

Department of Agricultural Communication

Degrees Offered

- M. Sc. (Agric. Extension & Communication)
- Ph. D. (Agric. Extension & Communication)

Admission to these courses is done through an entrance examination conducted by the University.

Courses Offered under various Programmes

The academic curriculum for both M. Sc. and Ph. D. were developed through deliberations with the faculty of Agricultural Communication and Foreign Consultant/ Experts associated under FAO/UNDP

1. Ph.D. (Agricultural Extension and Communication)

Core Courses:

AAC-666 : Advanced Mgt. Techniques in Extension and Communication (3)

AAC-703 : Advances in Agriculture Extension(3)

AAC 706 : Instructional Technology (3)

AAC-730 : Advanced Design and Techniques in Social Science Research(3)

AAC-788 :Doctoral Seminar I (1)

AAC-789: Doctoral Seminar II (1)

Basic Supporting Course:

BPS-671 : Theory of Sampling (3)

Elective optional courses (3)

Minor Courses 10 Credits

AAC-790 Ph. D. Thesis Research 45 credits

2. M.Sc. (Agricultural Extension and Communication)

Core Courses: (19 Credits)

AAC-530 Research Methods in Behavioural Sciences 3(2-0-1)

AAC-602 Foundations of Human Behaviour 3(2-0-1)

AAC-603 Fundamentals of Development Communication 3(2-0-1)

AAC-605 Perspectives of Distance Education 2(2-0-0)

AAC-635 Training for Human Resource Development 3(2-0-1)

AAC-650 Trends in Extension Education 2(2-0-0)

AAC-654 Diffusion & Adoption of Innovations 2(2-0-0)

AAC-600 Master's Seminar 1

Sub Total 19

Basic Supporting Courses (3 Credits)

BPS-561 : Statistical Methods(3)

Optional /Minor Courses (8 Credits)

AAC-690 : Thesis (15)

Optional Courses (Common for M. Sc. and Ph. D.)

AAC-601 Special Problem 1-2

AAC-606 Media Production and Management 3(2-0-1)

AAC-607 E-Extension 3(2-0-1)

AAC-608 Visual Communication 3(2-0-1)

AAC-610 Speech Communication 3(1-0-2)

AAC-611 Interpersonal Communication 3(1-0-2)

AAC-612 Communication Media and Information Technology 2(1-0-1)

AAC-620 Radio for Rural Development 3(1-0-2)

AAC-621 Video for Rural Development 3(1-0-2)

AAC-630 Photography for Development 3(1-0-2)

AAC-631 Field Publicity Methods 3(2-0-1)

AAC-632 Advertising and Public Relation 3(2-0-1)

AAC-633 Folk and Traditional Media 2(2-0-0)

AAC-636 Managerial Skills for Extension Professionals 2(2-0-0)

AAC-640 Publication Editing and Production 3(1-0-2)

AAC-641 Agricultural Journalism 3(2-0-1)

AAC-642 Science Reporting 3(2-0-1)

AAC-643 Script Writing For Development Media 2(2-0-0)

AAC-652 Rural Development Programmes 2(2-0-0)

AAC/BHS -653 Dynamics of Rural Leadership 2(2-0-0)

AAC-656 Teaching Methodology 2(1-0-1)

AAC-657 Youth Work in Agricultural Extension 2(2-0-0)

AAC-658 Agriculture Education 2(1-0-1)

AAC-659 Participatory Methods in Extension 2(1-0-1)

AAC-660 Communication Evaluation 3(2-0-1)

AAC/BHS-661 Dynamics of Social Change 2(2-0-0)

AAC-662 Sociology of Communication 2(2-0-0)

AAC-663 Organizational Communication 2(2-0-0)

AAC-665 Entrepreneurship Development & Management in Extension 3

AAC-667 Writing Skills for Professional 2(1-0-1)

AAC-668 Presentation Skills 2(1-0-1)

AAC-669 Advances in Training Technology 3(2-0-1)

AAC-670 Market Led Extension Management 2(1-0-1)

AAC-671 Transfer of Technology in Agriculture 3(2-0-1)

AAC-672 Organizational Development 3(2-0-1)

AAC/BHS-702 Foundation of Psychology 3(3-0-0)

Undergraduate Level

(i) B. Sc. Agriculture

AAC-303 Dimensions of Agricultural Extension 2(1-0-1)

AAC-304 Extension Methodologies for Technology Transfer 2(1-0-)

AAC/AEC 305 Entrepreneurship Development 1(1-1-0)

AAC 395 Behavioural Skills for Management 2(1-01))

(ii) B. Sc. Food Technology

Department of Agricultural Economics

Degrees Offered:

- M.Sc. Ag. (Agricultural Economics)
- Ph.D. (Agricultural Economics)

