	Advanced Inorganic Chemistry	3(3-0-0)
BPC 629*	Organic Chemistry	3(3-0-0)
BPC 631*	Mechanism of Organic Reactions	2(2-0-0)
BPC 639*	Spectroscopic Methods of Analysis	3(2-0-1)
BPC 641*	Physical Chemistry	3(2-0-1)
BPC 644*	Advance Physical Chemistry	3(3-0-0)
BPC 651*	Analytical Chemistry	3(1-0-2)

Seminar

BPC 688	Master's Seminar	1

Optional Courses (*Courses to be taken from the following list*) 8

BPC 532	Chemistry of Dyes and Pigments	3(2-0-1)
BPC 534	Preparation and identification of Organic Compounds	2(0-0-2)
BPC 613	Electro Analytical Methods of Analysis	1(0-0-1)
BPC 615	Radio Chemistry	2(1-0-1)
BPC 616	Use of Radioisotopes in Research	2(1-0-1)
BPC 624	Coordination Chemistry	2(2-0-0)
BPC 625	Quantitative Inorganic Analysis	2(1-0-1)
BPC 630	Natural Product Chemistry	3(2-0-1)
BPC 632	Heterocyclic Chemistry	3(3-0-0)
BPC 638	Organic Synthesis	3(1-0-2)
BPC 642	Electro Chemistry	2(2-0-0)
BPC 643	Biophysical Chemistry	2(1-0-1)
BPC 654	Green Chemistry and Application	2(1-0-1)
BPC 660	Chemistry of Polymers	3(2-0-1)
BPC 661	Medicinal Chemistry	3(3-0-0)

Supporting Courses

BBC 603	Basic Biochemistry	3(3-0-0)
BPS 625	Statistical Methods	3(2-0-1)

Common Courses

BHS 500	Technical Writing and Communications Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)

Research

* Compulsory courses

BPC 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

BPC 625	Quantitative inorganic Analysis	2(1-0-1)
BPC 629	Organic Chemistry	3(3-0-0)
BPC 641	Physical Chemistry	3(2-0-1)

Ph.D. Chemistry

Major Courses

BPC 711*	Spectroscopic and Separation Methods	3(3-0-0)
BPC 721*	Special Topics in Inorganic Chemistry	2(2-0-0)
BPC 731*	Advance Organic Chemistry	2(2-0-0)
BPC 732*	Chemistry of Bioactive Natural Products	2(2-0-0)
BPC 741*	Selected Topics in Physical Chemistry	3(3-0-0)
Seminar		
BPC 788	Doctoral Seminar I	1
BPC 789	Doctoral Seminar II	1
Minor/ Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
BPC 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

BPC 630	Natural Product Chemistry	3(2-0-1)
BPC 651	Analytical Chemistry	3(1-0-2)

List of Post Graduate Courses

BPC 501	Agricultural Chemicals I	3(2-0-1)
BPC 502	Agricultural Chemicals II	3(2-0-1)
BPC 503	Methods of Pesticides Analysis for Quality Control	2(1-0-1)
BPC 504	Formulation Chemistry	2(1-0-1)
BPC 505	Introduction to Agrochemicals	2(2-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
BPC 510	Chemical Laboratory Techniques	3(1-0-2)

* Compulsory courses

BPC 512	Radioisotopes Techniques in Mechanical Engineering	1(0-0-1)
BPC 532	Chemistry of Dyes and Pigments	3(2-0-1)
BPC 533	Chemistry of Fibers	3(2-0-1)
BPC 534	Preparation and Identification of Organic Compounds	2(0-0-2)
BPC/BBE 602	Environmental Chemistry	3(2-0-1)
BPC 603*	Basic Chemistry	4(3-0-1)
BPC 606*	Agrochemicals for Insects, Mites and Termites Management	3(2-0-1)
BPC 607*	Agrochemicals for Disease Management	3(2-0-1)
BPC 608*	Agrochemicals for Weeds and Crops Management	3(2-0-1)
BPC 611	Chromatographic Methods of Analysis	2(1-0-1)
BPC 612	Optical Methods of Analysis	2(1-0-1)
BPC 613	Electro Analytical Methods of Analysis	1(0-0-1)
BPC 614	Chromatographic and Spectroscopic Techniques	3(2-0-1)
BPC 615	Radio Chemistry	2(1-0-1)
BPC 616	Use of Radioisotopes in Research	2(1-0-1)
BPC 620*	Agrochemical Regulation, Quality Control & Management	2(2-0-0)
BPC 621	Inorganic Chemistry I	3(2-0-1)
BPC 622	Inorganic Chemistry II	2(2-0-0)
BPC 623*	Advanced Inorganic Chemistry	3(3-0-0)
BPC 624	Coordination Chemistry	2(2-0-0)
BPC 625	Quantitative Inorganic Analysis	2(1-0-1)
BPC 629*	Organic Chemistry	3(3-0-0)
BPC 630*	Natural Product Chemistry	3(2-0-1)
BPC 631*	Mechanism of Organic Reactions	2(2-0-0)
BPC 632	Heterocyclic Chemistry	3(3-0-0)
BPC 633	Chemistry of Terpenoids and Steroids	2(2-0-0)
BPC 634	Chemistry of Carbohydrate	4(3-0-1)
BPC 635	Vitamins and Hormones	2(2-0-0)
BPC 636	Advanced Organic Synthesis	2(0-0-2)
BPC 637	Quantitative Organic Analysis	2(0-0-2)
BPC 638	Organic Synthesis	3(1-0-2)
BPC 639*	Spectroscopic Methods of Analysis	3(2-0-1)
BPC 641*	Physical Chemistry	3(2-0-1)
BPC 642	Electro Chemistry	2(2-0-0)
BPC 643	Biophysical Chemistry	2(1-0-1)
BPC 644*	Advanced Physical Chemistry	3(3-0-0)
BPC 645*	Pesticide Residue Chemistry	3(2-0-1)
BPC 651	Analytical Chemistry	3(1-0-2)
BPC 653	Green Chemistry	2(2-0-0)
BPC 654	Green Chemistry and Application	2(1-0-1)
BPC 660	Chemistry of Polymers	3(2-0-1)
BPC 661	Medicinal Chemistry	3(3-0-0)
BPC 687	Master's Special Problem	1 or 2

* Compulsory courses

BPC 688	Master's Seminar	1
BPC 690	Master's Thesis Research	30
BPC 701*	Chemistry of Biopesticides	3(2-0-1)
BPC 702	Research Techniques in Agrochemicals	2(0-0-2)
BPC 703	Recent Advances in Pesticides Formulations	2(2-0-0)
BPC 707*	Agrochemical Formulation Technology	3(2-0-1)
BPC 710*	Pesticide Metabolism, persistence and Decontamination	3(2-0-1)
BPC 711*	Spectroscopic and Separation Methods	3(3-0-0)
BPC 721*	Special Topics in Inorganic Chemistry	2(2-0-0)
BPC 730*	Advanced Organic Chemistry for Agrochemicals	3(2-0-1)
BPC 731*	Advance Organic Chemistry	2(2-0-0)
BPC 732	Chemistry of Bioactive Natural Products	2(2-0-0)
BPC 741*	Selected Topics in Physical Chemistry	3(3-0-0)
BPC 743	Special Topics in Agrochemicals	1(1-0-0)
BPC 787	Doctoral Special Problem	1 or 2
BPC 788	Doctoral Seminar I	1
BPC 789	Doctoral Seminar II	1
BPC 790	Ph.D. Thesis Research	75

* Compulsory courses

4. ENVIRONMENTAL SCIENCE

M.Sc. Environmental Science

Major Courses

BPC/BBE 602*	Environmental Chemistry	3(2-0-1)
BBE 603*	Physical Environment	2(2-0-0)
BBE 612*	Ecosystem Analysis	3(2-0-1)
BBE 621*	Environmental Pollution	3(3-0-0)
BBE 631*	Resource and Energy Conservation	3(2-0-1)
BBE 642*	Environmental Monitoring	3(2-0-1)
BBE 645*	Biodegradation & Waste Treatment Design	3(3-0-0)
Seminar		
BBE 688	Master's Seminar	1
Minor/ Optional Courses		8
Supporting Courses		
AAM 610	RS and GIS Applications in Agricultural Meteorology	3(2-0-1)
BPS 625	Statistical Methods	3(2-0-1)
Common Courses		
BHS 500	Technical Writing and Communications Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
BBE 690	Master's Thesis Research	30
	Total	**70 credits**

Ph.D. Environmental Science

Major Courses

BBB/BBE 713*	Biodiversity Concept and Management Practices	2(2-0-0)
BBE 722*	Air and Water Pollution	2(2-0-0)
BBE 732*	Environmental Waste Utilization	2(2-0-0)
BBE 742*	Environmental Impact Assessment and Management	3(2-0-1)
BBE 744*	Experimentation in Environmental Science	3(0-0-3)
Seminar		
BBE 788	Doctoral Seminar I	1
BBE 789	Doctoral Seminar II	1

* Compulsory courses

Minor/ Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
BBE 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

BBE 612	Ecosystem Analysis	3(2-0-1)
BBE 621	Environmental Pollution	3(2-0-1)

List of the Post Graduate Courses

BBE 511	Ecophysiology	3(3-0-0)
BBE 513	Social Environment and Human Ecology	2(2-0-0)
BPC/BBE 602	Environmental Chemistry	3(2-0-1)
BBE 603*	Physical Environment	2(2-0-0)
BBE 611	Environmental Physiology	2(1-0-1)
BBE 612*	Ecosystem Analysis	3(2-0-1)
BBE 621*	Environmental Pollution	3(3-0-0)
BBE 622	Ecotoxicology	2(1-0-1)
BBE 631	Resource and Energy Conservation	3(2-0-1)
BBE 642*	Environmental Monitoring	3(2-0-1)
BBE 645*	Biodegradation & Waste Treatment Design	2(2-0-0)
BBE 646	Industrial Environmental Management	3(3-0-0)
BBE/ BMP 651	Environmental Biotechnology	2(2-0-0)
BBE 687	Masters Special Problem	1 or 2
BBE 688	Master's Seminar	1
BBE 690	Master Thesis Research	30
BBB/BBE713*	Biodiversity: Concepts and Management Practices	2(2-0-0)
BBE 722*	Air and Water Pollution	2(2-0-0)
BBE 732*	Environmental Waste Utilization	2(2-0-0)
BBE 742*	Environmental Impact Assessment and Management	3(2-0-1)
BBE 744*	Experimentation in Environmental Science	3(0-0-3)
BBE 787	Doctoral Special Problem	1 or 2
BBE 788	Doctoral Seminar I	1
BBE 789	Doctoral Seminar II	1
BBE 790	Ph.D. Thesis Research	75

* Compulsory courses

5. MATHEMATICS, STATISTICS AND COMPUTER SCIENCE

M.Sc. Mathematics

Major Courses		
BPM 611*	Mechanics and Variational Principles	3(3-2-0)
BPM 631*	Real Analysis	3(3-2-0)
BPM 632*	Differential Geometry and Tensors	3(3-2-0)
BPM 633*	Topology	3(3-2-0)
BPM 634*	Complex Analysis	3(3-2-0)
BPM 635*	Functional Analysis	3(3-2-0)
BPM 636*	Abstract Algebra	3(3-2-0)
Seminar		
BPM 688	Master's Seminar	1
Optional/Minor Courses		8
Supporting Courses		
BPS 625	Statistical Methods	3(2-0-1)
BPS 669	Operations Research	3(2-0-1)
Common Courses		
BHS 500	Technical writing and Communication Skills	1(0-0-1)
BHS/AAC 502	Research, Research Ethics and Rural Development Programmes	1(0-0-1)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and Its Management	1(0-0-1)
BHS 611	Library and Information Services	1(1-1-0)
Research		
BPM 690	Master's Thesis Research	**30**
	Total	**71 credits**

M.Sc. (Agri.) Agricultural Statistics

Major Courses		
BPS 625*	Statistical Methods	3(2-0-1)
BPS 626*	Probability Theory and Distributions	2(2-1-0)
BPS 662*	Advanced Experimental Designs	3(2-0-1)
BPS 663*	Linear Models	2(2-1-0)
BPS 671*	Theory of Sampling	3(2-0-1)
BPS 676*	Estimation and Statistical Hypotheses Testing	4(3-1-1)
BPS 677*	Multivariate Analysis and Official Statistics	3(2-0-1)
Seminar		
BPS688	Master's Seminar	1
Optional/Minor Courses		8
Supporting Courses		
BPM 603	Linear Algebra and Advanced Calculus	3(3-2-0)

* Compulsory courses

AEC 611	Econometrics	3(2-0-1)
Common Courses		
BHS 500	Technical writing and Communication Skills	1(0-0-1)
BHS/AAC 502	Research, Research Ethics and Rural Development Programmes	1(0-0-1)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and Its Management	1(0-0-1)
BHS 611	Library and Information Services	1(1-1-0)
Research		
BPS 690	Master's Thesis Research	**30**
	Total	**70 credits**
Deficiency Courses		
BPS 404	Applied Statistics and Regression Analysis	3(2-0-1)

M.Sc. Statistics

Major Courses		
BPS 625*	Statistical Methods	3(2-0-1)
BPS 626*	Probability Theory and Distributions	2(2-1-0)
BPS 662*	Advanced Experimental Designs	3(2-0-1)
BPS 663*	Linear Models	2(2-1-0)
BPS 671*	Theory of Sampling	3(2-0-1)
BPS 676*	Estimation and Statistical Hypotheses Testing	4(3-1-1)
BPS 677*	Multivariate Analysis and Official Statistics	3(2-0-1)
Seminar		
BPS 688	Master's Seminar	1
Optional/Minor Courses		8
Supporting Courses		
BPM 631	Real Analysis	3(3-2-0)
BPM 637	Differential Equations	3(3-2-0)
Common Courses		
BHS 500	Technical writing and Communication Skills	1(0-0-1)
BHS/AAC 502	Research, Research Ethics and Rural Development Programmes	1(0-0-1)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and Its Management	1(0-0-1)
BHS 611	Library and Information Services	1(1-1-0)
Research		
BPS 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

Ph.D. Mathematics

Major Courses		
BPM 713*	Boundary Value Problems	3(3-2-0)
BPM 731*	Advanced Analysis	3(3-2-0)
BPM 732*	Integral Transforms and Z-Transforms	3(3-2-0)
BPM 737*	Special Functions	3(3-2-0)
Seminar		
BPM 788	Doctoral Seminar I	1
BPM 789	Doctoral Seminar- I	1
Minor/ Optional Courses		06
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
BPM 790	Ph.D. Thesis Research	**75**
	Total	**101 credits**

Ph.D. Statistics/ Agricultural Statistics

Major Courses		
BPS 702*	Simulation Techniques	3(2-0-1)
BPS 711*	Advanced Statistical Methods	3(2-0-1)
BPS 719*	Survival Analysis and Bayesian Inference	3(2-0-1)
BPS 720*	Data Science Concepts for Statistical Research	3(2-0-1)
Seminar		
BPS 788	Doctoral Seminar I	1
BPS 789	Doctoral Seminar II	1
Minor/Optional Courses		06
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
BPS 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

Mathematics		
BPM 602	Special Functions & Integral Equations	2(2-1-0)
BPM 732	Integral Transforms and Z Transforms	3(3-2-0)

Remaining 1 credit will be taken from the list of post graduate courses of the department 600/700 series

Statistics		
BPS 662	Advanced Experimental Designs	3(2-0-1)
BPS 672	Mathematical Statistics	3(3-1-0)

* Compulsory courses

Computer Science

BPM 621	Numerical Techniques for Computers	3(3-2-0)
BPM 642	Structured Programming Languages	3(2-1-1)

List of Post Graduate Courses

Mathematics

BPM 602	Special Functions & Integral Equations	2(2-1-0)
BPM 603	Linear Algebra & Advanced Calculus	3(3-2-0)
BPM 604	Difference, Differential Equations & Topology	3(3-2-0)
BPM 607	Transformations & Calculus of Variations	2(2-1-0)
BPM 611*	Mechanics and Variational Principles	3(3-2-0)
BPM 631*	Real Analysis	3(3-2-0)
BPM 632*	Differential Geometry & Tensors	3(3-2-0)
BPM 633*	Topology	3(3-2-0)
BPM 634*	Complex Analysis	3(3-2-0)
BPM 635*	Functional Analysis	3(3-2-0)
BPM 636*	Abstract Algebra	3(3-2-0)
BPM 637	Differential Equations	3(3-2-0)
BPM 687	Master's Special Problem	1 or 2
BPM 688	Master's Seminar	1
BPM 690	Master's Thesis Research	30
BPM 711	Mathematical Modeling	3(3-2-0)
BPM 713*	Boundary Value Problems	3(3-2-0)
BPM 731*	Advanced Analysis	3(3-2-0)
BPM 732*	Integral Transforms and Z Transforms	3(3-2-0)
BPM 734	Differentiable Manifolds	2(2-1-0)
BPM 737*	Special Functions	3(3-2-0)
BPM 787	Doctoral Special Problem	1or 2
BPM 788	Doctoral Seminar I	1
BPM 789	Doctoral Seminar II	1
BPM 790	Ph.D. Thesis Research	75

Agricultural Statistics/Statistics

BPS 606	Computer Application in Biometrics	2(0-0-2)
BPS 625*	Statistical Methods	3(2-0-1)
BPS 626*	Probability Theory and Distributions	2(2-2-0)
BPS 661	Experimental Statistics	4(3-0-1)
BPS 662*	Advanced Experimental Designs	3(2-0-1)
BPS 663*	Linear Models	2(2-1-0)
BPS 669	Operations Research	3(3-1-0)
BPS 671*	Theory of Sampling	3(2-0-1)
BPS 672	Mathematical Statistics	3(3-1-0)
BPS 676*	Estimation and Statistical Hypotheses Testing	4(3-1-1)
BPS 677*	Multivariate Analysis and Official Statistics	3(2-0-1)
BPS 681	Data Analysis and Forecasting	3(3-1-0)
BPS 687	Master's Special Problem	1 or 2

* Compulsory courses

BPS 688	Master's Seminar	1
BPS 690	Master's Thesis Research	30
BPS 702*	Simulation Techniques	3(2-0-1)
BPS 711*	Advanced Statistical Methods	3(2-0-1)
BPS 719*	Survival Analysis and Bayesian Inference	3(2-0-1)
BPS 720*	Data Science Concepts for Statistical Research	3(2-0-1)
BPS 787	Doctoral Special Problem	1or 2
BPS 788	Doctoral Seminar I	1
BPS 789	Doctoral Seminar II	1
BPS 790	Ph.D. Thesis Research	75

Computer Science

BPM 605	Use of Computer Software	2(0-0-2)
BPM 621	Numerical Techniques for Computers	3(3-2-0)
BPM 622	Numerical Solution of Partial Differential Equations	3(3-2-0)
BPM 623	Computer Network	2(1-1-1)
BPM 641	Object Oriented Programming	3(2-1-1)
BPM 642	Structured Programming Languages	3(2-1-1)
BPM 646	Discrete Mathematical Structures	3(3-2-0)
BPM 647	Relational Database Management System	3(2-1-1)
BPM 648	Design and Analysis of Algorithm	3(3-2-0)
BPM 649	Foundation of Theoretical Computer Science	3(3-2-0)
BPM 650	Introduction to Computers and Programming	2(1-0-1)
BPM 652	Elements of Computer Operating Systems	3(2-0-1)
BPM 653	Principles of Compiler Design	4(4-2-0)
BPM 655	Management Information System	3(2-0-1)
BPM 682	Numerical Methods	3(3-1-0)
BPM 683	Computer Application in Numerical Methods	3(0-0-3)

* Compulsory courses

6. MICROBIOLOGY

M.Sc. / M.Sc. (Agri.) Microbiology

Major Courses		
BBM 601*	Principles of Microbiology	3(3-0-0)
BBM 605*	Soil Microbiology	3(2-0-1)
BBM 606*	Microbial Physiology & Metabolism	3(3-0-0)
BBM 608*	Microbiological Techniques	2(0-0-2)
BBM 620*	Food Microbiology	3(2-0-1)
Remaining credits will be chosen from the list of post graduate courses of Microbiology, 500/600 series		6
Seminar		
BBM 688	Master's Seminar	1
Minor /Optional Courses		8
Supporting Courses		
BBC 603	Basic Biochemistry	3(3-0-0)
BBC 605	Basic Techniques in Biochemistry	1(0-0-1)
BPC 614	Chromatographic and Spectroscopic Techniques	3(2-0-1)
Common Courses		
BHS 500	Technical Writing and Communications Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
BBM 690	Master's Thesis Research	30
	Total	**71 credits**

* Compulsory courses

Ph.D. Microbiology

Major Courses

BBM 700*	Improvement in Fermentation Technology	2(2-0-0)
BBM 710*	Research Techniques in Microbiology	2(0-0-2)
BBM 722*	Recent Development in Soil Microbiology	2(2-0-0)
BBM 732*	Microbial Physiology & Regulation	2(2-0-0)
BBM 750*	Plant-Microbe Interactions	2(2-0-0)
Remaining credits will be chosen from the list of post graduate courses of Microbiology, 700 series		8

Seminar

BBM 788	Doctoral Seminar I	1
BBM 789	Doctoral Seminar II	1
Minor/ Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
BBM 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

BBM 722	Recent Development in Soil Microbiology	2(2-0-0)
BBM 725	Microbial Diversity & Taxonomy	2(2-0-0)
BBM 750	Plant-Microbe Interactions	2(2-0-0)

List of the Post Graduate Courses

BBM 500	General Microbiology	3(3-0-0)
BBM 601*	Principles of Microbiology	3(3-0-0)
BBM 605*	Soil Microbiology	3(2-0-1)
BBM 606*	Microbial Physiology & Metabolism	3(3-0-0)
BBM 607	Microbial Biotechnology	3(3-0-0)
BBM 608*	Microbiological Techniques	2(0-0-2)
BBM 610	Application of Microbial Methods	2(0-0-2)
BBM 620*	Food Microbiology	3(2-0-1)
BBM 640	Industrial Microbiology	2(2-0-0)
BBM 645	Microbial Genetics	3(2-0-1)
BBM 651	Yeast	2 (1-0-1)

* Compulsory courses

BBM 687	Master's Special Problem	1or 2
BBM 688	Master's Seminar	1
BBM 690	Master's Thesis Research	30
BBM 700*	Improvement in Fermentation Technology	2(2-0-0)
BBM 710*	Research Techniques in Microbiology	2(0-0-2)
BBM 721	Current Topics in Soil Microbiology	2(2-0-0)
BBM 722*	Recent Development in Soil Microbiology	2(2-0-0)
BBM 725	Microbial Diversity & Taxonomy	2(2-0-0)
BBM 730	Advanced Microbial Physiology	2(2-0-0)
BBM 731	Advances in Microbial Technology	1 (1-0-0)
BBM 732*	Microbial Physiology & Regulation	2(2-0-0)
BBM 740	Microbial Enzyme Technology	2(2-0-0)
BBM 750*	Plant-Microbe Interactions	2(2-0-0)
BBM 787	Doctoral Special Problem	1 or 2
BBM 788	Doctoral Seminar I	1
BBM 789	Doctoral Seminar II	1
BBM 790	Ph.D. Thesis Research	75

* Compulsory courses

7. MOLECULAR BIOLOGY AND GENETIC ENGINEERIG

M.Sc. (Agri.) Molecular Biology and Biotechnology

Major Courses		
BMB 621*	Fundamentals of Molecular Biology	3(3-0-0)
BMB 631*	Molecular Cell Biology	3(3-0-0)
BMB 646*	Techniques in Molecular Biology	3(0-0-3)
BMB 661*	Immunology and Molecular Diagnostics	3(3-0-0)
Remaining credits will be chosen from the list of post graduate courses of Molecular Biology and Genetic Engineering, 500/600 series		8
Seminar		
BMB 688	Master's Seminar	1
Minor /Optional Courses		8
Supporting Courses		
BBM 601	Principles of Microbiology	3(3-0-0)
BBC 603	Basic Biochemistry	3(3-0-0)
Common Courses		
BHS 500	Technical Writing and Communications Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
BMB 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

Ph.D. Molecular Biology and Biotechnology

Major Courses

BMB 711*	Plant Molecular Biology	3(3-0-0)
BMB 721*	Plant Genome Engineering	3(2-0-0)
BMB 751*	Commercial Plant Tissue Culture	2(2-0-0)
Remaining credits will be chosen from the list of post graduate courses of Molecular Biology and Genetic Engineering, 700/600 Series		4

Seminar

BMB 788	Doctoral Seminar I	1
BMB 789	Doctoral Seminar II	1
Minor/ Optional Courses		6

Supporting Courses

BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(3-0-0)
BHS 654	Research and Publication Ethics	2(2-0-0)

Research

BMB 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

BMB 611	Plant Genetic Engineering	3(3-0-0)
BMB 711	Plant Molecular Biology	3(3-0-0)

