

# **College of Veterinary & Animal Sciences**

## **Course Curriculum**

### **B.V.Sc & A.H. Degree Programme**

**(As per Veterinary Council of India – MSVE 2016)**



**2019**

**Sardar Vallabhbhai Patel University of Agriculture &  
Technology,  
Meerut-250110 (U.P.)**

  
REGISTRAR  
S.V.B.P.U.A.&T., MEERUT

---

---

**Chief Patron:** Prof. Gaya Prasad  
Vice-Chancellor, Sardar Vallabhbhai Patel University of  
Agriculture & Technology, Meerut-250110 (U.P.)

**Patron:** Dr Rajbir Singh  
Dean, College of Veterinary & Animal Sciences

**Compiled by:** Dr V. P. Singh  
Associate Professor, LPT & Academic Coordinator  
College of Veterinary & Animal Sciences

**Supported by:** Dr Harshit Verma  
Assistant Professor, Department of Veterinary Microbiology

**University Website:** Svbpmeerut.ac.in

**Published by:** Sardar Vallabhbhai Patel University of Agriculture &  
Technology, Meerut-250110 (U.P.)

**Printed by:** Saumya Computers, Meerut

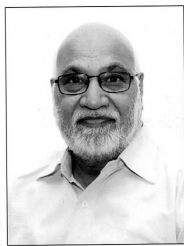
---

---

  
REGISTRAR  
S.V.B.P.U.A.&T., MEERUT

सरदार वल्लभभाई पटेल कृषि एवं प्रौद्योगिक विश्वविद्यालय, मेरठ 250110  
SARDAR VALLABHBHAI PATEL UNIVERSITY OF AGRI. & TECH. MEERUT - 250 110

प्रोफेसर गया प्रसाद  
कुलपति  
Professor Gaya Prasad  
Vice Chancellor

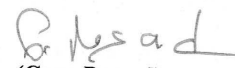


Phone 0121-2888522 (O)  
0121-2888566 (R)  
Fax 0121-2888505  
Web svbpmeerut.ac.in  
E-mail vc2016svpuat@gmail.com

**Forward**

I am pleased to note that the College of Veterinary and Animal Sciences is bringing out the syllabi booklet on Bachelor of Veterinary Science and Animal Husbandry (B.V.Sc & A.H.) course curriculum as prescribed by Veterinary Council of India (VCI). This booklet provides the description of courses of study consisting of curriculum and syllabus spread over five and half complete professional years including a compulsory internship of one year duration. The course content of each discipline comprises of theory and practical sections grouped in various units.

I believe that the syllabi booklet would prove to be the ready reckoner for comprehensive understanding of individual topics and content of the courses. I hope the efforts of the college team in compilation of syllabi as academic document shall be of immense value to all stakeholders including students and teachers.

  
(Gaya Prasad)



Registrar  
Sardar Vallabhbhai Patel University of  
Agriculture & Technology, Meerut-  
250110



---

**Message**

Livestock have been an integral component of India's agricultural and rural economy since time immemorial. They are natural capital that can be easily reproduced to act as a living bank with offspring as interest, and an insurance against crop failure and natural calamities. College of Veterinary and Animal Sciences is fully devoted to take care the livestock sector in terms of specialized human resource generation. So it is need of today to ensure best possible learning experience to the students through teaching skills and learning opportunities. Therefore, it is essential to strengthen the course curriculum for undergraduate students. Veterinary council of India since its inception is regulating the undergraduate veterinary education in the country. The course curriculum developed by VCI is comprehensive and sufficient to ensure quality education to the B.V.Sc & A.H. students.

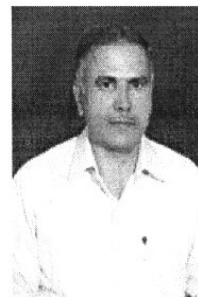
I hope the course curriculum and syllabi booklet is being published by the College of Veterinary and Animal Sciences will provide consolidated insight of the syllabi to be taught during B.V. Sc & A.H. degree programme. I congratulate Dr Rajbir Singh and entire College of Veterinary and Animal Sciences team for preparing and publishing the syllabi booklet.

(Ashok Kumar)





Dean  
College of Veterinary and Animal Sciences  
Sardar Vallabhbhai Patel University of  
Agriculture & Technology, Meerut-  
250110



Message

It is a matter of great pleasure that college of Veterinary and Animal Sciences is publishing the course curriculum of B.V.Sc & A.H. degree programme in booklet form. It is a comprehensive course syllabus of all seventeen departments as prescribed by Veterinary Council of India (VCI). The course curriculum is basically divided in four and half years of professional courses and one year of compulsory internship. Each subject of the curriculum comprises of both theory and practical content separately. In my opinion the syllabus compiled by the college team may be of great value for the students and faculty members. Students can plan the study accordingly and faculty members can plan the teaching and practical schedule timely.

I am highly grateful to the Hon'ble Vice-Chancellor for valuable suggestions and granting the permission to publish the booklet for the benefits of students, faculty members and other stakeholders. I congratulate the team of college for their sincere and innovative efforts in bringing out the syllabi booklet.