Courses Offered under different Programmes

1. *Ph.D. (Agricultural Economics)*

Core courses (12 credits)

☐ AEC-700 Advance Micro Economic Theory	2(2-2-0)
☐ AEC-701 Advance Macro Economic Theory	2(2-2-0)
☐ AEC-710 Advance Econometrics	3(2-0-1)
☐ AEC-715 Operational Research for Agril. Decisions	3(2-0-1)
☐ AEC-788 Doctoral Seminar -I	1
☐ AEC-789 Doctoral Seminar -II	1

Basic Supporting Courses

☐ Elective Optional Courses (3 credits)	
☐ BPS -577 Multivariate Analysis & Official Statistics	3(2-0-1)
☐ Optional courses (5 credits)	5
☐ Minor (10 credits)	10
☐ Thesis Research (45 credits)	
☐ AEC- 790 Ph.D. Thesis Research	45

Compulsory Courses for Minor for other Discipline

☐ AEC- 500 Micro Economic Theory & Applications	3(3-2-0)
--	----------

□ AEC -640	Agricultural Production Economics	2(1-1-1)
------------	-----------------------------------	----------

2. M.Sc. Ag. (Agricultural Economics)

Core Courses

□ AEC-500	Micro Economic Theory and Application	3(3-2-0)
□ AEC-501	Macro Economic Theory and Policy	3(3-2-0)
□ AEC-510	Elementary Econometrics	2(1-1-1)
□ AEC-515	Linear Programming Methods	2(1-1-1)
□ AEC-620	Agricultural Marketing & Price Analysis	2(1-1-1)
□ AEC-640	Agriculture Production Economics	2(1-1-1)
□ AEC-600	Seminar	1(0-0-1)

Basic Supporting Courses (6 credits)

□ BPM-501	Linear Algebra & Advanced Calculus	3(3-2-0)
□ BPS - 561	Statistical Method	3(2-0-1)
□	Optional / Minor courses (9credits)	9
□	Thesis Research (20 credits)	
□ AEC-690	Master's Thesis Research	20

Deficiency/ Remedial Courses

□ AEC-411	Economic Theory	3(3-2-0)
□ AEC -412	Agricultural Economics	3(3-2-0)
□ AEC-435	Farm Managament Analysis	3(3-2-0)

Optional Courses (Common for M.Sc. & Ph.D.)

□ AEC-520	Advance Fisheries Economics	3(2-0-1)
□ AEC-564	Consumption Economics	3(2-0-1)
□ AEC-601	Special Problem	1(0-0-1)
□ AEC-602	Economics of Development & Growth	3(3-0-0)
□ AEC-603	Monetary Theory and Policy	2(2-0-0)
□ AEC-619	Research Methodology	2(1-0-1)

- *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-665 Advance Agricultural Finance* 3(2-0-1)
- *AEC-667 Project Planning Appraisal & Financing* 2(1-0-1)
- *AEC/AST-703 Seed marketing & Management* 2(2-2-0)
- *AEC-720 Advance Agricultural Marketing* 3(2-0-1)

3. B.Sc. Agriculture

Core

- *AEC-200 General Economics* 2(2-2-0)
- *AEC-321 Agricultural Marketing , International Trade & Prices* 3(2-0-1)
- *AEC-331 Farm Management, Production & Natural Resource Econ.* 2(1-2-1)
- *AEC-341 Agricultural Coop., Finance & Business Management* 2(1-1-1)

Electives

- *AEC 364 Financial Management of Agri-business* 3(1-0-2)
- *AEC 365 Project Formulation, Evaluation & Monitoring* 3(1-0-2)

4. B.Sc. Food Technology

- *AEC-200 General Economics* 2(2-2-0)

5. B.F.Sc.

- *AEC-345 Fisheries Economics* 3(2-0-1)
- *AEC 348 Financing & Marketing Management in Fisheries* 2(1-0-1)

6. B.Sc. Home Science

- *HRM/AEC-496 Entrepreneurship* 3(3-0-1)

7. M.Sc. Home Science

- *AEC-564 Consumption Economics* 3(2-0-1)

Minor in Agricultural Economics for other majors

Compulsory Courses

- ☐ AEC-500 Micro Economic Theory & Application 3(3-2-0)
- ☐ AEC-640 Agriculture Production Economics 2(1-1-1)

Elective optional courses – Any 5 credits from optional courses offered for Ph.D. (Agril. Economics) degree programme

Important facilities available in the department:

- ☐ A well equipped computer laboratory
- ☐ Departmental Library
- ☐ Seminar room
- ☐ Class room