List of the Post Graduate Courses

BMB 535	Techniques in Cell biology	2(0-0-2)
BMB 540	Molecular Genetics and Breeding	3(3-0-0)
BMB 550	Concept in Genomics and Proteomics	2(2-0-0)
BMB 560	Immunology & Molecular Diagnostics	2(0-0-2)
BMB 576	IPR, Bio-safety and Bio Ethics	2(2-0-2)
BMB 577	Bio- Entrepreneurship	1(1-0-0)
BMB 610	Principles in Genetic Engineering	3(3-0-0)
BMB 611	Plant Genetic Engineering	3(3-0-0)
BMB 615	Techniques in Genetic Engineering	3(0-0-3)
BMB 620	Microbial/ Industrial Biotechnology	2(2-0-0)
BMB 621*	Fundamentals of Molecular Biology	3(3-0-0)
BMB 622	Principles of Biotechnology	3(3-0-0)
BMB 625	Plant Tissue Culture and Genetic Transformation	3(1-0-2)

* Compulsory courses

BMB 630	Animal Biotechnology	2(2-0-0)
BMB 631*	Molecular Cell Biology	3(3-0-0)
BMB 635	Animal Cell Culture: Principles and Applications	3(1-0-2)
BMB 641	Nano Biotechnology	3(2-0-1)
BMB 646*	Techniques in Molecular Biology	3(0-0-3)
BMB 650	Crop Biotechnology	2(2-0-0)
BMB 651	Stress Biology and Genomics	2(2-0-0)
BMB 661*	Immunology & Molecular Diagnostics	3(3-0-0)
BMB 670	Introduction to Bioinformatics	3(2-0-1)
BMB 671	Omics and System Biology	3(2-0-1)
BMB 687	Master's Special Problem	1 or 2
BMB 688	Master's Seminar	1
BMB 690	Master's Thesis Research	30
BMB 710	Advanced Molecular Biology	2(2-0-0)
BMB 711*	Plant Molecular Biology	3(3-0-0)
BMB 715	Computer Applications in Molecular Modelling	2(0-0-2)
BMB 720	Advances in Genetic Engineering	3(2-0-1)
BMB 721*	Plant Genome Engineering	3(3-0-0)
BMB 730	Advances in Functional Genomics and Proteomic	3(3-0-0)
BMB 731	Plant Omics and Molecular Breeding	3(3-0-0)
BMB 735	Immunological Applications in Biotechnology	2(1-0-1)
BMB 740	Advances in Microbial Biotechnology	3(3-0-0)
BMB 750	Advances in Crop Biotechnology	3(3-0-0)
BMB 751*	Commercial Plant Tissue Culture	2(2-0-0)
BMB 752	Plant Hormones and Signalling	2(2-0-0)
BMB 754	Plant Microbe Interaction	2(2-0-0)
BMB 760	Advances in Animal Biotechnology	3(3-0-0)
BMB 781	RNA Biology	1(1-0-0)
BMB 785	Advances in Cell and Tissue Culture Technology	2(2-0-0)
BMB 787	Doctoral Special Problem	1 or 2
BMB 788	Doctoral Seminar I	1
BMB 789	Doctoral Seminar II	1
BMB 790	Ph.D. Thesis Research	75

* Compulsory courses

8. PHYSICS

M.Sc. Physics

Major Courses		
BPP 610*	Mathematical Methods of Physics	2(2-1-0)
BPP 611*	Classical Mechanics and Relativity	2(2-1-0)
BPP 612*	Electromagnetism	2(2-1-0)
BPP 613*	Quantum Mechanics	2(2-1-0)
BPP 614*	Spectroscopy	2(2-1-0)
BPP 615*	Electronics	2(1-1-1)
BPP 616*	Statistical Mechanics	2(2-1-0)
BPP 617*	Solid State Physics	2(2-1-0)
BPP 618*	Nuclear Physics	2(2-1-0)
BPP 619*	Experimental Physics	3(0-0-3)
Seminar		
BPP 688	Master's Seminar	1
Minor /Optional Courses		8
Supporting Courses		
BPM 621	Numerical Techniques for Computers	3(3-2-0)
BPM 649	Foundation of Theoretical Computer Science	3(3-2-0)
Common Courses		
BHS 500	Technical Writing and Communications Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
BPP 690	Master's Thesis Research	30
	Total	**71 credits**

Minor Courses (For other departments)

Total 8 credits can be taken from the list of post graduate courses of the department 500/600 series

* Compulsory courses

Ph.D. Physics

Major Courses

BPP 711*	Advanced Classical Mechanics	2(2-0-0)
BPP 720*	Advanced Quantum Mechanics	2(2-0-0)
BPP 730*	Solid State Electronics	2(2-0-0)
BPP 750*	Advanced Statistical Mechanics	2(2-0-0)
BPP 751*	Advanced Solid State Physics	2(2-0-0)
BPP 760*	Advanced Nuclear Physics	2(2-0-0)
Seminar		
BPP 788	Doctoral Seminar I	1
BPP 789	Doctoral Seminar II	1
Minor/ Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
BPP 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

BPP 624	Statistical Thermodynamics	2(2-0-0)
BPP 653	Solid State Physics and Material Science	2(2-1-0)
BPP 730	Solid State Electronics	2(2-0-0)

List of the Post Graduate Courses

BPP 610*	Mathematical Methods of Physics	2(2-1-0)
BPP 611*	Classical Mechanics and Relativity	2(2-1-0)
BPP 612*	Electromagnetism	2(2-1-0)
BPP 613*	Quantum Mechanics	2(2-1-0)
BPP 614*	Spectroscopy	2(2-1-0)
BPP 615*	Electronics	2(1-1-1)
BPP 616*	Statistical Mechanics	2(2-1-0)
BPP 617*	Solid State Physics	2(2-1-0)

* Compulsory courses

BPP 618*	Nuclear Physics	2(2-1-0)
BPP 619*	Experimental Physics	3(0-0-3)
BPP 620	Introduction to Quantum Mechanics	2(2-1-0)
BPP 621	Quantum Mechanics II	2(2-1-0)
BPP 622	Solid State Physics II	2(2-1-0)
BPP 624	Statistical Thermodynamics	2(2-0-0)
BPP 630	Introduction to Linear and Digital Integrated Circuits I	3(2-0-1)
BPP 631	Introduction to Linear and Digital Integrated Circuits II	3(2-0-1)
BPP 634	Agrometeorological Instrumentation	3(2-0-1)
BPP 653	Solid State Physics and Material Science	2(2-1-0)
BPP 655	Physics of Nanomaterials	3(3-1-0)
BPP 661	Nuclear Tech. in Agri. And Biology	2(2-0-0)
BPP 687	Master's Special Problem	1 or 2
BPP 688	Master's Seminar	1
BPP 690	Master's Thesis Research	30
BPP 711*	Advanced Classical Mechanics	2(2-0-0)
BPP 720*	Advanced Quantum Mechanics	2(2-0-0)
BPP 721	Quantum Field Theory and Many Body Techniques	2(2-0-0)
BPP 725	Advanced Spectroscopy	2(2-0-0)
BPP 730*	Solid State Electronics	2(2-0-0)
BPP 750*	Advanced Statistical Mechanics	2(2-0-0)
BPP 751*	Advanced Solid State Physics	2(2-0-0)
BPP 752	Non Linear Optics and Solid State Spectroscopy	2(2-0-0)
BPP 753	Low temperature Physics	2(2-0-0)
BPP 760*	Advanced Nuclear Physics	2(2-0-0)
BPP 787	Doctoral Special Problem	1 or 2
BPP 788	Doctoral Seminar I	1
BPP 789	Doctoral Seminar II	1
BPP 790	Ph.D. Thesis Research	75

* Compulsory courses

9. PLANT PHYSIOLOGY

M.Sc. / M.Sc. (Agri.) Plant Physiology

Major Courses		
BPY 614*	Principles of Plant Physiology-I: Plant Water Relations and Mineral Nutrition	3(2-0-1)
BPY 615*	Principles of Plant Physiology-II: Metabolic Processes and Growth Regulation	3(2-0-1)
BPY 616*	Plant Developmental Biology: Physiological and Molecular Basis	3(2-0-1)
BPY 617*	Physiological and Molecular Responses of Plants to Abiotic Stresses	3(2-0-1)
BPY 618*	Hormonal Regulation of Plant Growth and Development	3(2-0-1)
BPY 619*	Physiological and Molecular Mechanisms of Mineral Nutrient Acquisition and their Functions	3(2-0-1)
BPY 620*	Seed Physiology	3(2-0-1)
Seminar		
BPY 688	Master's Seminar	1
Minor /Optional Courses		8
Supporting Courses		
BBC 603	Basic Biochemistry	3(3-0-0)
BPS 625	Statistical Methods	3(2-0-1)
Common Courses		
BHS 500	Technical Writing and Communications Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
BPY 690	Master's Thesis Research	30
	Total	**71 credits**

* Compulsory courses

Ph.D. Plant Physiology

Major Courses

BPY 711*	Signal Perceptions, Transduction and Regulation of Physiological Processes	2(2-0-0)
BPY 712*	Plant Phenomics-Next Generation Phenomics Platform	2(2-0-0)
BPY 713*	Experimental Techniques to Characterize Plant Processes for Crop Improvement	2(0-0-2)
BPY 714*	Global Climate Change and Crop Response	2(2-0-0)
BPY 715*	Physiological and Molecular Aspects of Source- Sink Capacity for Enhancing Yield	3(3-0-0)
BPY 716*	Weed Biology and Physiology of Herbicide Action	2(2-0-0)
Seminar		
BPY 788	Doctoral Seminar I	1
BPY 789	Doctoral Seminar II	1
Minor/ Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3 (2-0-1)
BHS 654	Research and Publications Ethics	2 (1-0-1)
Research		
BPY 790	Ph.D. Thesis Research	75
	Total	**102 credits**

Minor Courses (For other departments)

BPY 616	Physiological and Molecular Responses of Plants to Abiotic Stresses	3(2-0-1)
BPY 617	Hormonal Regulation of Plant Growth and Development	3(2-0-1)

List of the Post Graduate Courses

BPY 614*	Principles of Plant Physiology-I: Plant Water Relations and Mineral Nutrition	3(2-0-1)
BPY 615*	Principles of Plant Physiology-II:Metabolic Processes and Growth Regulation	3(2-0-1)
BPY 616*	Plant Developmental Biology: Physiological and Molecular Basis	3(2-0-1)
BPY 617*	Physiological and Molecular Responses of Plants to Abiotic Stresses	3(2-0-1)
BPY 618*	Hormonal Regulation of Plant Growth and Development	3(2-0-1)
BPY 619*	Physiological and Molecular Mechanisms of Mineral Nutrient Acquisition and their Functions	3(2-0-1)
BPY 620*	Seed Physiology	3(2-0-1)
BPY 687	Master's Special Problem	1 or 2

* Compulsory courses

BPY 688	Master's Seminar	1
BPY 690	Master's Research	30
BPY 711*	Signal Perceptions and Transduction and Regulation of Physiological Processes	2(2-0-0)
BPY 712*	Plant Phenomics-Next Generation Phenomics Platform	2(2-0-0)
BPY 713*	Experimental Techniques to Characterize Plant Processes for Crop Improvement	2(0-0-2)
BPY 714*	Global Climate Change and Crop Response	2(2-0-0)
BPY 715*	Physiological and Molecular Aspects of Source-sink Capacity for Enhancing Yield	3(3-0-0)
BPY 716*	Weed Biology and Physiology of Herbicide Action	2(2-0-0)
BPY 787	Doctoral Special Problem	1 or 2
BPY 788	Doctoral Seminar I	1
BPY 789	Doctoral Seminar II	1
BPY 790	Ph.D. Thesis Research	75

* Compulsory courses

10. SOCIAL SCIENCES AND HUMANITIES

For Ph.D. Programmes

Supporting Courses

BHS 652	Research Methodology I	1(1-0-0)
BHS 654	Research and Publication Ethics	2(2-0-0)

Minor Courses* (For other departments)

BHS 630	Theories of Personality	3(3-0-0)
BHS 653	Dynamics of Rural Leadership	2(2-0-0)
BHS 661	Dynamics of Social Change	2(2-0-0)
BHS 670	Social Psychology	2(2-0-0)

*** Choose any three courses**

For M.Sc. Programmes

Minor Courses* (For other departments)

BHS 507	Functional English	2(0-0-2)
BHS 660	Cognitive Psychology	3(3-0-0)
BHS 665	Mental Health	3(3-0-0)
BHS 669	Psychopathology	2(2-0-0)

*** Choose any three courses**

Common Courses

BHS 500	Technical Writing and Communications Skills	1(0-0-1)
BHS/AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)

List of the Post Graduate Courses

BHS 500	Technical Writing and Communications Skills	1(0-0-1)
BHS 501	Environmental Administration	3(3-0-0)
BHS/AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BHS 507	Functional English	2(0-0-2)
BHS 601	Language and Communication	2(1-0-2)
BHS 604	Gender Sensitization for Development	3(2-0-1)

* Compulsory courses

BHS 610	Storage and Retrieval of Scientific Information	1(1-1-0)
BHS 611	Library and Information Services	1(1-1-0)
BHS 630	Theories of Personality	3(3-0-0)
BHS 652	Research Methodology-I	1(1-0-0)
BHS 653	Dynamics of Rural Leadership	2(2-0-0)
BHS 654	Research and Publication Ethics	2(2-0-0)
BHS 655	Methodologies for Social & Behavioural Research	3(2-0-1)
BHS 660	Cognitive Psychology	3(3-0-0)
BHS 661	Dynamics of Social Change	2(2-0-0)
BHS 665	Mental Health	3(3-0-0)
BHS 669	Psychopathology	3(3-0-0)
BHS 670	Social Psychology	2(2-0-0)
BHS 702	Foundations of Psychology	3(3-0-0)

* Compulsory courses

COMMUNITY SCIENCE DISCIPLINES

1.

APPAREL AND TEXTILE SCIENCE

M.Sc. (Community Science) Apparel and Textile Science

Major Courses

HTA 601*	Textile Chemistry	3(2-0-1)
HTA 602*	Textile and Apparel Quality Analysis	3(2-0-1)
HTA 603*	Pattern Making and Draping	3(1-0-2)
HTA 604*	Woven Textile Design	3(2-0-1)
Remaining credits will be chosen from the list of post graduate courses of Apparel and Textile Science , 500 series		8

Seminar

HTA 688	Master's Seminar	1
Minor /Optional Courses		8

Supporting Courses

HEE 581	Research Methodology in Community Science	3(2-0-1)
BPS 625	Statistical Methods	3(2-0-1)

Common Courses

BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)

Research

HTA 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

HTA 601	Textile Chemistry	3(2-0-1)
HTA 505	Wet Processing of Textiles	3(2-0-1)

Remaining 2 credits will be chosen from the list of post graduate courses of Apparel and Textile Science, 500 series

Remedial Courses for the post graduate students who did graduation with three year degree programme

HCT 407	Computer Aided Designing- I	4(0-0-4)
HCT 495	Hands on Training in Designing and Production in Textile and Apparel	20

* Compulsory courses

Ph.D. Apparel and Textile Science

Major Courses		
HTA 701*	Textile Ecology	2(2-0-0)
HTA 702*	Technical Textiles	3(2-0-1)
HTA 703*	Functional Clothing	3(2-0-1)
Remaining credits of major courses will be chosen from the list of post graduate courses of Apparel and Textile Science, 700 series		4
Seminar		
HTA 788	Doctoral Seminar I	1
HTA 789	Doctoral Seminar II	1
Minor/ Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
HTA 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

HTA 702	Technical Textiles	3(2-0-1)
HTA 703	Functional Clothing	3(2-0-1)

List of the Post Graduate Courses

HTA 505	Wet Processing of Textiles	3(2-0-1)
HTA 506	Computer Aided Textile and Apparel Designing	3(0-0-3)
HTA 507	Textile and Apparel Industrial Management	3(3-0-0)
HTA 508	Historic Textiles and Costumes	2(1-0-1)
HTA 509	Textile Auxiliaries	3(2-0-1)
HTA 510	Socio Psychological Aspects of Clothing	2(2-0-0)
HTA 511	Sustainability in Textile and Apparel Industry	2(2-0-0)
HTA 512	Textile and Apparel Product Development	2(1-0-1)
HTA 513	Laboratory Techniques in Textile Research	2(0-0-2)
HTA 601*	Textile Chemistry	3(2-0-1)
HTA 602*	Textile and Apparel Quality Analysis	3(2-0-1)
HTA 603*	Pattern Making and Draping	3(1-0-2)
HTA 604*	Woven Textile Design	3(2-0-1)
HTA 687	Master's Special Problem	1 or 2

* Compulsory courses

HTA 688	Master's Seminar	1
HTA 690	Master's Thesis Research	30
HTA 701*	Textile Ecology	2(2-0-0)
HTA 702*	Technical Textiles	3(2-0-1)
HTA 703*	Functional Clothing	3(2-0-1)
HTA 704	Technological Developments in Textiles and Apparel	2(2-0-0)
HTA 705	Technology of Nonwovens	2(2-0-0)
HTA 706	Colour Application in Textiles	2(1-0-1)
HTA 707	Textile Conservation	2(1-0-1)
HTA 708	Operational Management in Textiles and Apparel	3(3-0-0)
HTA 787	Doctoral Special Problem	1 or 2
HTA 788	Doctoral Seminar I	1
HTA 789	Doctoral Seminar II	1
HTA 790	Ph.D. Thesis Research	75

* Compulsory courses

2. FOOD AND NUTRITION

M.Sc. (Community Science) Food and Nutrition

Major Courses

HFN 601*	Macro and Micro Nutrients in Human Nutrition	3(3-0-0)
HFN 602*	Public Health and Nutrition	3(2-0-1)
HFN 603*	Techniques in Food Analysis	3(1-0-2)
HFN 604*	Diet Therapy	3(2-0-1)
Remaining credits will be chosen from the list of post graduate courses of Food and Nutrition, 600 series		8

Seminar

HFN 688	Master's Seminar	1

Minor/Optional Courses 8

Supporting Courses

HEE 581	Research Methodology in Community Science	3(2-0-1)
BPS 625	Statistical Methods	3(2-0-1)

Common Courses

BHS 500	Technical Writing and Communications Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)

Research

HFN 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

HFN 601	Macro and Micro Nutrients in Human Nutrition	3(3-0-0)
HFN 603	Techniques in Food Analysis	3(1-0-2)

Remaining 2 credits will be chosen from the list of post graduate courses of Food and Nutrition, 600 series

Remedial Courses for the post graduate students who did graduation with three year degree programme

HFN 449	Food Analysis	4(2-0-2)
HFN 495	Experiential Learning in Diet & Nutrition Counselling	20

Remedial course for the post graduate students who did graduation with four year degree programme with vocational elective other than Food and Nutrition

HFN 449	Food Analysis	4(2-0-2)

* Compulsory courses

Ph.D. Food and Nutrition

Major Courses		
HFN 701*	Macronutrient Metabolism	2(2-0-0)
HFN 702*	Micronutrient Metabolism	2(2-0-0)
HFN 703*	Nutrition and Agricultural Interface	3(3-0-0)
Remaining credits will be chosen from the list of post graduate courses of Food and Nutrition, 700 series		5
Seminar		
HFN 788	Doctoral Seminar I	1
HFN 789	Doctoral Seminar II	1
Minor / Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(1-0-1)
Research		
HFN 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

HFN 701	Macronutrient Metabolism	2(2-0-0)
HFN 702	Micronutrient Metabolism	2(2-0-0)
HFN 704	Global Nutritional Problems and Policy Planning	2(2-0-0)

List of Post Graduate Courses

HFN 601*	Macro and Micro Nutrients in Human Nutrition	3(3-0-0)
HFN 602*	Public Health and Nutrition	3(2-0-1)
HFN 603*	Techniques in Food Analysis	3(1-0-2)
HFN 604*	Diet Therapy	3(2-0-1)
HFN 605	Nutrition and Physical Fitness	3(2-0-1)
HFN 606	Developments in Nutrition and Immunity	2(2-0-0)
HFN 607	Nutritional Challenges in Life Cycle	3(3-0-0)

* Compulsory courses

HFN 688	Master's Seminar	1
HFN 690	Master's Thesis Research	30
HFN 701*	Macronutrient Metabolism	2(2-0-0)
HFN 702*	Micronutrient Metabolism	2(2-0-0)
HFN 703*	Nutrition and Agricultural Interface	3(3-0-0)
HFN 704	Global Nutritional Problems and Policy Planning	2(2-0-0)
HFN 705	Hormones and Enzymes	2(2-0-0)
HFN 706	Energy Metabolism	2(2-0-0)
HFN 707	Nutritional Epidemiology	3(2-0-1)
HFN 788	Doctoral Seminar I	1
HFN 789	Doctoral Seminar II	1
HFN 790	Ph.D. Thesis Research	75

* Compulsory courses

3. HUMAN DEVELOPMENT AND FAMILY STUDIES

M.Sc. (Community Science) Human Development and Family Studies

Major Courses

HHD 601*	Theories of Human Development	3(3-0-0)
HHD 602*	Dynamics of Human Development	3(3-0-0)
HHD 603*	Methods and Techniques of Assessment in Human Development	3(2-0-1)
HHD 604*	Innovative Programmes in Early Childhood Development and Education	3(2-0-1)
Remaining credits will be chosen from the list of post graduate courses of Human Development and Family Studies, 500 series		8

Seminar

HHD 688	Master's Seminar	1

Minor /Optional Courses 8

Supporting Courses

HEE 581	Research Methodology in Community Science	3(2-0-1)
BPS 625	Statistical Methods	3(2-0-1)

Common Courses

BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)

Research

HHD 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

HHD 601	Theories of Human Development	3(3-0-0)
HHD 602	Dynamics of Human Development	3(3-0-0)

Remaining 2 credits will be chosen from the list of post graduate courses of Human Development and Family Studies, 500/600 series

Remedial Courses for the post graduate students who did graduation with three year degree programme

HHD 470	Children with Special Needs	5(3-0-2)
HHD 495	Hands on Training in Management of Early Childhood Care and Education Centers	20

* Compulsory courses

List of the Post Graduate Courses

HHD 505	Gender issues in Human Development and Relationship	3(2-0-1)
HHD 506	Adult Development	2(2-0-0)
HHD 507	Management of Differently Abled	3(2-0-1)
HHD 508	Adolescent Development and Challenges	3(2-0-1)
HHD 509	Guidance and Counselling	3(2-0-1)
HHD 510	Interventions for Differently Abled Children	2(1-0-1)
HHD 511	Family Ecology	2(2-0-0)
HHD 512	Family and Cultural Diversities	2(2-0-0)
HHD 513	Family Therapy	2(1-0-1)
HHD 601*	Theories of Human Development	3(3-0-0)
HHD 602*	Dynamics of Human Development	3(3-0-0)
HHD 603*	Methods and Techniques of Assessment in Human Development	3(2-0-1)
HHD 604*	Innovative Programmes in Early Childhood Development and Education	3(2-0-1)
HHD 688	Master's Seminar	1
HHD 690	Master's Thesis Research	30

* Compulsory courses

4. RESOURCE MANAGEMENT AND CONSUMER SCIENCE

M.Sc. (Community Science) Resource Management and Consumer Science

Major Courses		
HRM 601*	Resource Management: Principles and Practices	3(3-0-0)
HRM 602*	Interior Space Planning	3(1-0-2)
HRM 604*	Consumer Economics	3(2-0-1)
HRM 607*	Human Factors and Ergonomics	3(2-0-1)
HRM 610*	Environmental Resource Management	2(1-0-1)
Remaining credits will be chosen from the list of post graduate courses of Resource Management and Consumer Science, 500 series		6
Seminar		
HRM 688	Master's Seminar	1
Minor /Optional Courses		8
Supporting Courses		
HEE 581	Research Methodology in Community Science	3(2-0-1)
BPS 625	Statistical Methods	3(2-0-1)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
HRM 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

HRM 604	Consumer Economics	3(2-0-1)
HRM 607	Human Factors and Ergonomics	3(2-0-1)

Remaining 2 credits will be chosen from the list of post graduate courses of Resource Management and Consumer Science, 500/600 series

Remedial Courses for the post graduate students who did graduation with three year degree programme

HRM 421	Traditional and Contemporary Interiors	4(2-0-2)
HRM 495	Hands on Training in Event and Décor Management	20

* Compulsory courses

Ph.D. Resource Management and Consumer Science

Major Courses

HRM 701*	Trends in Resource Management	3(3-0-0)
HRM 705*	Occupational Biomechanics	3(2-0-1)
Rest of credits will be chosen from the list of post graduate courses of Resource Management and Consumer Science, 700 series		6

Seminar

HRM 788	Doctoral Seminar I	1
HRM 789	Doctoral Seminar II	1
Minor/ Optional Courses		6

Supporting Courses

BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)

Research

HRM 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

HRM 703	Family Dynamics and Women Power	3(2-0-1)
HRM 765	Globalization and Consumer Economics	3(2-0-1)

List of the Post Graduate Courses

HRM 503	Colour and Lighting in Interiors	3(2-0-1)
HRM 505	Consumer Issues and Legislations	2(2-0-0)
HRM 506	Product Design	3(1-0-2)
HRM 508	Work and Work Station Design	3(1-0-2)
HRM 509	Ergonomic Research Techniques	3(1-0-2)
HRM 601*	Resource Management: Principles and Practices	3(3-0-0)
HRM 602*	Interior Space Planning	3(1-0-2)
HRM 604*	Consumer Economics	3(2-0-1)
HRM 607*	Human Factors and Ergonomics	3(2-0-1)
HRM 610*	Environmental Resource Management	2(1-0-1)