Course Offered by Department of Agricultural Economics

Course No.	Course Title	Credit Hr.
List of Under Graduate (UG) Courses		
AEC 200	General Economics	2(2-2-0)
AAC/AEC 305	Entrepreneurship Development	1(1-1-0)
AEC 321	Agricultural Marketing, International Trade & Prices	3(2-0-1)
AEC 331	Farm Management, Production & Natural Resource Economics	2(1-2-1)
AEC 341	Agricultural Cooperation, Finance & Business Management	2(1-1-1)
AEC 345	Fisheries Economics	3(2-0-1)
AEC 348	Financing & Marketing Management in Fisheries	2(1-0-1)
AEC 364	Financial Management of Agri-business	3(1-0-2)
AEC 365	Project Formulation, Evaluation & Monitoring	3(1-0-2)
HRM/AEC 496	Entrepreneurship	4(3-0-1)
List of Post Graduate (PG) Courses		
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)
AEC 500	Micro Economic Theory & Applications	3(3-2-0)
AEC 501	Macro Economic Theory & Policy	3(3-2-0)
AEC 505	Evolution of Economic Thought	1(1-0-0)
AEC 510	Elementary Econometrics	2(1-1-1)
AEC 515	Linear Programming Methods	2(1-1-1)
AEC 520	Advance Fisheries Economics	3(2-0-1)
HRM / AEC 564	Consumption Economics	3(2-0-1)
AEC 600	Masters' Seminar	1
AEC 601	Special Problem	1(0-0-1)

AEC 602	Economics of Development & Growth	3(3-0-0)
AEC 603	Monetary Theory & Policy	2(2-0-0)
AEC 619	Research Methodology	2(1-0-1)
AEC 640	Agricultural Production Economics	2(1-1-1)
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 665	Advance Agricultural Finance	3(2-0-1)
AEC 667	Project Planning, Appraisal & Financing	2(1-0-1)
AEC 690	Masters' Thesis Research	20
AEC 700	Advance Micro Economic Theory	2(2-2-0)
AEC 701	Advance Macro Economic Theory	2(2-2-0)
AEC/AST 703	Seed Marketing & Management	2(2-2-0)
AEC 710	Advance Econometrics	3(2-0-1)
AEC 715	Operations Research for Agricultural Decisions	3(2-0-1)
AEC 720	Advance Agricultural Marketing	3(2-0-1)
AEC 725	Commodity Futures Trading	2(2-0-0)
AEC 740	Advance Production Economics	3(2-0-1)
AEC 788	Doctoral Seminar – I	1
AEC 789	Doctoral Seminar – II	1
AEC 790	Ph.D. Thesis Research	45

Department of Agrometeorology

Courses offered:

- Applied climatology
- Agricultural Meteorology
- Seminar
- Crop weather Meteorology
- Crop weather forecasting and advisories
- Remote sensing applications in agriculture
- Thesis research (Master's degree)

Department of Agronomy

Degrees Offered

- M.Sc. (Agronomy)
- Ph.D. (Agronomy)
- M.Sc. (Agroforestry)

Courses Offered :

A. Under Graduate Courses

S.NO.	Course No.	Name of Course	Credit Hours
1.	APA-101	Elementary Agriculture	3 (2-0-1x3)
2.	APA-311	Principles of Agronomy	3 (2-0-1x3)
3.	APA-312	Weed management	2 (1-0-1x3)
4.	APA-317	Irrigation Water Management	3 (2-0-1x3)
5.	APA-318	Rainfed Agriculture & Watershed Management	2 (1-0-1x3)
6.	APA-319	Organic Farming	2 (1-0-1x3)
7.	APA-321	Crop Production-I	3 (2-0-1x3)
8.	APA-322	Crop Production-II	3 (2-0-1x3)
9.	APA-351	Practical Crop Production	2 (1-0-1x3)
10.	APA-355	Production Technology of Medicinal and Aromatic Plants	2 (1-0-1x3)
11.	APA-311	Silviculture & Agroforestry	2 (1-0-1x3)
12.	ARE-310	Rural Agriculture Works Experience	

•

B. Post Graduate Courses

1.	APA-401	Elements of Crop production	3 (3-0-0)
2.	APA-402	Agro Techniques of Field Crops	3 (2-0-1x3)
3.	APA-501	Modern Concepts of Crop Production	4 (3-0-1x3)
4.	APA-503	Principles and Practices of Weed Management	3 (2-0-1x3)
5.	APA-504	Principles and Practices of water management	3 (2-0-1x3)
6.	APA-505	Principles and Practices of soil fertility and nutrient Management	4 (3-0-1x3)
7.	APA-513	Principles and Practice of Organic Farming	3 (2-0-1x3)
8.	APA-521	Agronomy of Kharif Crops	4 (3-0-1x3)
9.	APA-522	Agronomy of Rabi Crops	4 (3-0-1x3)
10.	APA/APH-531	Medicinal, Aromatic and Underutilized Crops	3(2-0-1x3)
11.	APA-600	Master's Seminar	1 (1-0-1x3)
12.	APA-603	Crop Production and System Modeling	3 (2-0-1x3)
13.	APA-604	Advances in Crop Growth and Productivity	3 (2-0-1x3)
14.	APA-606	Advances in Weed Management	2 (2-0-0)
15.	APA-608	Integrated Farming System for Sustainable Agriculture	2 (2-0-0)
16.	APA-609	Agrostology and Agroforestry	3 (2-0-1x3)
17.	APA-610	Crop Ecology	2 (1-0-1x3)
18.	APA-614	Soil Conservation and Watershed Management	3 (2-0-1x3)
19.	APA-615	Stress Crop Production	3 (2-0-1x3)
20.	APA-616	Current Trends in Agronomy	3 (1-0-1x3)