* Compulsory courses

HRM 687	Master's Special Problem	1 or 2
HRM 688	Master's Seminar	1
HRM 690	Master's Thesis Research	30
HRM 701*	Trends in Resource Management	3(3-0-0)
HRM 703	Family Dynamics and Women Power	3(2-0-1)
HRM 705*	Occupational Biomechanics	3(2-0-1)
HRM 706	Space Designing and Managerial Dimensions for Special needs	3(1-0-2)
HRM 707	Physical Ergonomics	3(1-0-2)
HRM 731	Environmental Issues and Challenges	2(2-0-0)
HRM 765	Globalization and Consumer Economics	3(2-0-1)
HRM 787	Doctoral Special Problem	1 or 2
HRM 788	Doctoral Seminar I	1
HRM 789	Doctoral Seminar II	1
HRM 790	Ph.D. Thesis Research	75

* Compulsory courses

FISHERY SCIENCE DISCIPLINES

1. AQUACULTURE

M.F.Sc. Aquaculture

Major Courses		
FAC 611*	Freshwater Aquaculture Production Systems	3(2-0-1)
FAC 612*	Coastal Aquaculture and Mariculture Farming Systems	3(2-0-1)
FAC 613*	Hatchery Technology for Fin Fishes and Shell Fishes	3(2-0-1)
FAC 614*	Aquaculture Policy and Planning	2(1-0-1)
FAC 616*	Fish Nutrition and Feed Technology	3(2-0-1)
FAC 617*	Soil and Water Quality Management in Aquaculture	3(2-0-1)
FAC 618*	Therapeutics and Health Management in Aquaculture	3(2-0-1)
Seminar		
FAC 688	Master's Seminar	1
Minor/ Optional Courses		8
Supporting Courses		
TID 516	Aquacultural Engineering	2(1-0-1)
BPS 625	Statistical Methods	3(2-0-1)
FEM 662	Climate Change: Impact and Management	1(1-0-0)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
FAC 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)		
FAC 623	Commercial Ornamental Fish Breeding and Culture	2 (1-0-1)
FAC 627	Multilevel Integrated Aquaculture Systems	2 (1-0-1)
FAC 628	Coldwater Aquaculture and Recreational Fisheries	2 (1-0-1)
FAC 629	Recirculating Aquaculture Systems	2 (1-0-1)

* Compulsory courses

Ph.D. Aquaculture

Major Courses

FAC 712*	Hi-tech Aquaculture Production Systems	3 (2-0-1)
FAC 722*	Seed Production and Hatchery Management	3 (2-0-1)
FAC 723*	Aquaculture Ecosystem Management and Climate Change	3 (2-0-1)
FAC 732*	Fish and Shellfish Physiology and Endocrinology	3 (2-0-1)
Seminar		
FAC 788	Doctoral Seminar I	1
FAC 789	Doctoral Seminar II	1
Minor /Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1 (1-0-0)
BPS 653	Research Methodology II	3 (2-0-1)
BHS 654	Research and Publication Ethics	2 (2-0-0)
Research		
FAC 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor courses (For other departments)

FAC 708	Feed Management in Aquaculture	2 (1-0-1)
FAC 709	Applied Biotechnology in Aquaculture	2 (1-0-1)
FAC 727	Aquaculture Medicine	2 (1-0-1)

List of the Post Graduate Courses

FAC 611*	Freshwater Aquaculture Production Systems	3(2-0-1)
FAC 612*	Coastal Aquaculture and Mariculture Farming Systems	3(2-0-1)
FAC 613*	Hatchery Technology for Fin Fishes and Shell Fishes	3(2-0-1)
FAC 614*	Aquaculture Policy and Planning	2(1-0-1)
FAC 616*	Fish Nutrition and Feed Technology	3(2-0-1)
FAC 617*	Soil and Water Quality Management in Aquaculture	3(2-0-1)
FAC 618*	Therapeutics and Health Management in Aquaculture	3(2-0-1)
FAC 619	Larval Nutrition and Live Feed Production	2(1-0-1)
FAC 621	Open Water Aquaculture	2(1-0-1)
FAC 623	Commercial Ornamental Fish Breeding and Culture	2(1-0-1)
FAC 624	Computer Application in Aquaculture Data Processing	1(0-0-1)
FAC 626	Inland Saline Aquaculture	2(1-0-1)

* Compulsory courses

FAC 627	Multilevel Integrated Aquaculture Systems	2(1-0-1)
FAC 628	Coldwater Aquaculture and Recreational Fisheries	2(1-0-1)
FAC 629	Recirculating Aquaculture Systems	2(1-0-1)
FAC 687	Master's Special Problem	1 or 2
FAC 688	Masters' Seminar	1
FAC 690	Master's Research	30
FAC 708	Feed Management in Aquaculture	2(1-0-1)
FAC 709	Applied Biotechnology in Aquaculture	2(1-0-1)
FAC 710	Automation in Aquaculture Systems	2(1-0-1)
FAC 727	Aquaculture Medicine	2(1-0-1)
FAC 712*	Hi-tech Aquaculture Production Systems	3(2-0-1)
FAC 722*	Seed Production and Hatchery Management	3(2-0-1)
FAC 723*	Aquaculture Ecosystem Management and Climate Change	3(2-0-1)
FAC 732*	Fish and Shellfish Physiology and Endocrinology	3(2-0-1)
FAC 787	Doctoral Special Problem	1 or 2
FAC 788	Doctoral Seminar I	1
FAC 789	Doctoral Seminar II	1
FAC 790	Ph.D. Thesis Research	75

* Compulsory courses

2. FISHERIES RESOURCE MANAGEMENT

M.F.Sc. Fisheries Resource Management

Major Courses		
FRM 602*	Sustainable Fisheries Management	3(2-0-1)
FRM 603*	Fish Biodiversity and Conservation Biology	3 (2-0-1)
FRM 604*	Climate Change and Fisheries Resource	3 (2-0-1)
FRM 605*	Fish Stock Assessment	3 (1-0-1)
FRM 606*	Trophodynamics in Aquatic Systems	3 (2-0-1)
FRM 607*	Reproductive Biology of Finfish and Shellfish	3 (2-0-1)
FRM 608*	Developmental Biology of Finfish and Shellfish	3 (2-0-1)
Seminar		
FRM 688	Master's Seminar	1
Minor/ Optional Courses		8
Supporting Courses		
BBC 603	Basic Biochemistry	3(3-0-0)
BPS 625	Statistical Methods	3(2-0-1)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
FRM 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

FRM 509	Bio Systematic of Aquatic Fauna	3(1-0-2)
FRM 510	Inland Fisheries Resources Management	3(2-0-1)
FRM 516	Field Techniques in Fisheries Resource Management	2(0-0-2)

* Compulsory courses

Ph.D. Fisheries Resource Management

Major Courses

FRM 701*	Fisheries Resource Conservation and Restoration Biology	3 (2-0-1)
FRM 702*	Assessments of Aquatic Biodiversity and Ecosystem	3 (2-0-1)
FRM 703*	Functional Physiology of Fishes	3 (2-0-1)
FRM 704*	GIS Use in Fisheries Resources	3 (2-0-1)
Seminar		
FRM 788	Doctoral Seminar I	1
FRM 789	Doctoral Seminar II	1
Minor /Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
FRM 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

FRM 605	Fisheries Legislations, Governance and Treaties	3(2-0-1)
FRM 606	Software Applications in Fish Stock Assessment	3(2-0-1)

List of the Post Graduate Courses

FRM 508	Modern Techniques in Fisheries Biology	3(2-0-1)
FRM 509	Bio Systematic of Aquatic Fauna	3(1-0-2)
FRM 510	Inland Fisheries Resources Management	3(2-0-1)
FRM 512	Marine Fisheries Resources Management	3(2-0-1)
FRM 513	Advanced Fish Anatomy and Physiology	3(2-0-1)
FRM 514	Fish Histology and Histochemistry	2(1-0-1)
FRM 516	Field Techniques in Fisheries Resource Management	2(0-0-2)
FRM 602*	Sustainable Fisheries Management	3(2-0-1)
FRM 603*	Fish Biodiversity and Conservation Biology	3(2-0-1)
FRM 604*	Climate Change and Fisheries Resource	3(2-0-1)
FRM 605*	Fish Stock Assessment	3(2-0-1)
FRM 606*	Trophodynamics in Aquatic Systems	3(2-0-1)
FRM 607*	Reproductive Biology of Finfish and Shellfish	3(2-0-1)
FRM 608*	Developmental Biology of Finfish and Shellfish	3(2-0-1)

* Compulsory courses

FRM 688	Masters' Seminar	1
FRM 690	Masters' Thesis Research	30
FRM 601	Fisheries Resource Conservation and Restoration Biology	3(2-0-1)
FRM 602	Assessments of Aquatic Biodiversity and Ecosystem	3 (2-0-1)
FRM 603	Functional Physiology of Fishes	3 (2-0-1)
FRM 604	GIS Use in Fisheries Resources	3 (2-0-1)
FRM 605	Fisheries Legislations, Governance and Treaties	3 (2-0-1)
FRM 606	Software Applications in Fish Stock Assessment	3 (2-0-1)
FRM 607	Coral Reef Management	3 (2-0-1)
FRM 701*	Fisheries Resource Conservation and Restoration Biology	3 (2-0-1)
FRM 702*	Assessments of Aquatic Biodiversity and Ecosystem	3 (2-0-1)
FRM 703*	Functional Physiology of Fishes	3 (2-0-1)
FRM 704*	GIS Use in Fisheries Resources	3 (2-0-1)
FRM 788	Doctoral Seminar I	1
FRM 789	Doctoral Seminar II	1
FRM 790	Ph.D. Thesis Research	75

* Compulsory courses

3. AQUATIC ENVIRONMENT MANAGEMENT

M.F.Sc. Aquatic Environmental Management

Major Courses		
FEM 615*	Fisheries Oceanography	2(1-0-1)
FEM 632*	Coastal Ecology and Management	3 (2-0-1)
FEM 655*	Advanced Aquatic Environment and Biodiversity	3 (2-0-1)
FEM 656*	Inland Aquatic Resource Management	3 (2-0-1)
FEM 660*	Chemical Interactions in Aquatic Environment	3 (2-0-1)
FEM 661*	Analytical Techniques in Environmental Sciences	2 (1-0-1)
FEM 662*	Climate Change: Impact and Management	1 (1-0-0)
FEM 671*	Aquatic Pollution and Management	3 (2-0-1)
Seminar		
FEM 688	Master's Seminar	1
Minor/ Optional Courses		8
Supporting Courses		
BPS 625	Statistical Methods	3 (2-0-1)
FAC 617	Soil and Water Quality Management in Aquaculture	3 (2-0-1)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
FEM 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

FEM 636	Plankton Ecology and Trophic Dynamics	2 (1-0-1)
FEM 641	Aquatic Microbiology	2 (1-0-1)
FEM 643	Restoration Ecology	2 (1-0-1)
FEM 646	Eco- toxicology	2 (1-0-1)

List of the Post graduate Courses

FEM 615*	Fisheries Oceanography	2(1-0-1)
FEM 632*	Coastal Ecology and Management	3(2-0-1)
FEM 636	Plankton Ecology and Trophic Dynamics	2(1-0-1)
FEM 641	Aquatic Microbiology	2(1-0-1)
FEM 642	Utilization and Management of Aquatic Algal Resources	2(1-0-1)

* Compulsory courses

FEM 643	Restoration Ecology	2(1-0-1)
FEM 646	Eco-toxicology	2(1-0-1)
FEM 651	Environmental Biotechnology	2(1-0-1)
FEM 655*	Advanced Aquatic Environment and Biodiversity	3(2-0-1)
FEM 656*	Inland Aquatic Resource Management	3(2-0-1)
FEM 660*	Chemical Interactions in Aquatic Environment	3(2-0-1)
FEM 661*	Analytical Techniques in Environmental Sciences	2(1-0-1)
FEM 662*	Climate Change: Impact and Management	1(1-0-0)
FEM 671*	Aquatic Pollution and Management	3(2-0-1)
FEM 688	Masters' Seminar	1
FEM 690	Masters' Thesis Research	30

* Compulsory courses

4. FISH PROCESSING TECHNOLOGY

M.F.Sc. Fish Processing Technology

Major Courses		
FPT 614*	Low Temperature Preservation of Fish and Shell Fish	3(2-0-1)
FPT 615*	Thermal Processing of Fish and Fishery Products	3(2-0-1)
FPT 618*	Fish Quality Assurance, Management and Certification	3(2-0-1)
FPT 619*	Value Added Fishery Products	3(2-0-1)
FPT 624*	Applied Fisheries Microbiology	3(2-0-1)
FPT 625*	Applied Fisheries Biochemistry	3(2-0-1)
FPT 628*	Trade Regulations, Certification and Documentation in Export of Fish and Fishery Products	2(1-0-1)
Seminar		
FPT 688	Master's Seminar	1
Minor/ Optional Courses		8
Supporting Courses		
BBM 500	General Microbiology	3(3-0-0)
BBC 603	Basic Biochemistry	3(3-0-0)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS/AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
FPT 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

FPT 511	Handling, Storage and Transport of Fresh Fish	2 (1-0-1)
FPT 513	Fish By-Products and Utilization of Fishery Wastes	2 (1-0-1)
FPT 523	Design, Maintenance of Fish Processing Plants & Instrumentation	2 (1-0-1)
FPT 616	Microorganisms of Public Health Significance	2 (1-0-1)

List of the Post Graduate Courses

FPT 511	Handling, Storage and Transport of Fresh Fish	2(1-0-1)
FPT 513	Fish By-Products and Utilization of Fishery Wastes	2(1-0-1)
FPT 516	Additives in Fish Processing	2(1-0-1)
FPT 523	Design, Maintenance of Fish Processing Plants &	2(1-0-1)

* Compulsory courses

	Instrumentation	
FPT 529	Molecular Techniques in Seafood Quality Analysis	2(1-0-1)
FPT 530	Multivariate Analysis in Food Processing & Product Development	2(1-0-1)
FPT 611	Packaging of Fish and Fishery Products	2(1-0-1)
FPT 614*	Low Temperature Preservation of Fish and Shell Fish	3(2-0-1)
FPT 615*	Thermal Processing of Fish and Fishery Products	3(2-0-1)
FPT 616	Microorganisms of Public Health Significance	2(1-0-1)
FPT 618*	Fish Quality Assurance, Management and Certification	3(2-0-1)
FPT 619*	Value Added Fishery Products	3(2-0-1)
FPT 624*	Applied Fisheries Microbiology	3(2-0-1)
FPT 625*	Applied Fisheries Biochemistry	3(2-0-1)
FPT 628*	Trade Regulations, Certification and Documentation in Export of Fish and Fishery Products	2(1-0-1)
FPT 687	Master's Special Problem	1 or 2
FPT 688	Master's Seminar	1
FPT 690	Master's Thesis Research	30

* Compulsory courses

MANAGEMENT DISCIPLINES

MBA PROGRAMMES

MBA

Components of MBA Programme

Sl. No.	Components	Credit Hours
1.	Major Courses	26
2.	Master's Seminar	01
3.	Minor/Optional Courses	08
4.	Supporting Courses	06
5.	Common Courses	05
6.	Summer Internship	08
7.	Project	30
	Total	**84**

Major Courses

MAM 500	Management Functions and Organizational Behaviour	2(2-2-0)
MAM 501	Managerial Economics	2(2-2-0)
MAM 502	Business Statistics & Data Analysis	1(1-1-0)
MAM 561	Financial Accounting	2(2-2-0)
MAM 562	Management Accounting	2(2-2-0)
MAM 610	Management Information System	2(1-0-1)
MAM 618	E- Commerce	2(2-1-0)
MAM 620	Marketing Management	2(2-2-0)
MAM 622	Rural Marketing	1(1-1-0)
MAM 623	International Marketing and Finance	2(2-1-0)
MAM 630	Logistics and Supply Chain Management	2(2-1-0)
MAM 631	Human Resource Management	2(2-2-0)
MAM 640	Production and Operations Management	2(1-0-1)
MAM 663	Commodity Futures, Options and Derivatives	2(2-0-0)
	Total	**26 credits**

Master's Seminar

MAM 600	Master's Seminar	1
	Total	**01 credit**

Minor/Optional Courses **08 credits**

Four courses of 02 credits each will be chosen from the list of post graduate courses of MBA in a specific elective, 500/600 series

* Compulsory courses

Supporting Courses

MAM 648	Operations Research	2(1-1-1)
MAM 652	Strategic Management	2(2-0-0)
MAM 660	Financial Management	2(1-1-1)
	Total	**06 credits**

Common Courses

Five courses of 01 credit each will be chosen from the list of approved MOOC/SWAYAM courses

Summer Internship

MAM 612	Communication for Management and Business	2(1-1-1)
MAM 511	Research Methodology in Management	2(1-1-1)
MAM 672	Industrial Attachment	4
	Total	**08 credits**

Project

MAM 509	Computers Application in Management	2(1-1-1)
MAM 655	Management of Projects	2(1-1-1)
MAM 504	Entrepreneurship Development	2(2-1-0)
MAM 602	Business Environment, Development & Policy	2(2-1-0)
MAM 503	Business Laws and Ethics	1(1-1-0)
MAM 699	Project	21
	Total	**30 credits**
	Grand Total	**84 credits**

* Compulsory courses

MBA (Agribusiness)

Components of MBA (Agribusiness) Programme

Sl. No.	Components	Credit Hours
1.	Major Courses	26
2.	Master's Seminar	01
3.	Minor/Optional Courses	08
4.	Supporting Courses	06
5.	Common Courses	05
6.	Summer Internship	08
7.	Project	30
	Total	**84**

Major Courses

MAM 500	Management Functions and Organizational Behaviour	2(2-2-0)
MAM 501	Managerial Economics	2(2-2-0)
MAM 502	Business Statistics & Data Analysis	1(1-1-0)
MAM 561	Financial Accounting	2(2-2-0)
MAM 562	Management Accounting	2(2-2-0)
MAM 610	Management Information System	2(1-0-1)
MAM 618	E- Commerce	2(2-1-0)
MAM 620	Marketing Management	2(2-2-0)
MAM 622	Rural Marketing	1(1-1-0)
MAM 623	International Marketing and Finance	2(2-1-0)
MAM 630	Logistics and Supply Chain Management	2(2-1-0)
MAM 631	Human Resource Management	2(2-2-0)
MAM 640	Production and Operations Management	2(1-0-1)
MAM 663	Commodities Futures, Options and Derivatives	2(2-0-1)
	Total	**26 credits**

Master's Seminar

MAM 600	Master's Seminar	1
	Total	**01 credit**

Minor/Optional Courses

MAM 650	Procurement and Materials Management	2(1-0-1)
MAM 695	Management of Seed Enterprises	2(2-0-0)
MAM 697	Fertilizer Technology and Management	2(2-0-0)
MAM 698	Agro Chemicals Technology and Management	2(2-0-0)

* Compulsory courses

	Total	**08 credits**

Supporting Courses

MAM 648	Operations Research	2(1-1-1)
MAM 652	Strategic Management	2(2-0-0)
MAM 660	Financial Management	2(1-1-1)
	Total	**06 credits**

Common Courses

BHS 500	Technical Writing and Communications Skills	1
AGP 518	Intellectual Property and its management	1
BHS 501	Agricultural Research, Research Ethics and Rural Development Programmes	1

Remaining two courses of 01 credit each will be chosen from the list of approved MOOC/SWAYAM courses

	Total	**05 credits**

Summer Internship

MAM 511	Research Methodology in Management	2(1-1-1)
MAM 612	Communication for Management and Business	2(1-1-1)
MAM 672	Industrial Attachment	4
	Total	**08 credits**

Project

MAM 503	Business Laws and Ethics	1(1-1-0)
MAM 504	Entrepreneurship Development	2(2-1-0)
MAM 509	Computers Application in Management	2(1-1-1)
MAM 602	Business Environment, Development & Policy	2(2-1-0)
MAM 655	Management of Projects	2(1-1-1)
MAM 699	Project	21
	Total	**30 credits**
	Grand Total	**84 credits**

* Compulsory courses

Ph.D. Management

Components of Ph.D. (Management) Programme

Sl. No.	Components	Credit Hours
1.	Major Courses	13
2.	Seminars	02
3.	Supporting Courses	06
4.	Minor/Optional Courses	10
5.	Ph.D. Thesis Research	75
	Total	**106**

Major Courses

MAM 701*	Advance Economic Analysis	2(2-1-0)
MAM 720*	Integrated Marketing Management	2(1-1-1)
MAM 730*	Human Resource Administration	2(2-1-0)
MAM 750*	Strategic Business Management	1(1-1-0)
MAM 760*	Corporate Finance	2(1-1-1)
Remaining 4 credits will be taken as per recommendation of the Advisory Committee from list of post graduate courses of MBA, 700 series		4
	Total	**13 credits**

Seminar

MAM 788	Doctoral Seminar I	1
MAM 789	Doctoral Seminar II	1
	Total	**02 credits**

Supporting Courses

BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research & Publication Ethics	2(2-0-0)
	Total	**06 credits**

Minor/Optional Courses **Total** **10 credits**

Research

MAM 790	Ph.D. Thesis Research	75
	Total	**75 credits**
	Grand Total	**106 credits**

* Compulsory courses

Minor Courses

Agribusiness Management

MAM 604	Entrepreneurship Development in Agribusiness	2(2-1-0)
MAM 702	Agribusiness Environment and Policy	3(3-1-0)
MAM 721	Agribusiness and Rural Marketing	3(2-1-1)
MAM 761	Agribusiness and Rural Finance	2(1-1-1)

List of Post Graduate Courses

MAM 500	Management Functions and Organizational Behaviour	2(2-2-0)
MAM 501	Managerial Economics	2(2-2-0)
MAM 502	Business Statistics & Data Analysis	1(1-1-0)
MAM 503	Business Laws and Ethics	1(1-1-0)
MAM 504	Entrepreneurship Development	2(2-1-0)
MAM 509	Computers Application in Management	2(1-1-1)
MAM 510	Computer for Managers	3(2-0-1)
MAM 511	Research Methodology in Management	2(1-1-1)
MAM 522	Retail Branding and Integrated Mass Communication	2(2-2-0)
MAM 523	Distribution Network & Franchise Management	2(2-2-0)
MAM 524	Business to Business Marketing	2(2-2-0)
MAM 530	Industrial Psychology	1(1-1-0)
MAM 540	IT enabled Retail Operations Management	1(1-1-0)
MAM 551	Data Warehousing, Data Mining and CRM	1(0-0-1)
MAM 560	Managerial Accounting and Control	2(1-1-1)
MAM 561	Financial Accounting	2(2-2-0)
MAM 562	Management Accounting	2(2-2-0)
MAM 600	Master's Seminar	1
MAM 602	Business Environment, Development & Policy	2(2-1-0)
MAM 603	Business Law	2(2-1-0)
MAM 604	Entrepreneurship Development in Agribusiness	2(2-1-0)
MAM 605	Agribusiness Environment, Development and Policy	2(2-1-0)
MAM 610	Management Information System	2(1-0-1)
MAM 611	Research Methods in Management	2(1-1-1)

* Compulsory courses

MAM 612	Communication for Management and Business	2(1-1-1)
MAM 613	Information Technology Management	2(2-2-0)
MAM 614	System Analysis and Design	2(2-2-0)
MAM 615	Data base management systems	2(2-2-0)
MAM 616	Internet programming for e-commerce	2(2-2-0)
MAM 617	Quantitative Techniques for Managerial Decisions	2(1-1-1)
MAM 618	E- Commerce	2(2-1-0)
MAM 620	Marketing Management	2(2-2-0)
MAM 621	E-Marketing	2(1-0-1)
MAM 622	Rural Marketing	1(1-1-0)
MAM 623	International Marketing and Finance	2(2-1-0)
MAM 624	Advertising and Sales Promotion	2(2-2-0)
MAM 625	Sales and Distribution Management	2(2-2-0)
MAM 626	Marketing Research	2(2-2-0)
MAM 627	Product and Brand Management	2(2-2-0)
MAM 628	Food Retail Management	2(2-1-0)
MAM 629	Consumer Behavior	2(2-1-0)
MAM 630	Logistics and Supply Chain Management	2(2-1-0)
MAM 631	Human Resource Management	2(2-2-0)
MAM 632	Industrial Relation Management	2(2-1-0)
MAM 633	Group Dynamics	2(2-2-0)
MAM 634	Labour Legislation	2(2-2-0)
MAM 635	International Corporate Behavior	2(2-2-0)
MAM 636	Labor Relations & Collective Bargaining	2(2-2-0)
MAM 637	Global Human Resource Management	2(2-2-0)
MAM 640	Production and Operations Management	2(1-0-1)
MAM 641	Production Planning and Control	2(2-2-0)
MAM 643	Purchasing and Materials Management	2(2-2-0)
MAM 644	Logistics Management	2(2-2-0)
MAM 645	Service Operations Management	2(2-2-0)
MAM 646	Total Quality Management	2(2-0-0)
MAM 647	Technology Management IPR	1(1-1-0)
MAM 648	Operations Research	2(1-1-1)

* Compulsory courses

MAM 649	Agricultural Supply Chain Management	3(3-2-0)
MAM 650	Procurement and Materials Management	2(1-0-1)
MAM 651	Management Control System	2(2-2-0)
MAM 652	Strategic Management	2(2-0-0)
MAM 653	Export-Import Procedures, Documentation and Logistics	2(2-2-0)
MAM 654	India's Foreign Trade Policy	2(2-2-0)
MAM 655	Management of Projects	2(1-1-1)
MAM 660	Financial Management	2(1-1-1)
MAM 661	Security Analysis and Portfolio Management	2(2-2-0)
MAM 662	International Accounting	2(2-2-0)
MAM 663	Commodity Futures, Options and Derivatives	2(2-0-1)
MAM 664	Corporate Taxation	2(2-2-0)
MAM 665	Forward, Options and Derivatives Management	3(2-0-1)
MAM 666	Working Capital Management	2(2-2-0)
MAM 667	Management of Financial Services	2(2-2-0)
MAM 672	Industrial Attachment	4
MAM 678	Foreign Language (French, German/Russian/Arabic)	1(1-1-0)
MAM 679	Ecology and Environmental Management	2(2-0-0)
MAM 680	Technology Management for Livestock Products	2(2-0-0)
MAM 681	Management of Veterinary Hospital	2(1-0-1)
MAM 682	Feed Business Management	2(2-0-0)
MAM 683	Poultry and Hatchery Management	2(2-0-0)
MAM 684	Veterinary Pharmaceutical Industry	2(2-0-0)
MAM 686	Management of Watershed Development Projects and Irrigation Equipment	2(2-0-0)
MAM 687	Management of Livestock and Meat Processing Industry	2(2-0-0)
MAM 688	Farm Power and Machinery Management	2(2-1-0)
MAM 689	Food Technology and Processing Management	2(2-2-0)
MAM 691	Fruit Production and Post Harvest Management	2(2-0-0)
MAM692	Production and Post Harvest Management of Vegetable and Vegetable Seed	2(2-0-0)
MAM 693	Management of Bio-tech Industries	2(2-0-0)
MAM 694	Management of Floriculture and Landscaping	2(1-1-1)

* Compulsory courses

MAM 695	Management of Seed Enterpris21es	2(2-0-0)
MAM 697	Fertilizer Technology and Management	2(2-0-0)
MAM 698	Agro Chemicals Technology and Management	2(2-0-0)
MAM 699	Project	21
MAM 701	Advance Economic Analysis	2(2-1-0)
MAM 702	Agribusiness Environment and Policy	3(3-1-0)
MAM 720	Integrated Marketing Management	2(1-1-1)
MAM 721	Agribusiness and Rural Marketing	3(2-1-1)
MAM 724	Research for Marketing Decisions	2(1-1-1)
MAM 726	International Marketing	2(1-1-1)
MAM 730	Human Resource Administration	2(2-1-0)
MAM 731	Organization Development and Management of Change	1(1-1-0)
MAM 742	Project Management	2(1-1-1)
MAM 743	Operations Management	2(1-1-1)
MAM 750	Strategic Business Management	1(1-1-0)
MAM 760	Corporate Finance	2(1-1-1)
MAM 761	Agribusiness and Rural Finance	2(1-1-1)
MAM 762	Investment and Portfolio Management	3(2-1-1)
MAM 764	Long Term Financial Resources Management	1(1-1-0)
MAM 766	Global Financial Management	2(2-1-0)
MAM 788	Doctoral Seminar I	1
MAM 789	Doctoral Seminar II	1
MAM 790	Ph.D. Thesis Research	75

* Compulsory courses

TECHNOLOGY DISCIPLINES

1. CIVIL ENGINEERING

M. Tech. Civil Engineering (Hydraulic Engineering)

Program Core Courses		
TCE 511	Advanced Hydrology	3(3-2-0)
TCE 512	Advances in Fluid Mechanics	3(3-0-0)
TCE 513	Free Surface Flows	3(3-2-0)
TCE 514	Ground Water Engineering	3(3-0-0)
TCE 515	Fluid Mechanics Lab	2(0-0-2)
TCE 516	Open Channel Flow Lab	2(0-0-2)
Seminar		
TCE 688	Master's Seminar I	1
TCE 689	Master's Seminar II	1
Program Electives		19
Will be taken from the list of post graduate courses of Civil Engineering, 500/600 series		
Common Courses		
BHS 611	Library and Information Services	1(1-1-0)
TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)
Research		
TCE 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

M. Tech. Civil Engineering (Soil Mechanics and Foundation Engineering)

Program Core Courses		
TCE 521	Advanced Soil Mechanics	3(3-0-0)
TCE 522	Advanced Foundation Engineering	3(3-0-0)
TCE 523	Dynamics of Soils and Foundations	3(3-0-0)
TCE 524	Subsurface Investigations and Instrumentation	3(3-0-0)
TCE 525	Geotechnical Lab I	2(0-0-2)
TCE 526	Geotechnical Lab II	2(0-0-2)
Seminar		
TCE 688	Master's Seminar I	1
TCE 689	Master's Seminar II	1
Program Electives		19
Will be taken from the list of post graduate courses of Civil Engineering, 500/600 series		
Common Courses		
BHS 611	Library and Information Services	1(1-1-0)
TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)
Research		
TCE 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

M. Tech. Civil Engineering (Structural Engineering)

Program Core Courses		
TCE 531	Advances in Structural Analysis	3(3-2-0)
TCE 532	Advanced Solid Mechanics	3(3-0-0)
TCE 533	FEM in Structural Engineering	3(3-1-0)
TCE 534	Dynamic Analysis of Structures	3(3-2-0)
TCE 535	Structural Design Lab	2(0-0-2)
TCE 536	Model Testing Lab	2(0-0-2)
Seminar		
TCE 688	Master's Seminar I	1
TCE 689	Master's Seminar II	1
Program Electives		19
Will be taken from the list of post graduate courses of Civil Engineering, 500/600 series		
Common Courses		
BHS 611	Library and Information Services	1(1-1-0)
TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)
Research		
TCE 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

M. Tech. Civil Engineering (Transportation Engineering)

Program Core Courses		
TCE 504	Geometric Design of Highways	3(3-0-0)
TCE 505	Pavement Analysis and Design	3(3-0-0)
TCE 506	Traffic Analysis and Design	3(3-0-0)
TCE 507	Transportation Planning	3(3-0-0)
TCE 545	Transportation Engineering Laboratory	2(0-0-2)
TCE 546	Traffic Studies and Analysis	2(0-0-2)
Seminar		
TCE 688	Master's Seminar I	1
TCE 689	Master's Seminar II	1
Program Electives		19
Will be taken from the list of post graduate courses of Civil Engineering, 500/600 series		
Common Courses		
BHS 611	Library and Information Services	1(1-1-0)
TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)
Research		
TCE 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

Ph.D. Civil Engineering

Program Core Courses

Any courses as advised by advisory committee from the list of post graduate courses of Civil Engineering, 700 series		9

Seminar

TCE 788	Doctoral Seminar I	1
TCE 789	Doctoral Seminar II	1

Supporting Courses

BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)

Research

TCE 790	Ph.D. Thesis Research	84
	Total	**101 credits**

Minor Courses (For other departments)

TCE 672	Soil Structure Interaction	3(3-0-0)
TCE 745	Theory of Vibration	3(2-1-1)

List of the Post Graduate Courses

TCE 504	Geometric Design of Highways	3(3-0-0)
TCE 505	Pavement Analysis and Design	3(3-0-0)
TCE 506	Traffic Analysis and Design	3(3-0-0)
TCE 507	Transportation Planning	3(3-0-0)
TCE 511	Advanced Hydrology	3(3-2-0)
TCE 512	Advances in Fluid Mechanics	3(3-0-0)
TCE 513	Free Surface Flows	3(3-2-0)
TCE 514	Ground Water Engineering	3(3-0-0)
TCE 515	Fluid Mechanics Lab	2(0-0-2)
TCE 516	Open Channel Flow Lab	2(0-0-2)
TCE 521	Advanced Soil Mechanics	3(3-0-0)
TCE 522	Advanced Foundation Engineering	3(3-0-0)

* Compulsory courses

TCE 523	Dynamics of soils and foundations	3(3-0-0)
TCE 524	Subsurface investigations and instrumentation	3(3-0-0)
TCE 525	Geotechnical Lab I	2(0-0-2)
TCE 526	Geotechnical Lab II	2(0-0-2)
TCE 531	Advances in Structural Analysis	3(3-2-0)
TCE 532	Advanced Solid Mechanics	3(3-0-0)
TCE 533	FEM in Structural Engineering	3(3-1-0)
TCE 534	Dynamic Analysis of Structures	3(3-2-0)
TCE 535	Structural Design Lab	2(0-0-2)
TCE 536	Model Testing Lab	2(0-0-2)
TCE 545	Transportation Engineering Laboratory	2(0-0-2)
TCE 546	Traffic Studies and Analysis	2(0-0-2)
TCE 616	Computational Methods in Fluid Mechanics	3(3-0-0)
TCE 617	Computer Methods in Hydraulics and Hydrology	3(3-2-0)
TCE 618	River Engineering	3(3-0-0)
TCE 619	Theory and Applications of GIS	3(3-0-0)
TCE 624	Numerical Methods for Civil Engineers	3(3-2-0)
TCE 625	Principles of Remote Sensing	3(3-0-0)
TCE 626	Hydro Power Engineering	3(3-0-0)
TCE 627	Soil Improvement and Ground Modification Methods	3(3-0-0)
TCE 629	Earth Retaining Structures	3(3-0-0)
TCE 634	Irrigation and Drainage	3(3-0-0)
TCE 635	Sediment Transport	3(3-0-0)
TCE 636	Environmental Geotechnology	3(3-0-0)
TCE 638	Engineering Rock Mechanics	3(3-0-0)
TCE 639	Stability analysis of slopes	3(3-0-0)
TCE 642	Theory of Structural Stability	3(3-1-0)
TCE 643	Advanced Steel Design	3(3-2-0)
TCE 644	Design of Masonry Structure	3(3-2-0)
TCE 645	Earthquake Resistant Design of Structures	3(3-2-0)
TCE 646	Design of Industrial Structure	3(3-2-0)
TCE 647	Design of Pre stressed Concrete Structure	3(3-1-0)
TCE 648	Composite Material	3(3-1-0)

* Compulsory courses

TCE 649	Analysis of Laminated Composite Plates	3(3-1-0)
TCE 656	Planning Design and Construction of Rural Roads	3(3-0-0)
TCE 657	Intersection Design and Analysis	3(3-0-0)
TCE 658	Airport Planning and Design	3(3-0-0)
TCE 660	Theory of Thin Plates and Shells	3(3-1-0)
TCE 661	Water Resources Systems Planning	3(3-0-0)
TCE 671	Numerical Methods in Geotechnical Engineering	2(2-0-0)
TCE 672	Soil Structure Interaction	3(3-0-0)
TCE 674	Stability of Slopes	3(3-0-0)
TCE 687	Master's Special Problem	1 or 2
TCE 688	Master's Seminar I	1
TCE 689	Master's Seminar II	1
TCE 690	Master's Thesis Research	30
TCE 716	Applied Hydrology	3(3-2-0)
TCE 717	Water Resources Systems Planning and Management	3(3-0-0)
TCE 721	Ground Modification Methods	3(3-0-0)
TCE 723	Geosynthetics and Reinforced Soil Structures	3(3-0-0)
TCE 737	Ground Improvement Techniques	2(2-0-0)
TCE 745	Theory of Vibration	3(2-1-1)
TCE 746	Earthquake Resistant Structure	3(3-2-0)
TCE 747	Steel and Composite Structures	3(3-1-0)
TCE 748	Wind Engineering	3(3-0-0)
TCE 749	Finite Element Analysis	3(3-1-0)
TCE 761	Planning of Transportation Networks	3(3-0-0)
TCE 762	Traffic Engineering	3(3-0-0)
TCE 763	Highway Pavement Design	3(3-0-0)
TCE 776	Principles of Water Treatment	3(3-0-0)
TCE 777	Basics of Environmental Management	3(3-0-0)
TCE 787	Doctoral Special Problem	1 or 2
TCE 788	Doctoral Seminar I	1
TCE 789	Doctoral Seminar II	1
TCE 790	Ph.D. Thesis Research	84

* Compulsory courses

2. COMPUTER ENGINEERING

M. Tech. Computer Engineering

Program Core Course

TCT 501	Advanced Data Structure	3(2-0-1)
TCT 502	Advanced Algorithms	3(2-0-1)
TCT 504	Theoretical Foundation of Computer Science	3(3-0-0)
TCT 530	Computational Scientific Tools for Research	2(0-0-2)
TCT 531	Experimental Methods for AI & ML	2(0-0-2)
TCT 621	Computational Intelligence & Soft Computing	3(2-0-1)

Seminar

TCT 688	Master's Seminar I	1
TCT 689	Master's Seminar II	1

Program Electives 19

Will be taken from the list of post graduate courses of Computer Engineering, 600 series

Common Courses

BHS 611	Library and Information Services	1(1-1-0)
TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)

Research

TCT 690	Master's Thesis Research	30
	Total	**70 credits**

List of the Post Graduate Courses

TCT 501*	Advanced Data Structure	3(2-0-1)
TCT 502*	Advanced Algorithms	3(2-0-1)
TCT 504*	Theoretical Foundation of Computer Science	3(3-0-0)
TCT 530*	Computational Scientific Tools for Research	2(0-0-2)
TCT 531*	Experimental Methods for AI & ML	2(0-0-2)
TCT 607	Modelling and Simulation	3(2-0-1)

* Compulsory courses

TCT 608	System Administration	3(2-0-1)
TCT 609	Advanced Computer Architecture	3(2-0-1)
TCT 611	Digital Image Processing	3(2-0-1)
TCT 613	Natural Language Processing	3(2-0-1)
TCT 614	Artificial Intelligence and Expert Systems	3(2-0-1)
TCT 617	VLSI Design	3(2-0-1)
TCT 618	High Performance Computing	3(2-0-1)
TCT 620	Agent Based Computing	3(2-0-1)
TCT 621*	Computational Intelligence & Soft Computing	3(2-0-1)
TCT 623	Software Quality Management	3(2-0-1)
TCT 624	Advanced Data Mining and Warehousing	3(2-0-1)
TCT 631	Distributed Systems	3(2-0-1)
TCT 632	Cloud Computing	3(2-0-1)
TCT 633	Formal Methods	3(2-0-1)
TCT 636	Wireless Sensor Networks	3(2-0-1)
TCT 637	Advanced Wireless and Mobile Networks	3(2-0-1)
TCT 638	Smart Sensors and IOT	3(2-0-1)
TCT 639	IOT Application and Communication Protocol	3(2-0-1)
TCT 641	Machine Learning	3(2-0-1)
TCT 642	Big Data Analytics	3(2-0-1)
TCT 651	Information Theory & Coding	3(2-0-1)
TCT 652	Network Security & Cryptography	3(2-0-1)
TCT 653	Ethical Hacking	3(2-0-1)
TCT 654	Digital Forensics	3(2-0-1)
TCT 661	Computer Vision	3(2-0-1)
TCT 662	Human and Computer Interaction	3(2-0-1)
TCT 687	Master's Special Problem	1 or 2
TCT 688	Master's Seminar I	1
TCT 689	Master's Seminar II	1
TCT 690	Master's Thesis Research	30

* Compulsory courses

3. ELECTRICAL ENGINEERING

M. Tech. Electrical Energy System

Program Core Courses

TEE 531	Distributed Generation	3(3-0-0)
TEE 532	Digital Power System Protection	3(3-0-0)
TEE 533	Renewable Energy Systems and Applications	3(3-0-0)
TEE 534	Modelling and Analysis of Electrical Machines	3(3-0-0)
TEE 545	Power and Energy Lab	2(0-0-2)
TEE 546	Energy Systems Simulation Lab	2(0-0-2)

Seminar

TEE 688	Master's Seminar I	1
TEE 689	Master's Seminar II	1

Program Electives 19

i. Will be taken from the list of post graduate courses of Electrical Engineering/other departments of College of Technology and Department of Mathematics, Statistics and Computer Science, CBSH as per recommendation of the advisory committee (500/600 series).

ii. A relevant course of 3 credits can be taken from the MOOC courses available on SWAYAM portal in lieu of listed programme electives.

Common Courses

BHS 611	Library and Information Services	1(1-1-0)
TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)

Research

TEE 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

Ph.D. Electrical Engineering

Program Core Courses

Courses as advised by advisory committee from the list of post graduate courses of Electrical Engineering, 700 series		9

Seminar

TEE 788	Doctoral Seminar I	1
TEE 789	Doctoral Seminar II	1

Supporting Courses

BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(1-0-1)

Research

TEE 790	Ph.D. Thesis Research	84
	Total	**101 credits**

Minor Courses (For other departments)

TEE 635	Electric and Hybrid Vehicles	3(3-0-0)
TEE 636	Power Quality	3(3-0-0)

List of the Post Graduate Courses

TEE 531	Distributed Generation	3(3-0-0)
TEE 532	Digital Power System Protection	3(3-0-0)
TEE 533	Renewable Energy Systems and Applications	3(3-0-0)
TEE 534	Modelling and Analysis of Electrical Machines	3(3-0-0)
TEE 545	Power and Energy Lab	2(0-0-2)
TEE 546	Energy Systems Simulation Lab	2(0-0-2)
TEE 629	Power System Stability and Control	3(3-0-0)
TEE 630	Advanced High Voltage Engineering	3(3-0-0)
TEE 632	FACTS and Custom Power Devices	3(3-0-0)
TEE 633	Artificial Intelligence and Soft Computing Techniques	3(3-0-0)
TEE 635	Electric and Hybrid Vehicles	3(3-0-0)
TEE 636	Power Quality	3(3-0-0)

* Compulsory courses

TEE 637	Advanced Power System Analysis	3(3-0-0)
TEE 638	Power System Transients	3(3-0-0)
TEE 639	SCADA System And Applications	3(3-0-0)
TEE 640	Power Apparatus Design	3(3-0-0)
TEE 641	Intelligent Control	3(3-0-0)
TEE 645	Electrical Machines and Drive System	3(3-0-0)
TEE 647	Nonlinear and Digital Control	3(3-0-0)
TEE 654	Computer Methods in Power Systems	3(3-1-0)
TEE 674	Extra High Voltage Direct Current Transmission	3(3-0-0)
TEE 686	Advanced Topics in Electrical Energy System	3(3-0-0)
TEE 687	Master's Special Problem	1 or 2
TEE 688	Master's Seminar I	1
TEE 689	Master's Seminar II	1
TEE 690	Master's Thesis Research	30
TEE 731	High Power Converters	3(3-0-0)
TEE 734	Smart Grids	3(3-0-0)
TEE 742	Optimal and Adaptive Control	3(3-0-0)
TEE 746	Special Electrical Machines	3(3-0-0)
TEE 748	Energy Management	3(3-0-0)
TEE 787	Doctoral Special Problem	1 or 2
TEE 788	Doctoral Seminar I	1
TEE 789	Doctoral Seminar II	1
TEE 790	Ph.D. Thesis Research	84

* Compulsory courses

4. ELECTRONICS & COMMUNICATION ENGINEERING

M. Tech. Electronics and Communication Engineering

Program Core Courses

TEC 561	CMOS RF IC Design	3(3-0-0)
TEC 562	Digital Processing and Systems	3(3-0-0)
TEC 563	Detection and Estimation Theory	3(3-0-0)
TEC 564	Systems Simulation Lab	2(0-0-2)
TEC 565	Electronic Design Automation Lab	2(0-0-2)
TEC 682	Optimization Techniques	3(3-0-0)

Seminar

TEC 688	Master's Seminar I	1
TEC 689	Master's Seminar II	1

Program Electives 19

i. Will be taken from the list of post graduate courses of Electronics and Communication Engineering/other departments of College of Technology and Department of Mathematics, Statistics and Computer Science, CBSH as per recommendation of the advisory committee (500/600 series).

ii. A relevant course of 3 credits can be taken from the MOOC courses available on SWAYAM portal in lieu of listed programme electives.

Common Courses

BHS 611	Library and Information Services	1(1-1-0)
TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)

Research

TEC 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

Ph.D. Electronics and Communication Engineering

Program Core Courses		9
Any courses as advised by advisory committee from the list of post graduate courses of Electronics and Communication Engineering, 700 series		
Seminar		
TEC 788	Doctoral Seminar I	1
TEC 789	Doctoral Seminar II	1
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
TEC 790	Ph. D. Thesis Research	84
	Total	**101 credits**

Minor Courses (For other departments)

TEC 740	Advanced VLSI Design	3(2-0-1)
TEC 770	Communication System	3(3-1-0)

List of the Post Graduate Courses

Program Core Courses		
TEC 561	CMOS RF IC Design	3(3-0-0)
TEC 562	Digital Processing and Systems	3(3-0-0)
TEC 563	Detection and Estimation Theory	3(3-0-0)
TEC 564	Systems Simulation Lab	2(0-0-2)
TEC 565	Electronic Design Automation Lab	2(0-0-2)
TEC 682	Optimization Techniques	3(3-0-0)
Stream- VLSI Design		
TEC 631	CMOS VLSI Design	3(3-0-0)
TEC 632	Analog VLSI Design	3(3-0-0)
TEC 633	RTL Simulation and Synthesis	3(3-0-0)
TEC 634	CAD of Digital System	3(3-0-0)
TEC 635	ASIC Design	3(3-0-0)
TEC 636	VLSI System Testing	3(3-0-0)
TEC 637	Memory Technologies	3(3-0-0)

* Compulsory courses

TEC 638	Micro and Nano Technology	3(3-0-0)
TEC 639	VLSI Signal Processing	3(3-0-0)
TEC 640	Embedded System Design	3(3-0-0)
Stream- Communication Systems		
TEC 673	Coding Theory and Techniques	3(3-0-0)
TEC 674	Wireless and Mobile Communication	3(3-0-0)
TEC 675	Wireless Sensor Networks	3(3-0-0)
TEC 676	Cognitive Radio	3(3-0-0)
TEC 677	MIMO System	3(3-0-0)
TEC 678	Antennas and Radiating Systems	3(3-0-0)
TEC 679	Microwave Theory and Techniques	3(3-0-0)
TEC 680	Microwave Propagation and Systems	3(3-0-0)
TEC 681	Microstrip Components and Circuits	3(2-0-1)
Other Courses		
TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)
TEC 687	Master's Special Problem	1 or 2
TEC 688	Master's Seminar I	1
TEC 689	Master's Seminar II	1
TEC 690	Master's Thesis Research	30
TEC 701	Computer Networks	2(2-0-0)
TEC 702	Neural Network and Applications	3(2-0-1)
TEC 730	Computational Methods in Electromagnetics	3(3-1-0)
TEC 731	Advanced Solid State Microwave Devices	3(3-1-0)
TEC 732	Antenna Theory and Design	3(2-0-1)
TEC 733	Microwave Engineering	2(2-0-0)
TEC 740	Advanced VLSI Design	3(2-0-1)
TEC 770	Communication System	3(3-1-0)
TEC 771	Advanced Digital Signal Processing	3(2-1-1)
TEC 772	Advanced Coding Theory	2(2-0-0)
TEC 787	Doctoral Special Problem	1 or 2
TEC 788	Doctoral Seminar I	1
TEC 789	Doctoral Seminar II	1
TEC 790	Ph. D. Thesis Research	84

* Compulsory courses

5. FARM MACHINERY AND POWER ENGINEERING

M. Tech. Farm Machinery and Power Engineering

Major Courses

TMP 504*	Design of Tractor Systems	3(2-1-1)
TMP 602*	Testing and Evaluation of Agricultural Equipment	2(1-0-1)
TMP 603*	Ergonomics and Safety in Farm Operations	2(1-0-1)
TMP 607*	Management of Farm Power and Machinery System	3(2-0-1)
TMP 608*	Agro Energy Audit and Management	3(2-0-1)
TMP 613*	Soil Dynamics in Tillage and Traction	3(2-1-1)
TMP 615*	Systems Simulation and Computer Aided Problem Solving in Engineering	2(2-1-0)
TMP 617*	Machinery for Precision Agriculture	3(2-0-1)

Seminar

TMP 688	Master's Seminar I	1
TMP 689	Master's Seminar II	1

Minor /Optional Courses 9

Supporting Courses

BPS 625	Statistical Methods	3(2-0-1)

Remaining 3 credits will be chosen from list of post graduate courses of subject relating to area of special interest and research problem

Common Courses

BHS 611	Library and Information Services	1(1-1-0)
TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)

Research

TMP 690	Master's Thesis Research	30
	Total	**71 credits**

Minor Courses (For other departments)

TMP 602	Testing and Evaluation of Agricultural Equipment	2(1-0-1)
TMP 608	Agro Energy Audit and Management	3(2-0-1)

Remaining 3 credits will be chosen from the list of post graduate courses of Farm Machinery and Power Engineering, 600/500 series

* Compulsory courses

Ph.D. Farm Machinery and Power Engineering

Major Courses		
TMP 701*	Advances in Farm Machinery and Power Engineering	3(2-0-1)
TMP 702*	Advances in Machinery for Precision Agriculture	3(2-0-1)
TMP 703*	Thermo-Chemical Conversion of Biomass	3(2-0-1)
TMP 705*	Farm Machinery Management and Systems Engineering	3(2-1-1)
Seminar		
TMP 788	Doctoral Seminar I	1
TMP 789	Doctoral Seminar II	1
Minor / Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
TMP 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