21.	APA-653	Precision Agronomy	2 (1-0-1x3)
22.	APA-690	Master's Thesis Research	20
23.	APA-702	Seed Vigour	2(1-0-1x3)
24.	APA-703	Seed and Crop Physiology	4(3-0-1x3)
25.	APA-704	Mineral Nutrition of Crop Plants	3 (2-0-1x3)
26.	APA-788	Doctoral Seminar-I	1
27.	APA-789	Doctoral Seminar-II	1
28.	APA-790	PhD Thesis Research	

C. Post Graduate Courses in Agroforestry

1.	APF-311	Silviculture and Agroforestry	2(1-0-3)
2.	APF-501	Silviculture	2(2-0-0)
3.	APF -502	Forest Biometry	3(2-0-3)
4.	APF-503	Forest Management	2(2-0-0)
5.	APF-505	Forest Ecology & Productivity Conservation	3(2-0-3)
6.	APF-507	Forest Production	2(1-0-3)
7.	APF-521	Agroforestry System	2(2-0-0)
8.	APF-522	Soil and water management in Agroforestry	3(2-0-3)
9.	APF-600	Masters Seminar	1(1-0-0)
10.	APF-622	Productivity in Agroforestry System	3(3-0-0)

Department of Entomology

Course programmes:

M.Sc. Ag. (Entomology)

Core Courses (16 credits)

APE – 501	Insect Morphology	2(1–0–1)
APE – 502	Insect Anatomy, Physiology and Nutrition	3(2–0–1)
APE – 507	Biological Control of Crop Pests and Weeds	2(1–0–1)
APE – 508	Toxicology of Insecticides	3(2–0–1)
APE – 510	Principles of Integrated Pest management	2(1–0–1)
APE – 553	Insect Taxonomy	3(2–0–1)
APE – 600	Master's Seminar	1

	Sub total	16
Basic Supporting Courses (5 credits)		
BPS – 661	Experimental Statistics	4(3–0–1)
BHS – 610	Storage and Retrieval of Scientific Information	1(1–0–0)
	Sub total	5
Optional /Minor Courses (9 credits)		9
Thesis Research (20 credits)		
APE – 690	Master Thesis Research	20
	Total	50

Ph.D. (Entomology)

Core Courses (11 credits)

APE – 705	Insect Behaviour	2(1–0–1)
APE – 711	Molecular Approaches in Entomological Research	2(1–0–1)
APE – 712	Advanced Integrated Pest Management	2(2–0–0)
APE – 718	Entomological Technique	1(0–0–1)
APE – 753	Insect Host Plant Relationship	2(1–0–1)
APE – 788	Doctoral Seminar – I	1
APE – 789	Doctoral Seminar – II	1
	Sub total	11
Basic Supporting Courses (6 credits)		
BBC – 501	General Biochemistry	3(3–0–0)
BMB – 520	Fundamentals of Molecular Biology	3(3–0–0)
	Sub total	6
Optional Courses (3 credits)		3
Minor courses (10 credits) for other Department		10
Any 10 credits from the following courses		
APE – 505	Insect Ecology	2(1–0–1)
APE – 506	Insect Pathology	2(1–0–1)
APE – 507	Biological Control of Crop Pests and Weeds	2(1–0–1)
APE – 508	Toxicology of Insecticides	3(2–0–1)
APE – 510	Principles of Integrated Pest Management	2(1–0–1)
APE – 614	Agriculture Zoology	2(1–0–1)
APE – 518	Techniques in Plant Protection	1(0–0–1)
Thesis Research (45 credits)		