TMP 701	Advances in Farm Machinery and Power Engineering	3(2-0-1)
TMP 702	Advances in Machinery for Precision Agriculture	3(2-0-1)

List of Post Graduate Courses

TMP 504*	Design of Tractor System	3(2-1-1)
TMP 505	Design of Farm Machinery I	3(2-0-1)
TMP 506	Design of Farm Machinery II	2(1-0-1)
TMP 513	Applied Instrumentation in Farm Machinery	2(1-0-1)
TMP 515	Computer Aided Design of Machinery	2(0-0-2)
TMP 602*	Testing and Evaluation of Agricultural Equipment	2(1-0-1)
TMP 603*	Ergonomics and Safety in Farm Operations	2(1-0-1)
TMP 607*	Management of Farm Power and Machinery System	3(2-0-1)
TMP 608*	Agro-Energy Audit and Management	3(2-0-1)

* Compulsory courses

TMP 611	Principles of Automation and Control	2(2-0-1)
TMP 612	Principles of Hydraulic and Pneumatic Systems	3(2-0-1)
TMP 613	Soil Dynamics in Tillage and Traction	3(2-1-1)
TMP 615*	Systems Simulation and Computer Aided Problem Solving in Engineering	2(1-0-1)
TMP 616	Advanced Manufacturing Technologies	2(1-0-1)
TMP 617*	Machinery for Precision Agriculture	3(2-0-1)
TMP 618	Machinery for Horticulture and Protected Agriculture	2(2-0-0)
TMP 687	Master's Special Problem	1 or 2
TMP 688	Master's Seminar I	1
TMP 689	Master's Seminar II	1
TMP 690	Master's Thesis Research	30
TMP 701*	Advances in Farm Machinery and Power Engineering	3(2-0-1)
TMP 702*	Advances in Machinery for Precision Agriculture	3(2-0-1)
TMP 703*	Thermo-Chemical Conversion of Biomass	3(2-0-1)
TMP 704	Mechanics of Tillage in Relation to Soil and Crop	3(2-0-1)
TMP 705	Farm Machinery Management and Systems Engineering	3(2-1-1)
TMP 706	Mechanics of Traction and its Application	3(2-0-1)
TMP 713	Machinery for Special Farm Operations	2(1-0-1)
TMP 714	Ergonomics in Working Environment	2(2-0-1)
TMP 715	Energy Conservation and Management in Production Agriculture	3(3-0-0)
TMP 787	Doctoral Special Problem	1 or 2
TMP 788	Doctoral Seminar I	1
TMP 789	Doctoral Seminar II	1
TMP 790	Ph.D. Thesis Research	75

* Compulsory courses

6. INFORMATION TECHNOLOGY

M. Tech. Information Technology

Programme Core Courses

TIT 514	Information Security	3(3-0-0)
TIT 515	Advanced Wireless Networks	3(3-0-0)
TIT 516	Information Security Laboratory	2(0-0-2)
TIT 522	Data Science	3(3-0-0)
TIT 523	Advanced Distributed Systems	3(3-0-0)
TIT 524	Open-Source Laboratory	2(0-0-2)

Seminar

TIT 688	Master's Seminar I	1
TIT 689	Master's Seminar II	1

Program Electives 19

Will be taken from the list of post graduate courses of Information Technology, 600 series

Common Courses

BHS 611	Library and Information Services	1(1-1-0)
TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)

Research

TIT 690	Master's Thesis Research	30
	Total	**70 credits**

List of Programme Elective Courses

Stream- Information Security

TIT 625	Web Security & Ethical Hacking	3(3-0-0)
TIT 626	Digital Forensics	3(3-0-0)
TIT 629	Security Assessment and Risk Analysis	3(3-0-0)
TIT 630	Semantic Web & Social Networks	3(3-0-0)
TIT 631	Surveillance & Video Recording	3(3-0-0)

* Compulsory courses

TIT 632	Cloud Security	3(3-0-0)
TIT 633	Data Analytics For Fraud Detection	3(3-0-0)
TIT 634	Malware Analysis and Reverse Engineering	3(3-0-0)
Stream- Data Science		
TIT 635	Soft Computing	3(3-0-0)
TIT 636	Computer Vision	3(3-0-0)
TIT 637	Human and Computer Interaction	3(3-0-0)
TIT 638	Smart Sensors and Internet of Things	3(3-0-0)
TIT 639	Big Data Analytics	3(3-0-0)
TIT 640	Data Preparation and Analytics	3(3-0-0)
TIT 641	Web Analytics and Development	3(3-0-0)
TIT 642	Knowledge Discovery	3(3-0-0)
Courses common for both streams		
TIT 627	Machine Learning and Blockchain	3(3-0-0)
TIT 628	Web Search & Information Retrieval	3(3-0-0)
TIT 618	Web Technologies	2(1-0-1)
TIT 619	Cyber Crime & Information War	2(2-0-0)
TIT 620	Information Storage & Management	2(2-0-0)
TIT 624	Advanced Data Mining & Warehousing	3(2-0-1)
TIT 687	Master's Special Problem	1 or 2

Ph.D. Information Technology

Program Core Courses

Any courses as advised by advisory committee from the list of post graduate courses of Information Technology ,700 series		9
Seminar		
TIT 788	Doctoral Seminar I	1
TIT 789	Doctoral Seminar II	1
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		

* Compulsory courses

TIT 790	Ph.D. Thesis Research	84
	Total	**101 credits**

Minor Courses (For other departments)

TIT-731	Data Visualization	3(2-0-1)
TIT-734	Recent Trends in Web Technologies	3(2-0-1)

List of Post Graduate Courses

TIT 514	Information Security	3(3-0-0)
TIT 515	Advanced Wireless Networks	3(3-0-0)
TIT 516	Information Security Laboratory	2(0-0-2)
TIT 522	Data Science	3(3-0-0)
TIT 523	Advanced Distributed Systems	3(3-0-0)
TIT 524	Open-Source Laboratory	2(0-0-2)
TIT 618	Web Technologies	2(1-0-1)
TIT 619	Cyber Crime & Information War	2(2-0-0)
TIT 620	Information Storage & Management	2(2-0-0)
TIT 624	Advanced Data Mining & Warehousing	3(2-0-1)
TIT 625	Web Security & Ethical Hacking	3(3-0-0)
TIT 626	Digital Forensics	3(3-0-0)
TIT 627	Machine Learning and Blockchain	3(3-0-0)
TIT 628	Web Search & Information Retrieval	3(3-0-0)
TIT 629	Security Assessment and Risk Analysis	3(3-0-0)
TIT 630	Semantic Web & Social Networks	3(3-0-0)
TIT 631	Surveillance & Video Recording	3(3-0-0)
TIT 632	Cloud Security	3(3-0-0)
TIT 633	Data Analytics For Fraud Detection	3(3-0-0)
TIT 634	Malware Analysis and Reverse Engineering	3(3-0-0)
TIT 635	Soft Computing	3(3-0-0)
TIT 636	Computer Vision	3(3-0-0)
TIT 637	Human and Computer Interaction	3(3-0-0)
TIT 638	Smart Sensors and Internet of Things	3(3-0-0)
TIT 639	Big Data Analytics	3(3-0-0)
TIT 640	Data Preparation and Analytics	3(3-0-0)

* Compulsory courses

TIT 641	Web Analytics and Development	3(3-0-0)
TIT 642	Knowledge Discovery	3(3-0-0)
TEC/TIP/ TIT 649	Research Methodology and IPR	2(2-0-0)
TIT 687	Master's Special Problem	1 or 2
TIT 688	Master's Seminar I	1
TIT 689	Master's Seminar II	1
TIT 690	Master's Thesis Research	30
TIT-701	Advanced Information Security	3(2-0-1)
TIT-702	Advances in E-Commerce Strategies	3(2-0-1)
TIT-703	Modelling & Simulation	2 (1-0-1)
TIT-731	Data Visualization	3(2-0-1)
TIT-732	Natural Language Processing	3(2-0-1)
TIT-733	Advances in Blockchain Concepts and Applications	3(2-0-1)
TIT-734	Recent Trends in Web Technologies	3(2-0-1)
TIT-787	Doctoral Special Problem	1-2
TIT-788	Doctoral Seminar I	1(0-0-1)
TIT-789	Doctoral Seminar II	1(0-0-1)
TIT-790	Ph.D. Thesis Research	84

* Compulsory courses

7. IRRIGATION & DRAINAGE ENGINEERING

M. Tech. Irrigation and Drainage Engineering

Major Courses		
TID 502*	Design of Farm Drainage Systems	3(2-0-1)
TID 505*	Design of Drip and Sprinkler Irrigation Systems	3(2-0-1)
TID 506*	Ground Water Engineering	3(2-0-1)
TID 512*	Crop Environmental Engineering	3(2-0-1)
TID/TSW 513*	Water Resources Systems Engineering	3(2-0-1)
TID 610*	Design of Surface Irrigation Systems	2(1-0-1)
TID 611*	Design of Pumps for Irrigation and Drainage	3(2-0-1)
Seminar		
TID 688	Master's Seminar I	1
TID 689	Master's Seminar II	1
Optional Courses		8
TSW 501	Advanced Soil & Water Conservation Engineering	3(2-0-1)
TSW 502	Applied Watershed Hydrology	3(2-0-1)
TSW 605	Watershed Management and Modelling	3(2-0-1)
Supporting Courses		
BPS 625	Statistical Methods	3(2-0-1)
Courses from subject matter fields (other than Major and Minor) relating to area of special interest and research problem		3
Common Courses		
BHS 611	Library and Information Services	1(1-1-0)
TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)
Research		
TID 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

TID 502	Design of Farm Drainage Systems	3(2-0-1)
TID 505	Design of Drip and Sprinkler Irrigation Systems	3(2-0-1)

Remaining 2 credits will be chosen from the list of post graduate courses of Irrigation & Drainage Engineering, 600 / 500 series

* Compulsory courses

Ph.D. Irrigation and Drainage Engineering

Major Courses

TID-702*	Advances in Drainage Engineering	3(2-0-1)
TID-703*	Hydro-Mechanics and Ground Water Modelling	3(3-0-0)
TID-704*	Soil-Water-Plant-Atmospheric Modelling	3(2-0-1)
TID-705*	Recent Developments in Irrigation Engineering	3(2-0-1)
Seminar		
TID 788	Doctoral Seminar I	1
TID 789	Doctoral Seminar II	1
Minor/Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(1-0-1)
Research		
TID 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

TID 702	Advances in Drainage Engineering	3(2-0-1)
TID 705	Recent Developments in Irrigation Engineering	3(2-0-1)

List of Post Graduate Courses

TID 502*	Design of Farm Drainage Systems	3(2-0-1)
TID 503	Command Area Management	3(2-0-1)
TID 504	Water and Nutrient Management Under Protected Cultivation	3(2-0-1)
TID 505*	Design of Drip and Sprinkler Irrigation Systems	3(2-0-1)
TID 506*	Ground Water Engineering	3(2-0-1)
TID/TSW 507	Flow Through Porous Media	2(2-0-0)
TID 508	Waste Water Management and Utilization in Agriculture	3(2-0-1)

* Compulsory courses

TID 509	Water Conveyance and Distribution	3(2-0-1)
TID 510	Minor Irrigation	3(2-0-1)
TID 512*	Crop Environmental Engineering	3(2-0-1)
TID/TSW 513*	Water Resources Systems Engineering	3(2-0-1)
TID 514	Irrigation Economics, Planning and Management	2(2-0-0)
TID 515	Sensing and Automation in Irrigation Systems	3(3-0-0)
TID 516	Aquacultural Engineering	2(1-0-1)
TID 605	Plant Growth Modelling and Simulation	2(2-0-0)
TID 606	Multi Criteria Decision Making System	2(2-0-0)
TID/TSW 607	Remote Sensing and GIS for Land and Water Resource Management	3(2-0-1)
TID 610*	Design of Surface Irrigation Systems	2(1-0-1)
TID 611*	Design of Pumps for Irrigation and Drainage	3(2-0-1)
TID 687	Master’s Special Problem	1 or 2
TID 688	Master's Seminar I	1
TID 689	Master's Seminar II	1
TID 690	Master’s Thesis Research	30
TID 702 *	Advances in Drainage Engineering	3(2-0-1)
TID 703*	Hydro-Mechanics and Ground Water Modelling	3(3-0-0)
TID 704*	Soil-Water-Plant-Atmospheric Modelling	3(2-0-1)
TID 705*	Recent Developments in Irrigation Engineering	3(2-0-1)
TID 788	Doctoral Seminar I	1
TID 789	Doctoral Seminar II	1
TID 790	Ph.D. Thesis Research	75

* Compulsory courses

8. MECHANICAL ENGINEERING

M. Tech. Design and Production Engineering

Program Core Courses		
TME 507	Fundamentals of Elasticity and Plasticity	3(3-0-0)
TME 508	Advanced Engineering Materials	3(3-0-0)
TME 509	Finite Element Method	3(3-0-0)
TME 510	Advanced Manufacturing Processes	3(3-0-0)
TME 517	Design Lab I	2(0-0-2)
TME 518	Design Lab II	2(0-0-2)
Seminar		
TME 688	Master's Seminar I	1
TME 689	Master's Seminar II	1
Program Electives		19
Will be taken from the list of post graduate courses of Mechanical Engineering, 500/600 series		
Common Courses		
BHS 611	Library and Information Services	1(1-1-0)
TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)
Research		
TME 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

M. Tech. Thermal Engineering

Program Core Courses		
TME 513	Advanced Gas Dynamics	3(3-0-0)
TME 514	Advanced Fluid Dynamics	3(3-0-0)
TME 515	Conduction and radiation	3(3-0-0)
TME 516	Convective Heat Transfer	3(3-0-0)
TME 527	Thermal Lab I	2(0-0-2)
TME 528	Thermal Lab II	2(0-0-2)
Seminar		
TME 688	Master's Seminar I	1
TME 689	Master's Seminar II	1
Program Electives		19
Will be taken from the list of post graduate courses of Mechanical Engineering, 500/600 series		
Common Courses		
BHS 611	Library and Information Services	1(1-1-0)
TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)
Research		
TME 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

Ph.D. Mechanical Engineering

Program Courses

Any courses as advised by advisory committee from the list of post graduate courses of Mechanical Engineering, 700 series		9

Seminar

TME 788	Doctoral Seminar I	1
TME 789	Doctoral Seminar II	1

Compulsory Supporting Courses

BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(1-0-1)

Research

TME 790	Ph.D. Thesis Research	84
	Total	**101 credits**

Minor Courses (For other departments)

TME 616	Thermal System Simulation and Design	3(3-0-0)
TME 705	Advanced Finite Element Method	3(3-0-0)

List of Post Graduate Courses

TME 504	Principles of Combustion	3(3-0-0)
TME 505	Advanced Thermodynamics	3(3-0-0)
TME 507	Fundamentals of Elasticity and Plasticity	3(3-0-0)
TME 508	Advanced Engineering Materials	3(3-0-0)
TME 509	Finite Element Method	3(3-0-0)
TME 510	Advanced Manufacturing Processes	3(3-0-0)
TME 513	Advanced Gas Dynamics	3(3-0-0)
TME 514	Advanced Fluid Dynamics	3(3-0-0)
TME 515	Conduction and Radiation	3(3-0-0)
TME 516	Convective Heat Transfer	3(3-0-0)
TME 517	Design Lab I	2(0-0-2)
TME 518	Design Lab II	2(0-0-2)
TME 527	Thermal Lab I	2(0-0-2)

* Compulsory courses

TME 528	Thermal Lab II	2(0-0-2)
TME 610	Solar Thermal Processes	3(3-0-0)
TME 612	Fluid Dynamics of Turbomachines	3(3-0-0)
TME 614	Refrigeration and Cryogenics	3(3-0-0)
TME 615	Advanced Air Conditioning	3(3-0-0)
TME 616	Thermal System Simulation and Design	3(3-0-0)
TME 617	Advanced I.C. Engines	3(3-0-0)
TME 618	Advanced Automobile Engineering	3(3-0-0)
TME 621	Solar Energy	3(3-0-0)
TME 623	Compressible Fluid Flow	3(3-0-0)
TME 624	Experimental Methods in Thermal Engineering	3(3-0-0)
TME 625	Computational Fluid Dynamics	3(3-0-0)
TME 634	Advanced Machine Design	3(3-0-0)
TME 653	Engineering Fracture Mechanics	3(3-0-0)
TME 655	Mechanics of Metal Forming Processes	3(3-0-0)
TME 656	Advanced Computer Aided Design	3(3-0-0)
TME 657	Robotics	3(3-0-0)
TME 658	Tribology	3(3-0-0)
TME 659	Quality Engineering and Reliability	3(3-0-0)
TME 662	Advances in Measurement and Metrology	3(3-0-0)
TME 666	Advanced Vibrations and Acoustics	3(3-0-0)
TME 667	Advanced Stress Analysis	3(3-0-0)
TME 687	Master’s Special Problem	1 or 2
TME 688	Master's Seminar I	1
TME 689	Master's Seminar II	1
TME 690	Master's Thesis Research	30
TME 705	Advanced Finite Element Method	3(3-0-0)
TME 723	Power Generated Pollution	3(3-0-0)
TME 753	Mechanics of Composite Materials	3(3-0-0)
TME 771	Optimization Techniques in Engineering	3(3-0-0)
TME 788	Doctoral Seminar I	1
TME 789	Doctoral Seminar II	1
TME 790	Ph.D. Thesis Research	84

* Compulsory courses

9. POST HARVEST PROCESS & FOOD ENGINEERING

M. Tech. Processing and Food Engineering

Major Courses

TPF 501*	Transport Phenomena in Food Processing	3 (2-0-1)
TPF 502*	Unit Operations in Food Process Engineering	3 (2-0-1)
TPF 503*	Field Crops Process Engineering	3 (2-0-1)
TPF 504*	Horticultural Crops Process Engineering	3 (2-0-1)
TPF 507*	Instrumentation and Sensors in Food Processing	3 (2-0-1)
TPF 508*	Application of Engineering Properties in Food Produce	3 (2-0-1)
TPF 511*	Food Processing Equipment and Plant Design	2 (1-0-1)
Seminar		
TPF 688	Master's Seminar I	1
TPF 689	Master's Seminar II	1
Minor/Optional Courses		9
Supporting Courses		
BPS 625	Statistical Methods	3(2-0-1)

Remaining 3 credits will be chosen from list of post graduate courses of special interest and research problem

Common Courses		
BHS 611	Library and Information Services	1(1-1-0)
TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)
Research		
TPF 690	Master's Thesis Research	30
	Total	**70** credits

Minor Courses (For other departments)

TPF 502	Unit Operations in Food Process Engineering	3 (2-0-1)
TPF 508	Application of Engineering Properties in Food Produce	3 (2-0-1)
TPF 511	Food Processing Equipment and Plant Design	2 (1-0-1)

* Compulsory courses

Ph.D. Processing and Food Engineering

Major Courses

TPF 701*	Advances in Food Process Engineering	3 (2-0-1)
TPF 702*	Drying and Dehydration of Food Materials	3 (2-0-1)
TPF 703*	Textural and Rheological Characteristics of Food Materials	3 (2-0-1)
TPF 705*	Mathematical Modelling in Food Processing	3 (3-0-0)
Minor/Optional Courses		6

Supporting Courses

BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Seminar		
TPF 788	Doctoral Seminar I	1
TPF 789	Doctoral Seminar II	1
Research		
TPF 790	Ph.D. Thesis Research	75
	Total	**101**

Minor Courses (For other departments)

TPF 701	Advances in Food Process Engineering	3 (2-0-1)
TPF 703	Textural and Rheological Characteristics of Food Materials	3 (2-0-1)

List of Post Graduate Courses

TPF 501*	Transport Phenomena in Food Processing	3(2-0-1)
TPF 502*	Unit Operations in Food Process Engineering	3(2-0-1)
TPF 503*	Field Crops Process Engineering	3(2-0-1)
TPF 504*	Horticultural Crops Process Engineering	3(2-0-1)
TPF 507*	Instrumentation and Sensors in Food Processing	3(2-0-1)
TPF 508*	Application of Engineering Properties in Food Processing	3(2-0-1)

* Compulsory courses

TPF 509	Food Quality and Safety	3(2-0-1)
TPF 510	Food Processing Technologies	3(2-0-1)
TPF 511*	Food Processing Equipment and Plant Design	2(1-0-1)
TPF 512	Seed Process Engineering	2(1-0-1)
TPF 513	Agri-Project Planning and Management	3(2-0-1)
TPF 515	Dairy Product Processing	3(2-0-1)
TPF 518	Drying and Dehydration	3(2-0-1)
TPF 604	Agricultural waste and By–products Utilization	3(2-0-1)
TPF 605	Storage Engineering and Handling of Agricultural Produce	3(2-0-1)
TPF 606	Food Package Engineering	2(1-0-1)
TPF 614	Farm Structures and Environmental Control	3(2-0-1)
TPF 617	Design of Aqua cultural Structures	3(2-0-1)
TPF 687	Master's Special Problem	1 or 2
TPF 688	Master's Seminar I	1
TPF 689	Master's Seminar II	1
TPF 690	Master Thesis Research	30
TPF 701*	Advances in Food Process Engineering	3(2-0-1)
TPF 702*	Drying and Dehydration of Food Materials	3(2-0-1)
TPF 703*	Textural and Rheological Characteristics of Food Materials	3(2-0-1)
TPF 705*	Mathematical Modelling in Food Processing	3(3-0-0)
TPF 787	Doctoral Special Problem	1 or 2
TPF 788	Doctoral Seminar I	1
TPF 789	Doctoral Seminar II	1
TPF 790	Ph.D. Thesis Research	75

* Compulsory courses

10. INDUSTRIAL AND PRODUCTION ENGINEERING

M. Tech. Manufacturing Engineering and Management

Program Core Courses		
TIP 652	Manufacturing Simulation laboratory	2(0-0-2)
TIP 653	Metrology and Quality Control Laboratory	2(0-0-2)
TIP 654	Advanced Metal Cutting	3(3-0-0)
TIP 656	3D Printing and its Applications	3(3-0-0)
TIP 663	Advanced Foundry Technology	3(2-0-3)
TIP 666	Advanced Welding Technology	3(2-0-3)
Seminar		
TIP 688	Master's Seminar I	1
TIP 689	Master's Seminar II	1
Program Electives		19
Will be taken from the list of post graduate courses of Industrial and Production Engineering, 600 series		
Common Courses		
BHS 611	Library and Information Services	1(1-1-0)
TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)
Research		
TIP 690	Master's Thesis Research	30
	Total	**70 credits**

* Compulsory courses

Ph.D. Production Engineering

Program Core Courses

Any courses as advised by advisory committee from list of post graduate courses of Industrial and Production Engineering, 700 series		9

Supporting Courses

BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)

Seminar

TIP 788	Doctoral Seminar I	1
TIP 789	Doctoral Seminar II	1

Research

TIP 790	Ph.D. Thesis Research	84
	Total	**101 credits**

Minor Courses (For other departments)

TIP 651	Industrial Manufacturing Management	3(3-0-0)
TIP 683	CNC Machines	3(3-0-0)

List of Post Graduate Courses

TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)
TIP 650	Quality and Process Control	3(3-0-0)
TIP 651	Industrial Manufacturing Management	3(3-0-0)
TIP 652	Manufacturing Simulation laboratory	2(0-0-2)
TIP 653	Metrology and Quality Control Laboratory	2(0-0-2)
TIP 654	Advanced Metal Cutting	3(3-0-0)
TIP 655	Advanced Metal Forming	3(3-0-0)
TIP 656	3D Printing and its Applications	3(3-0-0)
TIP 658	Supply Chain and Transport Management	3(3-0-0)
TIP 663	Advanced Foundry Technology	3(2-0-3)
TIP 664	Automation	2(2-1-0)
TIP 665	Computer Integrated Manufacturing System	3(2-0-1)
TIP 666	Advanced Welding Technology	3(2-0-3)

* Compulsory courses

TIP 670	Numerical Control in Machine Tools	2(2-1-0)
TIP 671	Production System Control	2(2-1-0)
TIP 672	Statistical Quality Control	3(2-1-1)
TIP 673	Production Systems Design	3(2-1-0)
TIP 674	Group Technology and Production Strategy	3(3-2-0)
TIP 675	Long range Planning	2(2-1-0)
TIP 676	Project Management	3(3-2-0)
TIP 677	Facility Planning and Plant Engineering	2(2-1-0)
TIP 678	Materials Management	2(2-1-0)
TIP 679	Robotics	3(2-0-1x3)
TIP 680	Supply Chain Management	2(2-1-0)
TIP 681	Spare Parts Management	2(2-1-0)
TIP 683	CNC Machines	3(3-0-0)
TIP 687	Master's Special Problem	1 or 2
TIP 688	Master's Seminar I	1
TIP 689	Master's Seminar II	1
TIP 690	Master's Thesis Research	30
TIP 761	Advanced Manufacturing Engineering	3(3-1-0)
TIP 771	Advanced Production/ Operations Management	3(3-1-0)
TIP 772	Production Systems	3(3-1-0)
TIP 781	Advanced Manufacturing Management	3(2-0-1)
TIP 782	Numerical Control of Machine Tools	3(2-0-1)
TIP 783	Advanced Topics in Group Technology	3(2-0-1)
TIP 784	Qualitative Techniques of Managerial Systems	3(3-0-0)
TIP 788	Doctoral Seminar I	1
TIP 789	Doctoral Seminar II	1
TIP 790	Ph.D. Thesis Research	84