APE – 790	Ph.D. Research Thesis	45
	Total	75

List of Courses of the Department

APE – 501	Insect Morphology	2(1–0–1)
APE – 502	Insect Anatomy, Physiology and Nutrition	3(2–0–1)
APE – 505	Insect Ecology	2(1–0–1)
APE – 506	Insect Pathology	2(1–0–1)
APE – 507	Biological Control of Crop Pests and Weeds	2(1–0–1)
APE – 508	Toxicology of Insecticides	3(2–0–1)
APE – 510	Principles of Integrated Pest Management	2(1–0–1)
APE – 513	Storage Entomology	2(1–0–1)
APE – 518	Techniques in Plant Protection	1(0–0–1)
APE – 519	Commercial Entomology	2(1–0–1)
APE – 553	Insect Taxonomy	3(2–0–1)
APE – 600	Master's Seminar	1(0–0–1)
APE – 601	Special Problem	2(0–0–2)
APE – 614	Agricultural Zoology	2(1–0–1)
APE – 690	Master Thesis Research	20
APE – 701	Advanced Insect Systematics	3(1–0–2)
APE – 703	Advanced Insect Physiology	2(1–0–1)
APE – 705	Insect Behaviour	2(1–0–1)
APE – 706	Recent Trends in Biological Control	2(1–0–1)
APE – 707	Advanced Insecticide Toxicology	3(2–0–1)
APE – 711	Molecular Approaches in Entomological Research	2(1–0–1)
APE – 712	Advanced Integrated Pest Management	2(2–0–0)
APE – 718	Entomological Technique	1(0–0–1)
APE – 753	Insect Host Plant Relationship	2(1–0–1)
APE – 788	Doctoral Seminar – I	1
APE – 789	Doctoral Seminar – II	1
APE – 790	Ph.D. Thesis Research	45

Department of Food Science & Technology

Departmental Courses Offered:

B. Sc Agriculture

- Elements of Food Technology
- Post Harvest Management & Processing of Fruits & Vegetables

B. Sc. Horticulture

- Food Science & Human Nutrition
- Practical Horticultural Production (Food Processing & Preservation)
- Processing of Horticultural Crops

B. Sc (Food Technology)

Four year degree programme consists of 160-147 credits hours (51-52 courses) spread in 8 semesters. The programme has courses from Departments of Chemistry, Microbiology, Mathematics & Computer Science, Biological Science, Physics, Social Science & Humanities, Physics, Civil Engg, Electrical Engg, Electronics & Communication Engg., Post Harvest Process & Food Engg., Livestock Products Technology, Fish Processing Technology, Entomology, Agronomy, Agriculture Communication & Extension, Agricultural Economics, Entomology, Horticulture , Foods & Nutrition , Food Science & Technology and College of Agri Business Management. Last semester of programme is devoted to Industrial Training.

Departmental Courses

• Fundamentals of Food Processing
• Introduction to Food Chemistry
• Fundamentals of Food Microbiology
• Food Hygienic & Sanitation
• Fundamentals of Milk Processing
• Food Analysis
• Food Laws and Quality Assurance
• Concentrated & Dehydrated Milk Products
• Fermented & Coagulated Milk Products
• Technology of Cereals and Millets
• Bakery & Confectionery Products
• Technology of Pulses & Oilseeds
• Post Harvest Physiology and Handling of Fruits & Vegetables
• Principles of Fruits and Vegetables Technology
• Processed Fruits & Vegetables Products
• Technology of Spices and Plantation Products
• Packaging of Fresh and Processed Foods
• Industrial Training

M. Sc. (Food Technology)

Programme consists of Core Courses (11credits), Basic Supporting Courses (9 credits), Optional Courses (10 credits) and Thesis Research (20 credits).

Core Courses

- ☐ Principles of Food Processing
- ☐ Food Chemistry & Nutrition
- ☐ Food Microbiology
- ☐ Master's Seminar
- ☐ Thesis Research

Ph. D (Food Technology)

Three year programme consists of Core Courses (12 credits), Basic Supporting Courses (3 credits), Optional Courses (10 credits) and Thesis Research (45 credits).

Core Courses

- Modern Techniques in Food Processing
- Advanced Food Chemistry
- Advances in Food Microbiology
- Advanced Food Analysis
- Product Design & Development
- Doctoral Seminar I
- Doctoral Seminar II
- Thesis Research

Optional courses for M. Sc and Ph. D (Food Technology)

- Fundamentals of Food Chemistry
- Technology of Milk & Milk Products
- Technology of Cereals, Pulses & Oilseeds
- Technology of Meat , Fish & Poultry Products
- Technology of Fruits & Vegetables
- Food Analysis & Quality Management
- Food Packaging Technology
- Additives, Ingredients & Enzymes Technology
- Beverage & Snack Foods Technology
- Current topics in Food Science & Technology
- Food Plant Sanitation
- Enzymes in Food Processing
- Food Beverages
- Product Development

Department of Genetics & Plant Breeding

DEGREES OFFERED

- **M. Sc. Ag.** (Genetics & Plant Breeding)
- **Ph. D** (Genetics & Plant Breeding)
- **Ph.D** (Seed Science and Tech.)