* Compulsory courses

11. SOIL AND WATER CONSERVATION ENGINEERING

M. Tech. Soil and Water Conservation Engineering

Major Courses

TSW 501*	Advanced Soil and Water Conservation Engineering	3(2-0-1)
TSW 502*	Applied Watershed Hydrology	3(2-0-1)
TSW 503*	Soil and Water Conservation Structures	3(2-0-1)
TSW 510*	Dryland Water Management Technologies	2(2-0-0)
TSW 604*	Stochastic Hydrology	3(2-0-1)
TSW 605*	Watershed Management and Modelling	3(2-0-1)
TSW/TID 607*	Remote Sensing and GIS for Land and Water Resource Management	3(2-0-1)

Seminar

TSW 688	Master's Seminar I	1
TSW 689	Master's Seminar II	1

Minor/Optional Courses

TID 502	Design of Farm Drainage Systems	3(2-0-1)
TID 505	Design of Drip and Sprinkler Irrigation Systems	3(2-0-1)
TID 506	Groundwater Engineering	3(2-0-1)

Supporting Courses

BPS 625	Statistical Methods	3(2-0-1)

Remaining 3 credits will be chosen from list of Post Graduate Courses of special interest and research problem

Common Courses

BHS 611	Library and Information Services	1(1-1-0)
TEC/TIP/TIT 649	Research Methodology and IPR	2(2-0-0)

Research

TSW 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

TSW 501	Advanced Soil and Water Conservation Engineering	3(2-0-1)
TSW 502	Applied Watershed Hydrology	3(2-0-1)

Remaining 2 credit s will be chosen from the list of post graduate courses of Soil and Water Conservation Engineering, 600 / 500 series

* Compulsory courses

Ph.D. Soil and Water Conservation Engineering

Major courses		
TSW 701*	Advances in Hydrology	3(2-0-1)
TSW 702*	Soil and Water Systems Simulation and Modelling	3(2-0-1)
TSW 703*	Reservoir Operation and River Basin Modelling	3(2-0-1)
TSW 704*	Modelling Soil Erosion Processes and Sedimentation	3(2-0-1)
Seminar		
TSW 788	Doctoral Seminar I	1
TSW 789	Doctoral Seminar II	1
Minor/ Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
TSW 790	Ph.D. Thesis research	75
	Total	**101 credits**

Minor Courses (For other departments)

TSW 701	Advances in Hydrology	3(2-0-1)
TSW 704	Modelling Soil Erosion Processes and Sedimentation	3(2-0-1)

List of the Post Graduate Courses

TSW 501*	Advanced Soil and Water Conservation Engineering	3(2-0-1)
TSW 502*	Applied Watershed Hydrology	3(2-0-1)
TSW 503*	Soil and Water Conservation Structures	3(2-0-1)
TSW/TID 507	Flow Through Porous Media	2(2-0-0)
TSW 508	Climate Change and Water Resources	3(3-0-0)
TSW 510*	Dryland Water Management Technologies	2(2-0-0)
TSW/TID	Water Resources Systems Engineering	3(2-0-1)

* Compulsory courses

TSW 602	Water Quality and Pollution Control	3(2-0-1)
TSW 603	Soft Computing Technique in Engineering	3(2-0-1)
TSW 604*	Stochastic Hydrology	3(2-0-1)
TSW 605*	Watershed Management and Modelling	3(2-0-1)
TSW/TID 607*	Remote Sensing and GIS for Land and Water Resource Management	3(2-0-1)
TSW 609	Numerical Methods in Hydrology	2(2-0-0)
TSW 687	Master's Special Problem	1 or 2
TSW 688	Master's Seminar I	1
TSW 689	Master's Seminar II	1
TSW 690	Master's Thesis research	30
TSW 701*	Advances in Hydrology	3(2-0-1)
TSW 702*	Soil and Water Systems Simulation and Modelling	3(2-0-1)
TSW 703*	Reservoir Operation and River Basin Modelling	3(2-0-1)
TSW 704*	Modelling Soil Erosion Processes and Sedimentation	3(2-0-1)
TSW 705	Waste Water Treatment and Utilization	3(3-0-0)
TSW 706	Hydro-chemical Modelling	2(2-0-0)
TSW 787	Doctoral Special Problem	1 or 2
TSW 788	Doctoral Seminar I	1
TSW 789	Doctoral Seminar II	1
TSW 790	Ph.D. Thesis research	75

* Compulsory courses

VETERINARY AND ANIMAL SCIENCES DISCIPLINES

1. ANIMAL GENETICS AND BREEDING

M.V.Sc. Animal Genetics and Breeding

Major Courses

AGB 601*	Animal Cytogenetics and Immunogenetics I	3(2-0-1)
AGB 602*	Molecular Genetics I	3(2-0-1)
AGB 603*	Population and Quantitative Genetics	3(2-0-1)
AGB 604*	Selection Method and Breeding System	3(2-0-1)
AGB 605*	Biometrical Genetics I	3(2-0-1)
AGB 610*	Laboratory Animal and Rabbit Breeding	2(2-0-0)
Remaining credits will be chosen from the list of post graduate courses of Animal Genetics and Breeding, 600 Series		3

Seminar

AGB 688	Master's Seminar	1

Minor/Optional Courses 8

Supporting Courses

BMB 646	Techniques in Molecular Biology	3(0-0-3)
BPS 661	Experimental Statistics	4(3-0-1)

Common Courses

BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)

Research

AGB 690	Master's Thesis Research	30
	Total	**71 credits**

Minor Courses (For other departments)

AGB 603	Population and Quantitative Genetics	3(2-0-1)
AGB 604	Selection Method and Breeding System	3(2-0-1)

Remaining 2 credits will be chosen from the list of post graduate courses of Animal Genetics and Breeding, 600 Series

* Compulsory courses

Ph.D. Animal Genetics and Breeding

Major Courses

AGB 701*	Molecular Genetics II	2(2-0-0)
AGB 702*	Trends in Animal Breeding	2(2-0-0)
AGB 703*	Biometrical Genetics II	3(2-0-1)
AGB 704*	Advances in Selection Methodology	3(2-0-1)
Remaining credits will be chosen from the list of post graduate courses of Animal Geneticsand Breeding, 700 Series		2

Seminar

AGB 788	Doctoral Seminar I	1
AGB 789	Doctoral Seminar II	1
Minor/Optional Courses		6

Supporting Courses

BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)

Research

AGB 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

AGB 702	Trends in Animal Breeding	2(2-0-0)
AGB 704	Advances in Selection Methodology	3(2-0-1)

Remaining 1 credit will be chosen from the list of post graduate courses of Animal Genetics and Breeding, 600/700 series

List of Post Graduate Courses

AGB 601*	Animal Cytogenetics and Immunogenetics I	3(2-0-1)
AGB 602*	Molecular Genetics I	3(2-0-1)
AGB 603*	Population and Quantitative Genetics	3(2-0-1)
AGB 604*	Selection Method and Breeding System	3(2-0-1)
AGB 605*	Biometrical Genetics I	3(2-0-1)
AGB 606	Conservation of Animal Genetics Resources	2(2-0-0)

* Compulsory courses

AGB 607	Cattle and Buffalo Breeding	3(2-0-1)
AGB 608	Sheep and Goat Breeding	2(2-0-0)
AGB 609	Poultry Breeding	3(2-0-1)
AGB 610*	Laboratory Animal and Rabbit Breeding	2(2-0-0)
AGB 611	Swine Breeding	1(1-0-0)
AGB 612	Pet Animal Breeding (Dogs and Cats)	1(1-0-0)
AGB 613	Wild Animal Genetics and Breeding	1(1-0-0)
AGB 614	Equine Breeding	1(1-0-0)
AGB 615	Camel Breeding	1(1-0-0)
AGB 616	Yak and Mithun Breeding	1(1-0-0)
AGB 617	Statistical Methods in Animal Breeding	3(2-0-1)
AGB 687	Master's Special Problem	1 or 2
AGB 688	Master's Seminar	1
AGB 690	Master's Thesis Research	30
AGB 701*	Molecular Genetics II	2(2-0-0)
AGB 702*	Trends in Animal Breeding	2(2-0-0)
AGB 703*	Biometrical Genetics II	3(2-0-1)
AGB 704*	Advances in Selection Methodology	3(2-0-1)
AGB 705	Bioinformatics in Animal Breeding	2(1-0-1)
AGB 706	Animal Cytogenetics and Immunogenetics II	2(2-0-0)
AGB 707	Statistical Software in Animal Breeding	2(1-0-1)
AGB 787	Doctoral Special Problem	1 or 2
AGB 788	Doctoral Seminar I	1
AGB 789	Doctoral Seminar II	1
AGB 790	Ph.D. Thesis Research	75

* Compulsory courses

2. ANIMAL NUTRITION

M.V.Sc. Animal Nutrition

Major Courses

ANN 601*	Nutritional Biochemistry	1(1-0-0)
ANN 602*	Energy and Protein Nutrition in Animals	2(2-0-0)
ANN 603*	Minerals and Vitamin Nutrition and Feed Additives for Animals	3(2-0-1)
ANN 604*	Feed and Fodder Technology	2(1-0-1)
ANN 605*	Ruminant Nutrition	3(2-0-1)
ANN 606*	Non-Ruminant Nutrition	3(2-0-1)
ANN 607*	Research Methodology in Animal Nutrition	2(0-0-2)
Remaining credits will be chosen from the list of post graduate courses of Animal Nutrition, 600 Series		4

Seminar

ANN 688	Master's Seminar	1

Minor/Optional Courses 8

Supporting Courses

VBC 604	Analytical Techniques and Instrumentation in Biochemistry	2(1-0-1)
BPS 661	Experimental Statistics	4(3-0-1)

Common Courses

BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)

Research

ANN 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

ANN 602	Energy and Protein Nutrition in Animals	2(2-0-0)
ANN 603	Minerals and Vitamin Nutrition and Feed Additives for Animals	3(2-0-1)

Remaining 3 credits to be chosen from list of post graduate courses of Animal Nutrition, 600 series

* Compulsory courses

Ph.D. Animal Nutrition

Major Courses

ANN 701*	Modern Concepts in Feeding of Ruminants	2(2-0-0)
ANN 702*	Forages in Animal Nutrition	1(1-0-0)
ANN 703*	Recent Concepts in Feeding of Non-Ruminants	1(1-0-0)
ANN 704*	Advances in Rumen Metabolism	2(1-0-1)
ANN 705*	Advances in Mineral and Vitamin Nutrition	2(2-0-0)
ANN 706*	Advanced Clinical Nutrition	2(1-0-1)
Remaining credits will be chosen from the list of post graduate courses of Animal Nutrition, 700 series		2

Seminar

ANN 788	Doctoral Seminar I	1
ANN 789	Doctoral Seminar II	1

Minor/Optional Courses 6

Supporting Courses

BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2 (2-0-0)

Research

ANN 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

ANN 701	Modern Concepts in Feeding of Ruminants	2(2-0-0)
ANN 703	Recent Concepts in Feeding of Non-Ruminants	1(1-0-0)

Remaining 3 credits to be chosen from list of post graduates courses of Animal Nutrition, 600 /700 series

List of Post Graduate Courses

ANN 601*	Nutritional Biochemistry	1(1-0-0)
ANN 602*	Energy and Protein Nutrition in Animals	2(2-0-0)
ANN 603*	Minerals and Vitamin Nutrition and Feed Additives for Animals	3(2-0-1)

* Compulsory courses

ANN 604*	Feed and Fodder Technology	2(1-0-1)
ANN 605*	Ruminant Nutrition	3(2-0-1)
ANN 606*	Non-Ruminant Nutrition	3(2-0-1)
ANN 607*	Research Methodology in Animal Nutrition	2(0-0-2)
ANN 608	Companion Animal Nutrition	1(1-0-0)
ANN 609	Nutrition of Laboratory, Wild and Zoo Animals	3(2-0-1)
ANN 610	Non-Conventional Feed Resources	2(1-0-1)
ANN 611	Introductory Clinical Nutrition	1(1-0-0)
ANN 612	Rumen Biotechnology	1(1-0-0)
ANN 687	Master's Special Problem	1 or 2
ANN 688	Master's Seminar	1
ANN 690	Master's Thesis Research	30
ANN 701*	Modern Concepts in Feeding of Ruminants	2(2-0-0)
ANN 702*	Forages in Animal Nutrition	1(1-0-0)
ANN 703*	Recent Concepts in Feeding of Non-Ruminants	1(1-0-0)
ANN 704*	Advances in Rumen Metabolism	2(1-0-1)
ANN 705*	Advances in Mineral and Vitamin Nutrition	2(2-0-0)
ANN 706*	Advanced Clinical Nutrition	2(1-0-1)
ANN 707	Advanced Techniques in Nutritional Research	2(1-0-1)
ANN 708	Advances in Feed Technology	1(1-0-0)
ANN 709	Toxicants and Anti-Metabolites in Animal Nutrition	1(1-0-0)
ANN 710	Nutrigenomics in Animal Nutrition	1(1-0-0)
ANN 711	Equine Nutrition	1(1-0-0)
ANN 787	Doctoral Special Problem	1 or 2
ANN 788	Doctoral Seminar I	1
ANN 789	Doctoral Seminar II	1
ANN 790	Ph.D. Thesis Research	75

* Compulsory courses

3. LIVESTOCK PRODUCTION AND MANAGEMENT

M.V.Sc. Livestock Production and Management

Major Courses		
LPM 601*	Cattle and Buffalo Production Management	3(2-0-1)
LPM 602*	Sheep and Goat Production Management	3(2-0-1)
LPM 603*	Swine Production Management	2 (1-0-1)
LPM 604*	Climatology and Livestock Production	2(1-0-1)
LPM 605*	Behaviour and Welfare of Farm Animals	2(1-0-1)
LPM 606*	Equine Production Management	2(1-0-1)
LPM 607*	Companion Animal Production Management	2(1-0-1)
Remaining credits to be chosen from list of post graduate courses of Livestock Production and Management, 600 series		4
Seminar		
LPM 688	Master's Seminar	1
Minor/Optional Courses		8
Supporting Courses		
PSC 603	Commercial Layer and Broiler Management	3(2-0-1)
BPS 625	Statistical Methods	3(2-0-1)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
LPM 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

Total 8 credits to be chosen from list of post graduate courses of Livestock Production and Management, 600series

* Compulsory courses

Ph.D. Livestock Production and Management

Major Courses

LPM 701*	Recent Developments in Large Ruminants Production Management	3(2-0-1)
LPM 702*	Recent Developments in Small Ruminants Production Management	3(2-0-1)
LPM 703*	Recent Developments in Swine Production Management	2(1-0-1)
LPM 704*	Livestock and Environment	1(1-0-0)
LPM 705*	Organic Livestock Production	1(1-0-0)
Remaining credits to be chosen from list of post graduate courses of Livestock Production and Management, 700 series		2
Seminar		
LPM 788	Doctoral Seminar I	1
LPM 789	Doctoral Seminar II	1
Minor/Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2 (2-0-0)
Research		
LPM 790	Ph.D. Thesis Research	**75**
	Total	**101**

Minor Courses (For other departments)

LPM 601	Cattle and Buffalo Production Management	3(2-0-1)
LPM 602	Sheep and Goat Production and Management	3(2-0-1)

List of Post Graduate Courses

LPM 601*	Cattle and Buffalo Production Management	3(2-0-1)
LPM 602*	Sheep and Goat Production and Management	3(2-0-1)
LPM 603*	Swine Production Management	2(1-0-1)
LPM 604*	Climatology and Livestock Production	2(1-0-1)
LPM 605*	Behaviour and Welfare of Farm Animals	2(1-0-1)
LPM 606*	Equine Production Management	2(1-0-1)

* Compulsory courses

LPM 607*	Companion Animal Production Management	2(1-0-1)
LPM 608	Farm Hygiene and Waste Management	2(1-0-1)
LPM 609	Integrated Livestock Farming Systems	2(1-0-1)
LPM 610	Management and Conservation of Wild and Zoo Animals	2(1-0-1)
LPM 611	Laboratory Animal Production Management	2(1-0-1)
LPM 612	Livestock Business Management	2(1-0-1)
LPM 613	Livestock Farm Machinery Management	2(0-0-2)
LPM 614	Poultry Farm and Hatchery Management	2(1-0-1)
LPM 615	Mule Production and Management	2(1-0-1)
LPM 687	Master's Special Problem	1 or 2
LPM 688	Master's Seminar	1
LPM 690	Master's Thesis Research	30
LPM 701*	Recent Developments in Large Ruminants Production Management	3(2-0-1)
LPM 702*	Recent Developments in Small Ruminants Production Management	3(2-0-1)
LPM 703*	Recent Developments in Swine Production Management	2(1-0-1)
LPM 704*	Livestock and Environment	1(1-0-0)
LPM 705*	Organic Livestock Production	1(1-0-0)
LPM 706	Recent Developments in Welfare of Farm Animals	1(1-0-0)
LPM 707	Entrepreneurship in Livestock Production	2(1-0-1)
LPM 708	Precision Livestock Farming	2(1-0-1)
LPM 709	Recent Developments in Poultry Production Management	3(2-0-1)
LPM-787	Doctoral Special Problem	1 or 2
LPM 788	Doctoral Seminar I	1
LPM 789	Doctoral Seminar II	1
LPM 790	Ph.D. Thesis Research	75

* Compulsory courses

M.V.Sc. Poultry Science

Major Courses		
PSC 601*	Poultry Breeding and Genetics	3(2-0-1)
PSC 602*	Poultry Nutrition and Feeding	3(2-0-1)
PSC 603*	Commercial Layer and Broiler Management	3(2-0-1)
PSC 604*	Breeder Stock and Hatchery Management	3(2-0-1)
PSC 607*	Poultry Products Technology	3(2-0-1)
PSC 609/ VPY 614*	Physiology of Poultry Production	2(1-0-1)
Remaining credits to be chosen from list of post graduate courses of Poultry Science, 600 series		3
Seminar		
PSC 688	Master's Seminar	1
Minor/Optional Courses		8
Supporting Courses		
LPM 602	Sheep and Goat Production Management	3(2-0-1)
BPS 625	Statistical Methods	3(2-0-1)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
PSC 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

Total 8 credit hours to be chosen from list of post graduate courses of Poultry Science, 600 series

* Compulsory courses

Ph.D. Poultry Science

Major Courses

PSC 701*	Applied Poultry Nutrition	3(2-0-1)
PSC 702*	Recent Trends in Commercial Poultry Production	3(2-0-1)
Remaining credits to be chosen from list of post graduate courses of Poultry Science, 700 series		6
Seminar		
PSC 788	Doctoral Seminar I	1
PSC 789	Doctoral Seminar II	1
Minor/Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2 (2-0-0)
Research		
PSC 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

PSC 603	Commercial Layer and Broiler Management	3(2-0-1)
PSC 604	Breeder Stock and Hatchery Management	3(2-0-1)

List of Post Graduate Courses

PSC 601*	Poultry Breeding and Genetics	3(2-0-1)
PSC 602*	Poultry Nutrition and Feeding	3(2-0-1)
PSC 603*	Commercial Layer and Broiler Management	3(2-0-1)
PSC 604*	Breeder Stock and Hatchery Management	3(2-0-1)
PSC 605/ VMD 618	Poultry Health and Biosecurity	3(2-0-1)
PSC 606	Management of Other Avian Species	4(3-0-1)
PSC 607*	Poultry Products Technology	3(2-0-1)
PSC 608	Poultry Economics Project Formulation and Marketing	3(2-0-1)

* Compulsory courses

PSC 609/ VPY 614*	Physiology of Poultry Production	2(1-0-1)
PSC 610	Commercial Poultry Nutrition	2(1-0-1)
PSC 611	Poultry Welfare and Waste Management	2(2-0-0)
PSC 687	Master's Special Problem	1 or 2
PSC 688	Master's Seminar	1
PSC 690	Master's Thesis Research	30
PSC 701*	Applied Poultry Nutrition	3(2-0-1)
PSC 702*	Recent Trends in Commercial Poultry Production	3(2-0-1)
PSC 703	Developments in Poultry Processing and Products Technology	3(2-0-1)
PSC 704/ VMD 719	Emerging Diseases of Poultry and Health Management	3(2-0-1)
PSC 705	Applied Poultry Breeding	2(1-0-1)
PSC 706	Poultry Economics, Marketing and Integration	3(2-0-1)
PSC 707	Diversified Poultry Production	3(2-0-1)
PSC 787	Doctoral Special Problem	1 or 2
PSC 788	Doctoral Seminar I	1
PSC 789	Doctoral Seminar II	1
PSC 790	Ph.D. Thesis Research	75

* Compulsory courses

4. LIVESTOCK PRODUCTS TECHNOLOGY

M.V.Sc. Livestock Products Technology

Major Courses

LPT 601*	Abattoir Practices and Meat Plant Operations	3(2-0-1)
LPT 602*	Fresh Meat Technology	2(1-0-1)
LPT 603*	Processing and Preservation of Meat	3(2-0-1)
LPT 604*	Processing of Milk and Milk Products	2(1-0-1)
LPT 605*	Packaging and Marketing of Livestock Products	2(1-0-1)
LPT 606*	Microbiology and Quality Control of Livestock Products	2(1-0-1)
LPT 607*	Slaughterhouse By-products Technology	2(1-0-1)
Remaining credits to be chosen from list of post graduate courses of Livestock Products Technology, 600series		4

Seminar (01 Credit)

LPT 688	Master's Seminar	1
Minor/Optional Courses		8

Supporting Courses

BBC 612	Techniques in Biochemistry I	2(2-0-0)
BBC 613	Techniques in Biochemistry II	2(0-0-2)
BPS 625	Statistical Methods	3(2-0-1)

Common Courses

BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)

Research

LPT 690	Master's Thesis Research	30
	Total	**71 credits**

Minor Courses (For other departments)

Total 8 credit hours to be chosen from list of post graduate courses of Livestock Products Technology, 600 series

* Compulsory courses

Ph.D. Livestock Products Technology

Major Courses

LPT 701*	Modern Abattoir Practices and Animal By-Products Technology	2(1-0-1)
LPT 702*	Advances in Meat Production and Fresh Meat Technology	2(1-0-1)
LPT 703*	Developments in Processed Meat Technology	2(1-0-1)
LPT 704*	Current Trends in Processing of Milk And Milk Products	2(1-0-1)
Remaining credits to be chosen from list of post graduate courses of Livestock ProductsTechnology, 700 series		4
Seminar		
LPT 788	Doctoral Seminar I	1
LPT 789	Doctoral Seminar II	1
Minor/Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2 (2-0-0)
Research		
LPT 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

LPT 601	Abattoir Practices and Meat Plant Operations	3(2-0-1)
LPT 610	Market Milk Processing and Dairy Plant Practices	2(1-0-1)

Remaining 1 credit to be chosen from list of post graduate courses of Livestock Products Technology, 600/ 700series

List of Postgraduate Courses

LPT 601*	Abattoir Practices and Meat Plant Operations	3(2-0-1)
LPT 602*	Fresh Meat Technology	2(1-0-1)
LPT 603*	Processing and Preservation of Meat	3(2-0-1)
LPT 604*	Processing of Milk and Milk Products	2(1-0-1)

* Compulsory courses

LPT 605*	Packaging and Marketing of Livestock Products	2(1-0-1)
LPT 606*	Microbiology and Quality Control of Livestock Products	2(1-0-1)
LPT 607*	Slaughterhouse By-products Technology	2(1-0-1)
LPT 608	In-Plant Training	2(0-0-2)
LPT 609	Egg and Egg Products Technology	2(1-0-1)
LPT 610	Market Milk Processing and Dairy Plant Practices	2(1-0-1)
LPT 611	Processing and Marketing of Wool	2(1-0-1)
LPT 612	Biotechnology of Foods of Animal Origin	2(1-0-1)
LPT 613	Fish and Fish Products Technology	2(1-0-1)
LPT 687	Master's Special Problem	1 or 2
LPT 688	Master's Seminar	1
LPT 690	Master's Thesis Research	30
LPT 701*	Modern Abattoir Practices and Animal By-Products Technology	2(1-0-1)
LPT 702*	Advances in Meat Production and Fresh Meat Technology	2(1-0-1)
LPT 703*	Developments in Processed Meat Technology	2(1-0-1)
LPT 704*	Current Trends in Processing of Milk And Milk Products	2(1-0-1)
LPT 705	Biotechnological Techniques and Quality Control of Livestock Products	2(1-0-1)
LPT 706	Ethnic and Organic Meat and Milk Products	2(1-0-1)
LPT 707	Industrial and Entrepreneurial Training	2(0-0-2)
LPT 708	Current Trends in Disposal and Utilization of Waste From Meat and Dairy Industry	2(1-0-1)
LPT 709	Advances in Egg and Egg Products Technology	2(1-0-1)
LPT 787	Doctoral Special Problem	1 or 2
LPT 788	Doctoral Seminar I	1
LPT 789	Doctoral Seminar II	1
LPT 790	Ph. D. Thesis Research	75