COURSES OFFERED UNDER DIFFERENT PROGRAMMES

1. Ph.D. (Genetics & Plant Breeding)

Core Courses:		
Course No.	Name of the course	Credits Hrs
AGP 720	Advances in Plant Breeding Systems	2(2-0-0)
AGP 724	Genomics in Crop Improvement	2(2-0-0)
AGP 725	Molecular and Chromosomal Manipulation for Crop Breeding	2(2-0-0)
AGP 730	Advanced Biometrical and Quantitative Genetics	3(2-0-1)
AGP 788	Doctoral Seminar I	1(1-0-0)
AGP 789	Doctoral Seminar II	1(1-0-0)
	Total	11

Basic Supporting Courses		
BPS 662	Advanced Experimental Designs	3(2-0-1)
Optional courses		6
Credit for Minor Package		10
AGP 790	Thesis Research	45
	Total	75

List of Optional Courses		
AGP 610	Plant Genetic Resources and Crop evolution	3(2-0-1)
AGP 622	Breeding for Biotic and Abiotic Stress Resistance	3(3-0-0)
AGP 625	Maintenance Breeding, Variety Release and Seed Production	2(1-0-1)
AGP 630	Breeding for Crop Quality	2(1-0-1)
AGP 640	Heterosis Breeding	2(1-0-1)
AGP 650	Mutagenesis and Mutation Breeding	2(2-0-0)
AGP 520	Breeding Field Crops-I	2(1-0-1)
AGP 530	Breeding Field Crops-II	2(1-0-1)
AGP 540	Cell Biology, Molecular Genetics and Gene Regulation	3(3-0-0)
AGP	Advanced Plant Breeding	3(3-0-0)

560		
AGP550	Principles of Cytogenetics	3(2-0-1)
AGP 570	Principles of Quantitative Genetics	3(2-0-1)
AGP624	Biotechnology for Crop Improvement	3(2-0-1)
AGP 688	Doctoral Seminar I	1(1-0-0)

Minor Package for students of other Departments/Majors		
AGP 540	Cell Biology, Molecular Genetics and Gene Regulation	3(3-0-0)
AGP 560	Advanced Plant Breeding	3(3-0-0)
Any 500 series and above courses of 2-4 credits from list of the courses of the Department/ Programme		2-4

2. M. Sc. Ag. (Genetics & Plant Breeding)

Course No. & Name of the Course		Credits Hrs
Core Courses		
AGP 520	Breeding Field Crops-I	2(1-0-1)
AGP 530	Breeding Field Crops-II	2(1-0-1)
AGP 540	Cell Biology, Molecular Genetics and Gene Regulation	3(3-0-0)
AGP550	Principles of Cytogenetics	3(2-0-1)
AGP 560	Advanced Plant Breeding	3(3-0-0)
AGP 570	Principles of Quantitative Genetics	3(2-0-1)
AGP600	Masters Seminar	1(1-0-0)
Total		20
Basic Supporting Courses		
BPS661	Experimental Statistics	4(3-0-1)
AGP 690	Thesis Research	20
Credits for Optional/Minor Courses		6
		50

Total		
List of Optional Courses		
AGP 610	Plant Genetic Resources and Crop evolution	3(2-0-1)
AGP 622	Breeding for Biotic and Abiotic Stress Resistance	3(3-0-0)
AGP 625	Maintenance Breeding, Variety Release and Seed Production	2(1-0-1)
AGP 630	Breeding for Crop Quality	2(1-0-1)
AGP 640	Heterosis Breeding	2(1-0-1)
AGP 650	Mutagenesis and Mutation Breeding	2(2-0-0)
AGP 624	Biotechnology for Crop Improvement	3(2-0-1)
AGP 601	Special Problem	1 – 2
Compulsory Deficiency Courses		
AGP 411	Principles of Genetics	3(2-0-1)
AGP 421	Principles of Plant Breeding	3(3-0-0)
For Biology Group		
APA 401	Elements of Crop Production	3(2-0-1)
APP 401	Introductory Plant Pathology	3(2-0-1)
APH 401	Introduction to Horticulture	3(2-0-1)

3. Ph.D. (Seed Technology)

Course No. & Name of the Course		Credits Hrs	
Core Courses			
AGP/AST 701	Hybrid Seed Production	2 (1-0-1)	
AGP/AST 704	Seed Laws and DUS Testing for Plant Variety Protection	3 (2-0-1)	
AST 705	Advances in Seed Science Research	1(1-0-0)	
AST 788	Doctoral Seminar I	1(1-0-0)	
AST 789	Doctoral Seminar II	1(1-0-0)	
Total		8	
Basic Supporting Courses			
BBC 501	General Biochemistry	3 (3-0-0)	
BBC 505	Basic Techniques in Biochemistry	1 (0-0-1)	
BPY 608	Seed Physiology	3 (2-0-1)	
Total		7	
Credits for Optional courses		5	
Credit for Minor Package		10	
AST 790	Ph.D. Thesis Research	45	
Grand Total		75	
List of Optional Courses			
APA/AST	Seed Vigour	2 (1-0-1)	