* Compulsory courses

5. VETERINARY ANATOMY

M.V.Sc. Veterinary Anatomy

Major Courses		
VAN 602*	Comparative Splanchnology	4(2-0-2)
VAN 603*	Myology, Angiology, Neurology and Aesthesiology of Ox	4 (2-0-2)
VAN 607*	Systemic Histology and Ultra Structure	4 (3-0-1)
VAN 608*	Developmental Anatomy	3 (2-0-1)
Remaining credits to be chosen from list of post graduate courses of Veterinary Anatomy, 600 series		5
Seminar		
VAN 688	Master's Seminar	1
Minor/Optional Courses		8
Supporting Courses		
VPY 602	Cardiovascular and Respiratory Physiology	3 (2-0-1)
BPS 625	Statistical Methods	3 (2-0-1)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
VAN 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

VAN 602	Comparative Splanchnology	4 (2-0-2)
VAN 606	General Histology and Ultrastructure	2 (1-0-1)

Remaining 2 credits to be chosen from list of post graduate courses of Veterinary Anatomy, 600 series

* Compulsory courses

Ph.D. Veterinary Anatomy

Major Courses

VAN 703*	Avian Anatomy	2 (1-0-1)
VAN 704*	Neuroanatomy	3 (2-0-1)
VAN 705*	Comparative Endocrine Anatomy	2 (1-0-1)
VAN 706*	Theory and applications of electron Microscopy	2 (1-0-1)
Remaining credits to be chosen from list of post graduate courses of Veterinary Anatomy, 700 series		3
Seminar		
VAN 788	Doctoral Seminar I	1
VAN 789	Doctoral Seminar II	1
Minor/Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2 (2-0-0)
Research		
VAN 790	Ph. D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

VAN 701	Myology, Angiology, Neurology and Aesthesiology of Equine, Canine andPorcine	3 (2-0-1)
VAN 704	Neuroanatomy	3 (2-0-1)

List of Post Graduate Courses

VAN 601	Comparative Osteology and Arthrology	3(1-0-2)
VAN 602*	Comparative Splanchnology	4(2-0-2)
VAN 603*	Myology, Angiology, Neurology and Aesthesiology of Ox	4(2-0-2)
VAN 604	Gross, Histological and Histochemical Techniques	4(1-0-3)
VAN 605	Clinical Anatomy	1(0-0-1)
VAN 606	General Histology and Ultrastructure	2(1-0-1)

* Compulsory courses

VAN 607*	Systemic Histology and Ultrastructure	4(3-0-1)
VAN 608*	Developmental Anatomy	3(2-0-1)
VAN 609	Wild life and Forensic Anatomy	1(1-0-0)
VAN 687	Master's Special Problem	1 or 2
VAN 688	Master's Seminar	1
VAN 690	Master's Thesis Research	30
VAN 701	Myology, Angiology, Neurology and Aesthesiology of Equine, Canine and Porcine	3(2-0-1)
VAN 702	Principles and Applications of Biomechanics	1(1-0-0)
VAN 703*	Avian anatomy	2(1-0-1)
VAN 704*	Neuroanatomy	3(2-0-1)
VAN 705*	Comparative Endocrine Anatomy	2(1-0-1)
VAN 706*	Theory and Applications of Electron Microscope	2(1-0-1)
VAN 707	Histoenzymology and Immunocytochemistry	3(2-0-1)
VAN 708	Applied Embryology and Teratology	2(1-0-1)
VAN 709	Functional Veterinary Anatomy	1(1-0-0)
VAN 710	Gross Anatomy of Laboratory Animals	2(1-0-1)
VAN 711	Cross Sectional Anatomy of Ox	1(0-0-1)
VAN 712	Animal Alternatives in Veterinary Anatomy	2(1-0-1)
VAN 787	Doctoral Special Problem	1 or 2
VAN 788	Doctoral Seminar I	1
VAN 789	Doctoral Seminar II	1
VAN 790	Ph. D. Thesis Research	75

* Compulsory courses

6. VETERINARY & ANIMAL HUSBANDRY EXTENSION EDUCATION

M.V.Sc. Veterinary Extension Education

Major Courses

VAE 601*	Development Perspectives of Extension Education	3(2-0-1)
VAE 602*	Communication for Livestock Development	2(1-0-1)
VAE 603*	Diffusion and Adoption of Innovations	3(2-0-1)
VAE 604*	Programme Planning and Evaluation	2(1-0-1)
VAE 605*	Research Methodology	3(2-0-1)
VAE 608*	Human Resource Management in Animal Husbandry Sector	2(1-0-1)
Remaining credits to be chosen from the list of post graduate courses of Veterinary Extension Education, 600 series		5

Seminar

VAE 688	Master's Seminar	1(1-0-0)
Minor/ Optional courses		8

Supporting Courses

BPS 625	Statistical Methods	3 (2-0-1)
BPS 662	Advanced Experimental Design	3(2-0-1)

Common Courses

BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)

Research

VAE 690	Master's Thesis Research	30
		70 credits

Minor Courses (For other departments)

VAE 601	Development Perspectives of Extension Education	3(2-0-1)
VAE 602	Communication for Livestock Development	2(1-0-1)

Remaining 3 credits to be chosen from list of post graduate courses of Veterinary Extension Education, 600 series

* Compulsory courses

List of Post Graduate Courses

VAE 601*	Development Perspectives of Extension Education	3(2-0-1)
VAE 602*	Communication for Livestock Development	2(1-0-1)
VAE 603*	Diffusion and Adoption of Innovations	3(2-0-1)
VAE 604*	Programme Planning and Evaluation	2(1-0-1)
VAE 605*	Research Methodology	3(2-0-1)
VAE 606	Social Psychology and Group Dynamics	2(1-0-1)
VAE 607	Livestock Entrepreneurship	3(1-0-2)
VAE 608*	Human Resource Management in Animal Husbandry Sector	2(1-0-1)
VAE 609	Gender Empowerment and Livestock Development	1(1-0-0)
VAE 610	Farm Journalism	1(1-0-0)
VAE 611	Animal Husbandry Development Programmes	1(1-0-0)
VAE 612	Information and Communication Technology in Livestock Development	2(1-0-1)
VAE 613	Training for Development	2 (1-0-1)
VAE 614	Educational Technology	3 (2-0-1)
VAE 615	Managing Extension Organizations	3 (2-0-1)
VAE 687	Master's Special Problem	1 or 2
VAE 688	Master's Seminar	1
VAE 690	Master's Thesis Research	30

* Compulsory courses

7. VETERINARY GYNAECOLOGY AND OBSTETRICS

M.V.Sc. Animal Reproduction Gynaecology and Obstetrics

Major Courses

VGO 601*	General Gynaecology	3(2-0-1)
VGO 602*	Female Infertility in Farm Animals	3(2-0-1)
VGO 603*	Veterinary Obstetrics	3(2-0-1)
VGO 604*	Andrology and Male Infertility	3(2-0-1)
VGO 606*	Basics of Reproductive Biotechnology	3(2-0-1)
VGO 607*	Master's Clinical Practice I	3(0-0-3)
VGO 608*	Master's Clinical Practice II	3(0-0-3)

Seminar

VGO 688	Master's Seminar	1

Minor/Optional Courses 8

Supporting Courses

VMD 609	Zoo, Wild and Laboratory Animal Medicine	1(1-0-0)
VMD 615	Animal Disease Investigation and Biosecurity	2(1-0-1)
BPS 625	Statistical Methods	3(2-0-1)

Common Courses

BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)

Research

VGO 690	Master's Thesis Research	30
	Total	**71 credits**

Minor Courses (For other departments)

VGO 601	General Gynaecology	3(2-0-1)
VGO 603	Veterinary Obstetrics	3(2-0-1)

Remaining 2 credits to be chosen from list of post graduate courses of Animal Reproduction Gynaecology and Obstetrics, 600 series

* Compulsory courses

Ph.D. Animal Reproduction Gynaecology and Obstetrics

Major Courses

VGO 701*	Advances in Gynaecology and Infertility Management	3(2-0-1)
VGO 703*	Advances in Andrology and Male Infertility	3(2-0-1)
VGO 706*	Doctoral Clinical Practice I	3(0-0-3)
VGO 707*	Doctoral Clinical Practice II	3(0-0-3)
Seminar		
VGO 788	Doctoral Seminar I	1
VGO 789	Doctoral Seminar II	1
Minor/Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2 (2-0-0)
Research		
VGO 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

VGO 701#	Advances in Gynaecology and Infertility Management	3(2-0-1)
VGO 703#	Advances in Andrology and Male Infertility	3(2-0-1)

Pre-requisite VGO 601 and VGO 603

List of Post Graduate Courses

VGO 601*	General Gynaecology	3(2-0-1)
VGO 602*	Female Infertility in Farm Animals	3(2-0-1)
VGO 603*	Veterinary Obstetrics	3(2-0-1)
VGO 604*	Andrology and Male Infertility	3(2-0-1)
VGO 605	Semen Preservation and Artificial Insemination	3(2-0-1)
VGO 606*	Basics of Reproductive Biotechnology	3(2-0-1)
VGO 607*	Master's Clinical Practice I	3(0-0-3)

* Compulsory courses

VGO 608*	Master's Clinical Practice II	3(0-0-3)
VGO 609	Canine and Feline Reproduction	3(2-0-1)
VGO 610	Caprine and Ovine Reproduction	3(2-0-1)
VGO 611	Equine Reproduction	3(2-0-1)
VGO 612	Camel Reproduction	3(2-0-1)
VGO 613	Elephant Reproduction	3(2-0-1)
VGO 614	Wild and Zoo Animal Reproduction	3(2-0-1)
VGO 615	Porcine Reproduction	3(2-0-1)
VGO 616	Ultrasonography In Animal Reproduction	3(1-0-2)
VGO 687	Master's Special Problem	1 or 2
VGO 688	Master's Seminar	1
VGO 690	Master's Thesis Research	30
VGO 701*	Advances in Gynaecology and Infertility Management	3(2-0-1)
VGO 702	Advances in Veterinary Obstetrics	2(1-0-1)
VGO 703*	Advances in Andrology and Male Infertility	3(2-0-1)
VGO 704	Reproductive Biotechnology	2(1-0-1)
VGO 705	Semenology	2(1-0-1)
VGO 706*	Doctoral Clinical Practice I	3(0-0-3)
VGO 707*	Doctoral Clinical Practice II	3(0-0-3)
VGO 787	Doctoral Special Problem	1 or 2
VGO 788	Doctoral Seminar I	1
VGO 789	Doctoral Seminar II	1
VGO 790	Ph.D. Thesis Research	75

* Compulsory courses

8. VETERINARY MEDICINE

M.V.Sc. Veterinary Medicine

Major Courses

VMD 601*	Ruminant Medicine-Internal	3 (3-0-0)
VMD 602*	Ruminant Medicine-infectious	3 (3-0-0)
VMD 604*	Canine and Feline Medicine I	2 (2-0-0)
VMD 605*	Canine and Feline Medicine II	2 (2-0-0)
VMD 611*	Clinical Diagnostic Techniques	2 (0-0-2)
VMD 613*	Diagnosis of Veterinary Infectious Diseases	1 (0-0-1)
VMD 616*	Master's Clinical Practice I	3 (0-0-3)
VMD 617*	Master's Clinical Practice II	3 (0-0-3)
Remaining credit to be chosen from list of post graduate courses of Veterinary Medicine 600 series		1

Seminar

VMD 688	Master's Seminar	1
Minor/Optional courses		8

Supporting courses

VPT 607	Advances in Chemotherapy	3(2-0-1)
BPS 625	Statistical Methods	3(2-0-1)

Common Courses

BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)

Thesis Research

VMD 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

VMD 601	Ruminant Medicine-internal	3(3-0-0)
VMD 602	Ruminant Medicine-infectious	3(3-0-0)

Remaining 2 credits to be chosen from list of post graduate courses of Veterinary Medicine, 600 series.

* Compulsory courses

Ph.D. Veterinary Medicine

Major Courses

VMD 716*	Doctoral Clinical Practice I	2(0-0-2)
VMD 717*	Doctoral Clinical Practice II	2(0-0-2)
VMD 718*	Doctoral Clinical Practice III	2(0-0-2)
Remaining credits to be chosen from list of post graduate courses of Veterinary Medicine, 700 series		6
Seminar		
VMD 788	Doctoral Seminar I	1
VMD 789	Doctoral Seminar II	1
Minor/Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2(2-0-0)
Research		
VMD 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

VMD 701#	Farm Animal Gastroenterology	2 (2-0-0)
VMD 702#	Farm Animal Cardiopulmonary and Urinary System Diseases	2 (2-0-0)
VMD 712	Metabolic and Nutritional Deficiency Diseases	2 (2-0-0)

Pre-requisite VMD 601 and VMD 602

List of Post Graduate Courses

VMD 601*	Ruminant Medicine-Internal	3(3-0-0)
VMD 602*	Ruminant Medicine-Infectious	3(3-0-0)
VMD 603*	Equine Medicine	2(2-0-0)
VMD 604*	Canine and Feline Medicine I	2(2-0-0)
VMD 605*	Canine and Feline Medicine II	2(2-0-0)

* Compulsory courses

VMD 606	Metabolic and Endocrine Diseases, Nutritional Deficiencies and Diseases of Mammary Gland	2(2-0-0)
VMD 607	Paediatrics and Geriatrics Disorders	2(2-0-0)
VMD 608	Avian and Swine Medicine	2(2-0-0)
VMD 609	Zoo, Wild and Laboratory Animal Medicine	1(1-0-0)
VMD 610	Toxicology and Forensic Medicine	1(1-0-0)
VMD 611*	Clinical Diagnostic Techniques	2(0-0-2)
VMD 612	Emergency Medicine	2(0-0-2)
VMD 613*	Diagnosis of Veterinary Infectious Diseases	1(0-0-1)
VMD 614	Oncology and Ethno-veterinary Medicine	1(1-0-0)
VMD 615	Animal Disease Investigation and Biosecurity	2(1-0-1)
VMD 616*	Master's Clinical Practice I	3(0-0-3)
VMD 617*	Master's Clinical Practice II	3(0-0-3)
VMD 687	Master's Special Problem	1 or 2
VMD 688	Master's Seminar	1
VMD 690	Master's Thesis Research	30
VMD 701	Farm Animal Gastroenterology	2(2-0-0)
VMD 702	Farm Animal Cardiopulmonary and Urinary System Diseases	2(2-0-0)
VMD 703	Farm Animal Neurological and Musculo-skeletal System Diseases	1(1-0-0)
VMD 704	Farm Animal Neonatology	1(1-0-0)
VMD 705	Herd Health Management	3(2-0-1)
VMD 706	Canine and Feline Gastroenterology	2(2-0-0)
VMD 707	Advances in Neurological and Musculoskeletal System Diseases of Canine and Feline	1(1-0-0)
VMD 708	Canine and Feline Cardiopulmonary and Urinary System Diseases	1(1-0-0)
VMD 709	Dermatology and Endocrinology	1(1-0-0)
VMD 710	Canine and Feline Eye and Ear Diseases	1(1-0-0)
VMD 711	Veterinary Diagnostics	2(0-0-2)
VMD 712	Metabolic and Nutritional Deficiency Diseases	2(2-0-0)
VMD 713	Emergency and Critical Care Medicine	2(1-0-1)
VMD 714	Emerging and Re-emerging Animal Diseases	2(2-0-0)

* Compulsory courses

VMD 715	Prevention and Control of Infectious Diseases of Ruminants	2(2-0-0)
VMD 716*	Doctoral Clinical Practice I	2(0-0-2)
VMD 717*	Doctoral Clinical Practice II	2(0-0-2)
VMD 718*	Doctoral Clinical Practice III	2(0-0-2)
VMD 787	Doctoral Special Problem	1 or 2
VMD 788	Doctoral Seminar I	1
VMD 789	Doctoral Seminar II	1
VMD 790	Ph.D. Thesis Research	75

* Compulsory courses

9. VETERINARY MICROBIOLOGY

M.V.Sc. Veterinary Microbiology

Major courses

VMC 601*	General Bacteriology	3(2-0-1)
VMC 603*	General Virology	3(2-0-1)
VMC 605*	Principles of Veterinary Immunology	3(2-0-1)
VMC 606*	Veterinary Mycology	2(1-0-1)
Remaining credits to be chosen from list of post graduate courses of Veterinary Microbiology, 600 series		9
Seminar		
VMC 688	Master's seminar	1
Minor/Optional Courses		8
Supporting Courses		
BBC 603	Basic Biochemistry	3(3-0-0)
BBC 605	Basic Techniques in Biochemistry	1(0-0-1)
BPS 625	Statistical Methods	3(2-0-1)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
VMC 690	Master's Thesis Research	30
	Total	**71 credits**

Minor Courses (For other departments)

VMC 601	General Bacteriology	3(2-0-1)
VMC 603	General Virology	3(2-0-1)

Remaining 2 credits to be chosen from list of post graduate courses of Veterinary Microbiology, 600 series

* Compulsory courses

Ph.D. Veterinary Microbiology

Major Courses

VMC 701*	Advances in Veterinary Bacteriology	3(2-0-1)
VMC 706*	Advances in Veterinary Virology	3(2-0-1)
VMC 711*	Advances in Veterinary Immunology	3(2-0-1)
Remaining credits to be chosen from list of post graduate courses of Veterinary Microbiology, 700 series		3
Seminar		
VMC 788	Doctoral Seminar I	1
VMC 789	Doctoral Seminar II	1
Minor/Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2 (2-0-0)
Research		
VMC 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

VMC 701	Advances in Veterinary Bacteriology	3(2-0-1)
VMC 706	Advances in Veterinary Virology	3(2-0-1)

Pre requisite VMC 601, VMC 603

List of Post Graduate Courses

VMC 601*	General Bacteriology	3(2-0-1)
VMC 602	Systematic Veterinary Bacteriology	3(2-0-1)
VMC 603*	General Virology	3(2-0-1)
VMC 604	Systematic Veterinary Virology	3(2-0-1)
VMC 605*	Principles of Veterinary Immunology	3(2-0-1)
VMC 606*	Veterinary Mycology	2(1-0-1)
VMC 607	Vaccinology	2(2-0-0)

* Compulsory courses

VMC 608	Techniques in Microbiology	2(0-0-2)
VMC 609	Techniques in Molecular Microbiology	3(1-0-2)
VMC 610	Molecular Immunology	2(1-0-1)
VMC 611	Mucosal Immunology	1(1-0-0)
VMC 612	Introduction to Microbial Bio-informatics	1(1-0-0)
VMC 687	Master's Special Problem	1 or 2
VMC 688	Master's Seminar	1
VMC 690	Master's Thesis Research	30
VMC 701*	Advances in Veterinary Bacteriology	3(2-0-1)
VMC 702	Advances in Veterinary Mycology	3(2-0-1)
VMC 703	Bacterial Genetics	2(2-0-0)
VMC 704	Microbial Toxins	3(2-0-1)
VMC 705	Bacterial Pathogenesis	2(2-0-0)
VMC 706*	Advances in Veterinary Virology	3(2-0-1)
VMC 707	Molecular Viral Pathogenesis	3(2-0-1)
VMC 708	Structure Function Relationship of DNA and RNA Viruses	2(2-0-0)
VMC 709	Oncogenic Viruses	2(2-0-0)
VMC 710	Slow Viral Infections and Prions	1(1-0-0)
VMC 711*	Advances in Veterinary Immunology	3(2-0-1)
VMC 712	Cytokines and Chemokines	2(2-0-0)
VMC 713	Immunoregulation	1(1-0-0)
VMC 714	Advances in Vaccinology	2(2-0-0)
VMC 715	Current topics in Infection and Immunity	2(2-0-0)
VMC 716	Veterinary Microbial Biotechnology	3(2-0-1)
VMC 787	Doctoral Special Problem	1 or 2
VMC 788	Doctoral Seminar I	1
VMC 789	Doctoral Seminar II	1
VMC 790	Ph. D. Thesis Research	75

* Compulsory courses

10. VETERINARY PATHOLOGY

M.V.Sc. Veterinary Pathology

Major Courses

VPP 601*	General Pathology	3 (2 -0-1)
VPP 602*	Techniques in Pathology	2 (1-0-1)
VPP 604*	Clinical Pathology	2 (1-0-1)
VPP 605*	Necropsy Procedures and Interpretations	2 (1-0-1)
VPP 606*	Necropsy Conference	1 (0-0-1)
VPP 607*	Systemic Pathology	3 (2-0-1)
VPP 608*	Pathology of Infectious Diseases of Domestic Animals	3 (2-0-1)
VPP 610*	Avian Pathology	3 (2-0-1)
Remaining credit to be chosen from list of post graduate courses of Veterinary Pathology, 600 series		1

Seminar

VPP 688	Master's Seminar	1

Minor/Optional Courses 8

Supporting Courses

VMC 609	Techniques in Molecular Microbiology	3 (1-0-2)
BPS 625	Statistical Methods	3(2-0-1)

Common Courses

BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)

Research

VPP 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

VPP 604	Clinical Pathology	2 (1-0-1)
VPP 610	Avian Pathology	3 (2-0-1)

Remaining 3 credits to be chosen from list of post graduate courses of Veterinary Pathology, 600 series

* Compulsory courses

Ph.D. Veterinary Pathology

Major Courses

VPP 701*	Molecular and Ultrastructural Basis of Cell Injury	3 (2-0-1)
VPP 704*	Immunopathology	3 (2-0-1)
VPP 708*	Research Methodology in Pathology	1 (1-0-0)
VPP 709*	Necropsy Conference	1(0-0-1)
Remaining credits to be chosen from list of post graduate courses of Veterinary Pathology, 700 series		4
Seminar (02 credits)		
VPP 788	Doctoral Seminar I	1
VPP 789	Doctoral Seminar II	1
Minor/Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2 (2-0-0)
Research		
VPP 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

VPP 706#	Pathology of Nutritional and Metabolic Disturbances	3 (2-0-1)
VPP 707#	Pathology of Important and Emerging Diseases of Pets and Livestock	3 (2-0-1)

Pre requisite VPP 604 and VPP 610

List of Post Graduate Courses

VPP 601*	General Pathology	3 (2-0-1)
VPP 602*	Techniques in Pathology	2 (1-0-1)
VPP 603	Animal Oncology	2 (1-0-1)
VPP 604*	Clinical Pathology	2 (1-0-1)
VPP 605*	Necropsy Procedures and Interpretations	2 (1-0-1)

* Compulsory courses

VPP 606*	Necropsy Conference	1 (0-0-1)
VPP 607*	Systemic Pathology	3 (2-0-1)
VPP 608*	Pathology of Infectious Diseases of Domestic Animals	3 (2-0-1)
VPP 609	Toxicopathology	3 (2-0-1)
VPP 610*	Avian pathology	3 (2-0-1)
VPP 611	Pathology of Wild/Zoo and Aquatic Animal Diseases	3 (2-0-1)
VPP 612	Pathology of Laboratory Animal Diseases	3 (2-0-1)
VPP 687	Master's Special Problem	1 or 2
VPP 688	Master's Seminar	1
VPP 690	Master's Thesis Research	30
VPP 701*	Molecular and Ultrastructural Basis of Cell Injury	3(2-0-1)
VPP 702	Molecular Basis of Inflammation	2(1-0-1)
VPP 703	Molecular Basis of Neoplasia	2(1-0-1)
VPP 704*	Immunopathology	3(2-0-1)
VPP 705	Advances in Diagnostic Pathology	3(1-0-2)
VPP 706	Pathology of Nutritional and Metabolic Disturbances	3(2-0-1)
VPP 707	Pathology of Important and Emerging Diseases of Pets and Livestock	3(2-0-1)
VPP 708*	Research Methodology in Pathology	1(1-0-0)
VPP 709*	Necropsy Conference I	1(0-0-1)
VPP 787	Doctoral Special Problem	1 or 2
VPP 788	Doctoral Seminar I	1
VPP 789	Doctoral Seminar II	1
VPP 790	Ph.D. Thesis Research	75

* Compulsory courses

11. VETERINARY PARASITOLOGY

M.V.Sc. Veterinary Parasitology

Major Courses		
VPA 601*	Platyhelminthes I	2(1-0-1)
VPA 602*	Platyhelminthes II	2(1-0-1)
VPA 603*	Nemathelminthes and Acanthocephala	3(2-0-1)
VPA 604*	Arthropod Parasites	3(2-0-1)
VPA 605*	Parasitic Protozoa	3(2-0-1)
Remaining credits to be chosen from the list of post graduate courses of Veterinary Parasitology, 600 series		7
Seminar		
VPA 688	Master's Seminar	1
Minor/Optional Courses		8
Supporting Courses		
VPP 602	Techniques in Pathology	2(1-0-1)
VPP 606	Necropsy Conference	1(0-0-1)
BPS 625	Statistical Methods	3(2-0-1)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
VPA 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

VPA 603	Nemathelminthes and Acanthocephala	3(2-0-1)
VPA 605	Parasitic Protozoa	3(2-0-1)
VPA 607	Clinical Parasitology	2(1-0-1)