702		
AGP 610	Plant Genetic Resources and Crop Evolution	3 (2-0-1)
APP 710	Seed Health Technology	3 (2-0-1)
APV 535	Seed Production Technology of Vegetable Crops	3 (2-0-1)
AEC/AST 703	Seed Marketing and Management	2 (1-0-1)
AST 601	Special Problem	1-2
Minor Package for students of other Departments/Majors		
AGP/AST 701	Hybrid Seed Production	2 (1-0-1)
AGP/AST 704	Seed Laws and DUS Testing for Plant Variety Protection	3 (2-0-1)
Any 500 series and above, courses of 5 credits from the list of courses of the Multi Disciplinary Programme		5
Total		10

Department of Horticulture:

Degrees Offered:

- 1) Ph.D. (Horticulture)
- 2) M.Sc. Ag. (Horticulture)
- 3) Ph.D. Horticulture (Floriculture and Landscaping)
- 4) M.Sc. Ag. Horticulture (Floriculture and Landscaping)

1. Courses for the degree of Ph.D. Horticulture

Course No.	Course Title	Cr.Hrs.
A. Core Courses		
1. APH-600	Seminar	2
2. APH-711	Nutrition of Fruit Crops	3
3. APH-731	Post Harvest Physiology of Horticultural Crops	3
4. APH-733	Research Methods in Horticulture Crops	2
B. Basic Supporting Courses		
BBC-502	General Biochemistry-II	4
C. Credits for Optional Courses (Six credits)		
D. Credits for minor package (Ten credits)		
E. Compulsory deficiency courses :		

F. Ph.D Thesis Research		
1. APH-790	Ph.D. Thesis	30

DEPARTMENT OF PLANT PATHOLOGY

Under graduate courses:

Sl. No.	Course N0.	Course name	Credit
1.	APP-312	Introductory Plant Pathology	3(2-0-3)
2.	APP-314	Crop Diseases & their Management	2(1-0-3)
3.	APP-330	Diseases of Fruit and Vegetable Crops	2(1-0-3)
4	APP/APE-322	Integrated Pest & Disease Management	2(1-0-3)
5.	APP-381	Mushroom Cultivation	1(0-0-1x2)
6.	APP-382	Biological Control of Plant Pathogens	2(0-0-2x2)

Post graduate courses:

Sl. No.	Course N0.	Course name	Credit
1.	APP-401	Introductory Plant Pathology	3(2-0-1)
2.	APP-410	Diseases of Field Crops	3(2-0-1)
3.	APP-430	Diseases of Horticultural Crops	3(2-0-1)
4	APP-507	Disease of Field and Medicinal Plants	3(2-0-1)
5.	APP-508	Disease of Fruits, and Ornamental Crops	3(2-0-1)
6.	APP-509	Disease of Vegetable and Spice Crops	3(2-0-1)
7.	APP/ENT- 514	Insects Vector of Plant Viruses and other Pathogens	2(1-0-1)
8.	APP-515	Biological Control of Plant Diseases	3(2-0-1)
9.	APP-516	Integrated Disease Management	3(2-0-1)
10.	APP-517	Mushroom Production Technology	3(2-0-1)
11.	APP-519	Post Harvest Diseases	3(2-0-1)
12.	APP/ENT-520	Plant Quarantine	2(2-0-0)
13.	BBB-599	Mycology	3(2-0-1)
14.	APP-600	Master's Seminar	1(0-0-1)
15.	APP-601	Special Problem	1
16.	APP-602	Plant Virology	3(2-0-1)
17.	APP-603	Plant Bacteriology	3(2-0-1)
18.	APP-604	Principles of Plant Pathology	3(3-0-0)
19.	APP-606	Principles of Plant Disease Management	3(2-0-1)

20.	APP-607	Plant Biosecurity and Biosafety	2(2-0-0)
21.	APP-611	Chemicals in Plant Disease Management	3(2-0-1)
22.	BBB-615	Advanced Mycology	3(2-0-1)
23.	APP-616	Advanced Plant Virology	3(2-0-1)
24.	APP-617	Advanced Bacteriology	3(2-0-1)
25.	APP-618	Principles and Procedures of Certification	1(1-0-0)
26.	APP-622	Techniques in Phytonematology	1(0-0-1)
27.	APP-624	Cultural & Chemical Control of Plant Parasitic Nematodes	2(1-0-1)
28.	APP-630	Phytonematology	2(1-0-1)
29.	APP-690	Master's Thesis Research	20
30.	APP-704	Molecular Basis of Host Pathogen Interaction	3(2-0-1)
31.	APP-710	Seed Health Technology	3(2-0-1)
32.	APP-712	Ecology of Soilborne Plant Pathogens	3(2-0-1)
33.	APP-713	Disease Resistance in Plants	2(2-0-0)
34.	APP-718	Epidemiology and Forecasting of Plant Diseases	3(2-0-1)
35.	APP-788	Doctoral Seminar I	1(0-0-1)
36.	APP-789	Doctoral Seminar II	1(0-0-1)
37.	APP-790	Ph.D. Thesis Research	45

DEPARTMENT OF SOIL SCIENCE

COURSES OFFERED

Course No.	Title of the Course	Credit hr.
Under Graduate Courses		
APS-102	Agriculture for Engineers (B. Tech. Ag. Engg.)	4(3+1)
APS-220	Agricultural Microbiology	2(2+1)
APS-320	Fundamentals of Soil Science	3(2+1)
APS-330	Soil Fertility, Manure, fertilizer and INM	3(2+1)
APS-340	Conservation and management of soil water resources	2(1+1)
APS-366	Soil Quality Analysis and Management	2(0+2x2)
ARE-390	Plant Clinic (RAWE)	4(0+4)
APS-101	Work Programme	1(0+1)
Deficiency courses for post-graduate students (non-agriculture graduate)		
APS-401	Basics of Soil Science	3(2+1)
APS-430	Soil Survey	3(2+1)
APS-468	Soil testing and fertilizer recommendation	2(1+1)
Post Graduate courses		
APS-500	Soil Physics	3(2+1)
APS-515	Analytical techniques and Instrumental methods in soil and plant analysis	2(0+2)
APS-516	Soil Fertility and Fertilizer Use	4(3+1)
APS-517	Soil Chemistry	3(2+1)

APS-518	Soil Biology and Biochemistry	3(2+1)
APS-519	Soil Mineralogy, Genesis, Classification and Survey	3(2+1)
APS-580	Soil Erosion and Conservation	3(2+1)
APS-600	Master Seminar	1(0+1)
APS-601	Special Problem	1-2
APS-610	Management of Problematic Soils and Water	3(2+1)
APS-615	Fertilizer Technology	1(1+0)
APS-620	Land Degradation and Restoration	1(1+0)
APS-640	Soil Plant Microbe Relationship	3(3+0)
APS-705	Remote Sensing & GIS Techniques for soil and crop studies	3(2+1)
APS-710	Advances in Soil Physics	2(2+0)
APS-720	Advances in Soil Fertility	2(2+0)
APS-730	Biochemistry of Soil Organic Matter	2(2+0)
APS-788	Doctoral Seminar-I	1(0+1)
APS-789	Doctoral Seminar-II	1(0+1)
Minor package		
APS-500	Soil Physics	3(2+1)
APS-515	Analytical techniques and Instrumental methods in soil and plant analysis	2(0+2)
APS-516	Soil Fertility and Fertilizer Use	4(3+1)
APS-	Optional course	1 cr.

Department of Vegetable Science

Courses offered

1. Ph. D.

Course No.	Title of course	Credit hours
Core Courses		
APV 702	Advances in Vegetable Breeding	3
APV 712	Advances in Vegetable Crops Physiology	3
APV 600	Seminar	2
APV 790	Thesis Research	30

Basic Supporting Courses

Course No.	Title of course	Credit hours
BBC 502	General Biochemistry II	4

2. M. Sc.

Core Courses

Course No.	Title of course	Credit hours
APV 502	Breeding of Self-pollinated Vegetable Crops	3
APV 504	Breeding of Cross-pollinated vegetable Crops	3
APV 512	Production of Winter Vegetable Crops	3
APV 514	Production of Summer Vegetable Crops	3
APV 522	Spices and Condiments	2
APV 524	Vegetable Seed Production	3
APV 600	Seminar	1

Basic Supporting Courses

Course No.	Title of course	Credit hours
BPS 661	Experimental Statistics	4
-	Credits for Optional Courses/Minor Package	8
APV 690	Thesis Research	15

Deficiency Courses for students coming from ZBC group

Course No.	Title of course	Credit hours
APH 401	Introduction to Horticulture	3
APA 401	Elements	3
APP 401	Introduction to Plant Pathology	3
AGP 421	Principles of Plant Breeding	3
APV 310	Vegetable Production	3

Optional Courses

2 or 4 credits from other courses of 500-600 series of the department

Other courses of the department

Course No.	Title of course	Credit hours
APV/APH 516	Advanced Olericulture	3
APV 602	Sytematic Kolericulture	3
APV 604	Vegetable Crop Genetic Resources	2
APV 606	Vegetable Breeding for Stress Resistance	3
APV 614	Vegetable forcing Techniques	3

APV 622	Tuber Crops	2
---------	-------------	---

3. B. Sc. Ag.

Course No.	Title of course	Credit hours
APV 310	Vegetable Production	3
APV 362	Home Gardening	3