* Compulsory courses

Ph.D. Veterinary Parasitology

Major Courses

VPA 705*	Immunology of Parasitic Diseases	3(1-0-2)
VPA 706*	Molecular Diagnostics and Vaccine Development in Parasitology	3(2-0-1)
VPA 712*	Parasite Epidemiology	2(2-0-0)
Remaining credits to be chosen from the list of post graduate courses of Veterinary Parasitology, 700 series		4
Seminar		
VPA 788	Doctoral Seminar I	1
VPA 789	Doctoral Seminar II	1
Minor/Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2 (2-0-0)
Research		
VPA 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

VPA 705	Immunology of Parasitic Diseases	3(1-0-2)
VPA 706	Molecular Diagnostics and Vaccine Development in Parasitology	3(2-0-1)

List of Post Graduate Courses

VPA 601*	Platyhelminthes I	2(1-0-1)
VPA 602*	Platyhelminthes II	2(1-0-1)
VPA 603*	Nemathelminthes and Acanthocephala	3(2-0-1)
VPA 604*	Arthropod Parasites	3(2-0-1)
VPA 605*	Parasitic Protozoa	3(2-0-1)
VPA 606	Diagnostic Parasitology	2(0-0-2)

* Compulsory courses

VPA 607	Clinical Parasitology	2(1-0-1)
VPA 608	Management of Parasitic Diseases	2(1-0-1)
VPA 609	Immunoparasitology	3(2-0-1)
VPA 610	Parasitic Zoonoses	2(2-0-0)
VPA 611	Parasites of Wildlife	2(1-0-1)
VPA 687	Master's Special Problem	1 or 2
VPA 688	Master's Seminar	1
VPA 690	Master's Thesis Research	30
VPA 701	Advances in Helminthology I	3(2-0-1)
VPA 702	Advances in Helminthology II	3(2-0-1)
VPA 703	Entomology and Acarology	3(2-0-1)
VPA 704	Advances in Protozoology	3(2-0-1)
VPA 705*	Immunology of Parasitic Diseases	3(1-0-2)
VPA 706*	Molecular Diagnostics and VaccineDevelopment in Parasitology	3(2-0-1)
VPA 707	Host Parasite Interactions	2(2-0-0)
VPA708	*In-vitro* Cultivation of Parasites	3(1-0-2)
VPA 709	Emerging and Re-Emerging Parasitic Diseases	2(2-0-0)
VPA 710	Biology and Ecology of Parasites	3(3-0-0)
VPA 711	Molecular Veterinary Parasitology	2(2-0-0)
VPA 712*	Parasite Epidemiology	2(2-0-0)
VPA 787	Doctoral Special Problem	1 or 2
VPA 788	Doctoral Seminar I	1
VPA 789	Doctoral Seminar II	1
VPA 790	Ph.D. Thesis Research	75

* Compulsory courses

12. VETERINARY PHARMACOLOGY & TOXICOLOGY

M.V.Sc. Veterinary Pharmacology and Toxicology

Major Courses

VPT 601*	Concepts of Pharmacology, Drug Design and Development	2(2-0-0)
VPT 602*	Autonomic and Autacoid Pharmacology	3(2-0-1)
VPT 607*	Advances in Chemotherapy	3(2-0-1)
VPT 608*	Toxicology of Xenobiotics	3(2-0-1)
VPT 610*	Pharmacological Techniques	2(1-0-1)
VPT 611*	Techniques in Toxicology	2(1-0-1)
Remaining credits to be chosen from list of post graduate courses of Veterinary Pharmacology andToxicology, 600 series		5

Seminar

VPT 688	Master's Seminar	1
Minor/Optional Courses		8

Supporting Courses

VPY 608	Neuromuscular physiology	2(2-0-0)
VPY 610	Instrumentation and Research Techniques in Veterinary Physiology	2(0-0-2)
BPS 625	Statistical Methods	3(2-0-1)

Common Courses

BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)

Research

VPT 690	Master's Thesis Research	30
	Total	**71 credits**

Minor Courses (For other departments)

VPT 602	Autonomic and Autacoid Pharmacology	3 (2-0-1)
VPT 607	Advances in Chemotherapy	3 (2-0-1)

Remaining 2 credits to be chosen from the list of post graduate courses of Pharmacology and Toxicology, 600 series

* Compulsory courses

Ph.D. Veterinary Pharmacology & Toxicology

Major Courses

VPT 701*	Molecular Pharmacology	3(3-0-0)
VPT 705*	Clinical Pharmacology and Pharmacokinetics	3(2-0-1)
VPT 709*	Clinical Toxicology	3(2-0-1)
Remaining credits to be chosen from list of post graduate courses of Veterinary Pharmacology andToxicology, 700 series		3
Seminar		
VPT 788	Doctoral Seminar I	1
VPT 789	Doctoral Seminar II	1
Minor/Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2 (2-0-0)
Research		
VPT 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

VPT 705#	Clinical Pharmacology and Pharmacokinetics	3 (2-0-1)
VPT 709#	Clinical Toxicology	3 (2-0-1)

Prerequisites VPT 602 and VPT 607

List of Post Graduate Courses

VPT 601*	Concepts of Pharmacology, Drug Design and Development	2(2-0-0)
VPT 602*	Autonomic and Autacoid Pharmacology	3(2-0-1)
VPT 603	CNS Pharmacology	3(2-0-1)
VPT 604	Digestive and Respiratory Pharmacology	3(2-0-1)
VPT 605	Cardiovascular and Urinary SystemPharmacology	2(2-0-0)
VPT 606	Endocrine and Reproductive Pharmacology	3(2-0-1)

* Compulsory courses

VPT 607*	Advances in Chemotherapy	3(2-0-1)
VPT 608*	Toxicology of Xenobiotics	3(2-0-1)
VPT 609	Toxinology	3(2-0-1)
VPT 610*	Pharmacological Techniques	2(1-0-1)
VPT 611*	Techniques in Toxicology	2(1-0-1)
VPT 612	Ethnopharmacology	2(1-0-1)
VPT 613	Fundamentals of Pharmacokinetics	2(1-0-1)
VPT 687	Master's Special Problem	1 or 2
VPT 688	Master's Seminar	1
VPT 690	Master's Thesis Research	30
VPT 701*	Molecular Pharmacology	3(3-0-0)
VPT 702	Advances in Autacoid Pharmacology	1(1-0-0)
VPT 703	Pharmacology of Herbal Drugs	3(2-0-1)
VPT 704	Biotransformation of Xenobiotics	2(2-0-0)
VPT 705*	Clinical Pharmacology and Pharmacokinetics	3(2-0-1)
VPT 706	Pharmacogenomics	2(2-0-0)
VPT 707	Immunopharmacology and Immunotoxicology	2(2-0-0)
VPT 708	Molecular Toxicology	3(3-0-0)
VPT 709*	Clinical Toxicology	3(2-0-1)
VPT 710	Ecotoxicology	3(3-0-0)
VPT 711	Regulatory Toxicology	3(2-0-1)
VPT 787	Doctoral Special Problem	1-2
VPT 788	Doctoral Seminar I	1
VPT 789	Doctoral Seminar II	1
VPT 790	Ph.D. Thesis Research	75

* Compulsory courses

13. VETERINARY PHYSIOLOGY & BIOCHEMISTRY

M.V.Sc. Veterinary Physiology

Major Courses

VPY 601*	Physiology of Digestion	3(2-0-1)
VPY 602*	Cardiovascular and Respiratory Physiology	3(2-0-1)
VPY 603*	Renal Physiology and Body Fluid Dynamics	3(2-0-1)
VPY 606*	Physiology of Animal Reproduction	3(2-0-1)
VPY 608*	Neuromuscular Physiology	2(2-0-0)
VPY 609*	Endocrinology of Domestic Animals	2(2-0-0)
Remaining credits to be chosen from the list of post graduate courses of Veterinary Physiology, 600 series		4

Seminar

VPY 688	Master's Seminar	1

Minor/Optional Courses 8

Supporting Courses

VBC 603	Enzymology	3(2-0-1)
BPS 625	Statistical Methods	3(2-0-1)

Common Courses

BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)

Research

VPY 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

VPY 608	Neuromuscular Physiology	2(2-0-0)
VPY 609	Endocrinology of Domestic Animals	2(2-0-0)

Remaining 4 credits to be chosen from the list of post graduate courses of Veterinary Physiology, 600 Series

* Compulsory courses

Ph.D. Veterinary Physiology

Major Courses		
VPY 706*	Avian Physiology	3(2-0-1)
VPY 707*	Physiology of Lactation	3(2-0-1)
Remaining credits to be chosen from the list of post graduate courses of Veterinary Physiology, 700series		
Seminar		
VPY 788	Doctoral Seminar I	1
VPY 789	Doctoral Seminar II	1
Minor/Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2 (2-0-0)
Research		
VPY 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

VPY 706	Avian Physiology	3 (2-0-1)
VPY 710	Recent Trends in Immuno-physiology	3(2-0-1)

* Compulsory courses

M.V.Sc. Veterinary Biochemistry

Major Courses		
VBC 601*	Biophysical Chemistry	2 (2 -0- 0)
VBC 602*	Biochemistry of Biomolecules	2 (2 -0- 0)
VBC 603*	Enzymology	3 (2 -0-1)
VBC 604*	Analytical Techniques and Instrumentation in Biochemistry	2 (1 -0- 1)
VBC 605*	Clinical Biochemistry of Animals	3 (2 -0- 1)
VBC 606*	Intermediary Metabolism and Regulation	3 (3 -0- 0)
Remaining credits to be chosen from the list of postgraduate courses of Veterinary Biochemistry, 600 series		5
Seminar		
VBC 688	Master's Seminar	1
Minor/Optional Courses		8
Supporting Courses		
VPY 603	Renal Physiology and Body Fluid Dynamics	3 (2-0-1)
BPS 625	Statistical Methods	3 (2-0-1)
Common Courses		
BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)
Research		
VBC 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

VBC 601	Biophysical Chemistry	2(2-0-0)
VBC 602	Biochemistry of Biomolecules	2(2-0-0)

Remaining 4 credits to be chosen from the list of post graduate courses of Veterinary Biochemistry, 600 series

* Compulsory courses

Ph.D. Veterinary Biochemistry

Major Courses

VBC 703*	Recent trends in Enzymology	3 (2-0-1)
VBC 705*	Recent Trends in Biochemical Techniques and Instrumentation	3 (2-0-1)
Remaining credits to be chosen from the list of post graduate courses of Veterinary Biochemistry, 700 series		6

Seminar

VBC 788	Doctoral Seminar I	1
VBC 789	Doctoral Seminar II	1

Minor/Optional Courses 6

Supporting Courses

BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2 (2-0-0)

Research

VBC 790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

VBC 703#	Recent trends in Enzymology	3(2-0-1)
VBC 705	Recent Trends in Biochemical Techniques and Instrumentation	3(2-0-1)

Pre requisite VBC 603

List of Post Graduate Courses

Veterinary Physiology

VPY 601*	Physiology of Digestion	3(2-0-1)
VPY 602*	Cardiovascular and Respiratory Physiology	3(2-0-1)
VPY 603*	Renal Physiology and Body Fluid Dynamics	3(2-0-1)
VPY 604	Haematology	3(2-0-1)
VPY 605	Growth and Environmental Physiology	2(2-0-0)

* Compulsory courses

VPY 606*	Physiology of Animal Reproduction	3(2-0-1)
VPY 607	Clinical Physiology	2(1-0-1)
VPY 608*	Neuromuscular Physiology	2(2-0-0)
VPY 609*	Endocrinology of Domestic Animals	2(2-0-0)
VPY 610	Instrumentation and Research Techniques in Veterinary Physiology	2(0-0-2)
VPY 611	Physiology of Wild Life	1(1-0-0)
VPY 687	Master's Special Problem	1 or 2
VPY 688	Master's Seminar	1
VPY 690	Master's Thesis Research	30
VPY 701	Applied Physiology of Body Fluids and Electrolytes	3(2-0-1)
VPY 702	Physiology of Animal Behaviour	2(2-0-0)
VPY 703	Recent Trends in Ruminant Digestion	3(2-0-1)
VPY 704	Recent Trends in Neuro-endocrinology	3(2-0-1)
VPY 705	Myo-physiology and Kinesiology	2(2-0-0)
VPY 706*	Avian Physiology	3(2-0-1)
VPY 707*	Physiology of Lactation	3(2-0-1)
VPY 708	Recent Trends in Environmental Physiology and Growth	3(2-0-1)
VPY 709	Cellular and Molecular Physiology	2(2-0-0)
VPY 710	Recent Trends in Immuno-physiology	3(2-0-1)
VPY 711	Physiology of Stress	2(2-0-0)
VPY 712	Recent Trends in Reproductive Physiology	3(2-0-1)
VPY 787	Doctoral Special Problem	1 or 2
VPY 788	Doctoral Seminar I	1
VPY 789	Doctoral Seminar II	1
VPY 790	Ph.D. Thesis Research	75

Veterinary Biochemistry

VBC 601*	Biophysical Chemistry	2(2-0-0)
VBC 602*	Biochemistry of Biomolecules	2(2-0-0)
VBC 603*	Enzymology	3(2-0-1)
VBC 604*	Analytical Techniques and Instrumentation in Biochemistry	2(1-0-1)
VBC 605*	Clinical Biochemistry of Animals	3(2-0-1)

* Compulsory courses

VBC 606*	Intermediary Metabolism and Regulation	3(3-0-0)
VBC 607	Molecular Biochemistry	3(2-0-1)
VBC 608	Nutritional and Industrial Biochemistry	2(2-0-0)
VBC 609	Endocrinology and Reproductive Biochemistry	2(2-0-0)
VBC 610	Biochemistry of Ruminants and Wild Animals	2(1-0-1)
VBC 611	Introduction to Bioinformatics and Computational Biology	2(1-0-1)
VBC 687	Master' Special Problem	1 or 2
VBC 688	Master's Seminar	1
VBC 690	Master's Thesis Research	30
VBC 701	Applied Molecular Biochemistry and Systems Biology	3(2-0-1)
VBC 702	Membrane Biochemistry	2(2-0-0)
VBC 703*	Recent trends in Enzymology	3(2-0-1)
VBC 704	Diagnostic Techniques in Clinical Biochemistry	2(0-0-2)
VBC 705*	Recent Trends in Biochemical Techniques and Instrumentation	3(2-0-1)
VBC 706	Developmental Biochemistry	2(2-0-0)
VBC 707	Bioinformatics Tools in Biochemistry	2(1-0-1)
VBC 708	Environmental and Toxicological Biochemistry	2(2-0-0)
VBC 709	Biochemistry of Diseases and Disorders	2(2-0-0)
VBC 710	Immuno-Biochemistry	2(2-0-0)
VBC 787	Doctoral Special Problem	1 or 2
VBC 788	Doctoral Seminar I	1
VBC 789	Doctoral Seminar II	1
VBC 790	Ph. D. Thesis Research	75

* Compulsory courses

14. VETERINARY PUBLIC HEALTH & EPIDEMIOLOGY

M.V.Sc. Veterinary Public Health and Epidemiology

Major Courses

VPE 601*	Concepts in Veterinary Public Health and One Health	2(2-0-0)
VPE 602*	Zoonoses I	3(2-0-1)
VPE 603*	Zoonoses II	3(2-0-1)
VPE 604*	Principles of Epidemiology	3(2-0-1)
VPE 605*	Hygiene and Safety of Foods of Animal and Aquatic Origin	3(2-0-1)
VPE 611*	Laboratory Techniques in Veterinary Public Health	3(0-0-3)
Remaining credits to be chosen from list of post graduate courses of Veterinary Public Health and Epidemiology, 600series		3

Seminar

VPE 688	Master's seminar	1

Minor/Optional Courses 8

Supporting Courses

VBC 604	Analytical Techniques and Instrumentation in Biochemistry	2(1-0-1)
VMC 612	Introduction to Microbial Bio-informatics	1 (1-0-0)
BPS 625	Statistical Methods	3(2-0-1)

Common Courses

BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)

Research

VPE 690	Master's Thesis research	30
	Total	**70 credits**

Minor Courses (For other departments)

VPE 606	Food Borne Infection and Intoxication	3(2-0-1)
VPE 611	Laboratory Techniques in Veterinary Public Health	3(0-0-3)

Remaining 2 credits to be chosen from the list of post graduate courses of Veterinary Public Health and Epidemiology, 600 series

* Compulsory courses

Ph.D. Veterinary Public Health & Epidemiology

Major Courses

VPE 701*	Advances in Veterinary Public Health and Epidemiology	3(2-0-1)
VPE 702*	Emerging, Re-emerging Zoonoses and One Health	3(2-0-1)
VPE 703*	Advances in Food Safety and Quality Control of Foods of Animal/Aquatic Origin	3(2-0-1)
Remaining credits to be chosen from list of post graduate courses of Veterinary Public Health and Epidemiology, 700 series		3
Seminar		
VPE 788	Doctoral Seminar-I	1
VPE 789	Doctoral Seminar-II	1
Minor/Optional Courses		6
Supporting Courses		
BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2 (2-0-0)
Research		
VPE 790	Ph. D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

VPE 702	Emerging and Re-emerging Zoonoses and One Health	3(2-0-1)
VPE 710	Ecology and Animal/Human Health	2(1-0-1)

Remaining 1 credit to be chosen from the list of post graduate courses of Veterinary Public Health and Epidemiology, 600/ 700 series

List of Post Graduate Courses

VPE 601*	Concepts in Veterinary Public Health and One Health	2(2-0-0)
VPE 602*	Zoonoses I	3(2-0-1)
VPE 603*	Zoonoses II	3(2-0-1)
VPE 604*	Principles of Epidemiology	3(2-0-1)
VPE 605*	Hygiene and Safety of Foods of Animal and Aquatic Origin	3(2-0-1)
VPE 606*	Food-borne Infections and Intoxications	3(2-0-1)

* Compulsory

VPE 607	Food Safety Standards and Regulations	3(2-0-1)
VPE 608	Environmental Hygiene and Safety	3(2-0-1)
VPE 609	Applied Epidemiology	3(2-0-1)
VPE 610	Biosecurity, Bioterrorism and Disaster Management	2(1-0-1)
VPE 611*	Laboratory Techniques in Veterinary Public Health	3(0-0-3)
VPE 687	Master's Special Problem	1 or 2
VPE 688	Master’s Seminar	1
VPE 690	Master’s Thesis Research	30
VPE 701*	Advances in Veterinary Public Health and Epidemiology	3(2-0-1)
VPE 702*	Emerging, Re-emerging Zoonoses and One Health	3(2-0-1)
VPE 703*	Advances in Food Safety and Quality Control of Foods of Animal/Aquatic Origin	3(2-0-1)
VPE 704	Biosecurity and Occupational Health Safety	3(2-0-1)
VPE 705	Recent Concepts in Epidemiology and Disease Forecasting	3(2-0-1)
VPE 706	Risk Analysis and Predictive Modelling	3(2-0-1)
VPE 707	Advances in Environmental Hygiene	3(2-0-1)
VPE 709	Epidemiology of Trans-Boundary, Non-Infectious and Chromic Disease	3(2-0-1)
VPE 710	Ecology of Animal/Human Health	2(2-0-0)
VPE 711	Diagnostic Approaches in Epidemiology	3(2-0-1)
VPE 712	Surveys, Surveillance and Data Management	3(2-0-1)
VPE 787	Doctoral Special Problem	1 or 2
VPE 788	Doctoral Seminar I	1
VPE 789	Doctoral Seminar II	1
VPE 790	Ph.D. Thesis Research	75

* Compulsory

15. VETERINARY SURGERY & RADIOLOGY

M.V.Sc. Veterinary Surgery & Radiology

Major Courses

VSR 601*	Master's Clinical Practice I	3(0-0-3)
VSR 602*	Master's Clinical Practice II	3(0-0-3)
VSR 603*	Principles of Surgery	3(2-0-1)
VSR 604*	Anaesthesia and Analgesia	3(2-0-1)
VSR 605*	Diagnostic Imaging Techniques	3(2-0-1)
VSR 607*	Orthopaedic Surgery	3(2-0-1)
Remaining credits to be chosen from the list of post graduate courses of Veterinary Surgery & Radiology, 600 series		2

Seminar

VSR 688	Master's Seminar	1
Minor/Optional Courses		8

Supporting Courses

VMD 609	Zoo, Wild and Laboratory Animal Medicine	1 (1-0-0)
VMD 615	Animal Disease Investigation and Biosecurity	2(1-0-1)
BPS 625	Statistical Methods	3(2-0-1)

Common Courses

BHS 500	Technical Writing and Communication Skills	1(0-0-1)
BHS /AAC 502	Research, Research Ethics and Rural Development Programmes	1(1-0-0)
BPC 506	Basic Concepts in Laboratory Techniques	1(0-0-1)
AGP 518	Intellectual Property and its Management	1(1-0-0)
BHS 611	Library and Information Services	1(1-1-0)

Research

VSR 690	Master's Thesis Research	30
	Total	**70 credits**

Minor Courses (For other departments)

VSR 604	Anaesthesia and Analgesia	3(2-0-1)
VSR 614	Experimental Surgical Techniques in Animals	2(1-0-1)

Remaining 3 credits to be chosen from the list of post graduate courses of Veterinary Surgery and Radiology, 600 series

* Compulsory

Ph.D. Veterinary Surgery & Radiology

Major Courses

VSR 701*	Doctoral Clinical Practice I	2(0-0-2)
VSR 702*	Doctoral Clinical Practice II	2(0-0-2)
VSR 703*	Doctoral Clinical Practice III	2(0-0-2)
VSR 715*	Clinical Case Conference	1(0-0-1)
Remaining credits to be chosen from the list of post graduate courses of Veterinary Surgery & Radiology, 700 series		5

Seminar

VSR 788	Doctoral Seminar I	1
VSR 789	Doctoral Seminar II	1

Minor/Optional Courses 6

Supporting Courses

BHS 652	Research Methodology I	1(1-0-0)
BPS 653	Research Methodology II	3(2-0-1)
BHS 654	Research and Publication Ethics	2 (2-0-0)

Research

VSR-790	Ph.D. Thesis Research	75
	Total	**101 credits**

Minor Courses (For other departments)

VSR 606	Soft Tissue Surgery	3(2-0-1)
VSR 714	Body Electrolyte and Fluid Therapy	2(1-0-1)

Remaining 1 credit to be chosen from the list of post graduate courses of Veterinary Surgery and Radiology,600/ 700 series

List of Postgraduate Courses

VSR 601*	Master's Clinical Practice I	3(0-0-3)
VSR 602*	Master's Clinical Practice II	3(0-0-3)
VSR 603*	Principles of Surgery	3(2-0-1)
VSR 604*	Anaesthesia and Analgesia	3(2-0-1)
VSR 605*	Diagnostic Imaging Techniques	3(2-0-1)
VSR 606	Soft Tissue Surgery	3(2-0-1)
VSR 607*	Orthopaedic Surgery	3(2-0-1)
VSR 608	Anaesthesia of Zoo, Wild, Exotic and Laboratory Animals	2(1-0-1)
VSR 609	Urogenital Surgery	2(1-0-1)

* Compulsory

VSR 610	Ophthalmology	2(1-0-1)
VSR 611	Dentistry and Oral Surgery	2(1-0-1)
VSR 612	Camel Surgery	2(1-0-1)
VSR 613	Elephant Surgery	2(1-0-1)
VSR 614	Experimental Surgical Techniques in Animals	2(1-0-1)
VSR 615	Radiographic Anatomy	2(1-0-1)
VSR 616	Master's Clinical Case Conference	1(0-0-1)
VSR 685	Master's Special Problem in Radiology	2(0-0-2)
VSR 686	Master's Special Problem in Anaesthesia	2(0-0-2)
VSR 687	Master's Special Problem in Surgery	1 or 2
VSR 688	Master's Seminar	1
VSR 690	Master's Thesis Research	30
VSR 701*	Doctoral Clinical Practice I	2(0-0-2)
VSR 702*	Doctoral Clinical Practice II	2(0-0-2)
VSR 703*	Doctoral Clinical Practice III	2(0-0-2)
VSR 704	Cardiovascular Surgery	3(2-0-1)
VSR 705	Advances in Anaesthesiology	3(2-0-1)
VSR 706	Advances in Radiology	3(2-0-1)
VSR 707	Advances in Diagnostic Imaging Techniques	3(2-0-1)
VSR 708	Advances in Orthopaedics	3(2-0-1)
VSR 709	Neurosurgery	3(2-0-1)
VSR 710	Reconstructive and Regenerative Surgery	2(1-0-1)
VSR 711	Advances in Soft Tissue Surgery	3(2-0-1)
VSR 712	Advances in Ophthalmology	2(1-0-1)
VSR 713	Surgical Oncology	2(1-0-1)
VSR 714	Body Electrolyte and Fluid Therapy	2(1-0-1)
VSR 715*	Doctoral Clinical Case Conference	1(0-0-1)
VSR 785	Doctoral Special Problem in Diagnostic Imaging	2(0-0-2)
VSR 786	Doctoral Special Problem in Anaesthesia	2(0-0-2)
VSR 787	Doctoral Special Problem in Surgery	1 or 2
VSR 788	Doctoral Seminar I	1
VSR 789	Doctoral Seminar II	1
VSR 790	Ph.D. Thesis Research	75

* Compulsory