  
(Rajbir Singh)

  
REGISTRAR  
S.V.B.P.U.A.&T., MEERUT

## INDEX

S.No.	Title /Department	Page No.
1.	Executive summary	-
2.	Courses and course contents summary	-
3.	Veterinary Anatomy	1-4
4.	Veterinary Physiology & Biochemistry	5-9
5.	Livestock Production & Management	10-13
6.	Veterinary Microbiology	14-16
7.	Veterinary Pathology	17-19
8.	Animal Genetics & Breeding	20-21
9.	Animal Nutrition	22-23
10.	Veterinary Pharmacology and Toxicology	24-26
11.	Veterinary Public Health & Epidemiology	27-29
12.	Veterinary Parasitology	30-32
13.	Livestock Products Technology	33-34
14.	Veterinary Extension & Animal Husbandry Extension Education	35-37
15.	Veterinary Clinical Complex	38-41
16.	Livestock Farm Complex	42
17.	Veterinary Surgery & Radiology	43-47
18.	Veterinary Medicine	48-50
19.	Veterinary Gynaecology & Obstetrics	51-53
20.	Internship Programme	54

  
 REGISTRAR  
 G.V.B.P.U.A.&T., MEERUT

### **Syllabus for Internship Programme**

(Final assessment of interns will be based on the objective of having achieved following core competency)

Restraint of cow, sheep, horse, dog and pig; Haltering, snaring, muzzling, tail switch, bandaging of horse for exercise and stable bandaging; animal identification, dentition and ageing of animals; housing layout or requirements of livestock and poultry; computation of ration of livestock of different breeds and age groups in health and disease; fodder management and interpretation of feed quality evaluation; physical evaluation of livestock health parameters (auscultation, percussion, recording of temperature, pulse, heart rate, respiration rate etc.); recording and interpretation of cardiovascular response; testing of milk and milk products for quality, clean milk production; carcass quality evaluation (ante-mortem & post-mortem examination); specific diagnostic tests for zoonotic diseases; sample collection, handling and dispatch of biological materials for laboratory examination; staining techniques for routine clinico-pathological examinations; relating post-mortem lesions to major livestock diseases; haematological evaluation (total leukocyte count, differential leukocyte count, haemoglobin, packed cell volume, erythrocyte sedimentation rate etc.) and interpretation; tests and their interpretation for haemoprotozoan diseases; body fluids collection, examination and interpretation as an aid to diagnosis; urine evaluation procedures and interpretation as indicators for diagnosis of diseases; fecal examination- procedures and interpretation; examination of skin scrapings and interpretation; interpretation of blood chemistry profile in diseases; deworming procedures and doses for different species of animals or birds; managing an outbreak of infectious or contagious disease; approach to diagnosis of a given disease condition; pre-anesthetic administration and induction, maintenance of general anaesthesia and dealing with anesthetic emergencies; local anaesthetic administration; nerve blocks- sites, functional application; suture material, suture pattern and tying knots; common surgical procedures including dehorning, docking, caesarian section, ovariohysterectomy, castration, rumenotomy; application of plaster castorsplint for fracture immobilization and other bandaging procedure in large and small animals; soundness in horses; rectal examination- palpation of pelvic or abdominal organs in cattle or horses or buffaloes, detection of oestrus, artificial insemination, pregnancy diagnosis; management of vaginal or uterine prolapse and dystocia; andrological examination of bull, handling, preservation and evaluation of semen; vaccination procedures, vaccination schedules and vaccine types for different diseases; handling of radiograph, interpretation of a given radiograph of large and small animals; client management; managing a clinical practice, ambulatory van, transporting a sick animal requirements, etc.; dosage regimens of important drugs; drug administration techniques in different species of animals-oral, parenteral, rectal, intra-peritoneal and intra-uterine; identification of major livestock or poultry breeds; measuring climatic parameters and their interpretation; communication technology tools.



REGISTRAR  
G.V.B.P.U.A.&T., MEERUT



# COLLEGE OF POST HARVEST TECHNOLOGY & FOOD PROCESSING

## B.Tech. ( Dairy Technology) Programme (As per ICAR 5<sup>th</sup> Dean's Committee Recommendations Report)

### Department-wise distribution of Credit Load

#### Names of Departments

1. Dairy Technology
2. Dairy Engineering
3. Dairy Chemistry
4. Dairy Microbiology
5. Dairy Business Management


#### DEPARTMENT-WISE COURSES


##### Dairy Technology

S.N	Discipline	Discipline and Title of the Course	Credit Hours
1	DDT- 211	Market Milk	4 (3+1)
2	DDT- 212	Traditional Indian Dairy Products	3 (2+1)
3	DDT- 213	Fat Rich Dairy Products	3 (2+1)
4	DDT- 214	Condensed & Dried Milks	4 (3+1)
5	DDT- 221	Cheese Technology	5 (3+2)
6	DDT - 222	Ice-cream & Frozen Deserts	3 (2+1)
7	DDT- 311	By Products Technology	3 (2+1)
8	DDT- 312	Packaging of Dairy Products	3 (2+1)
9	DDT- 321	Sensory Evaluation of Dairy Products	3 (2+1)
10	DDT- 322	Food Technology - I	3(2+1)
11	DDT- 421	Dairy Plant Management	2 (1+1)
12	DDT- 422	Waste Disposal & Pollution Abatement	2 (1+1)
13	DDT- 423	Food Technology -II	3 (2+1)
		Total	41 (27+14)

##### Dairy Engineering

S.N	Discipline	Discipline and Title of the Course	Credit Hours
1	DDE- 111	Workshop Practice	2 (1+1)
2	DDE- 112	Fluid Mechanics	3 (2+1)
3	DDE -113	Engineering Drawing	1 (0+1)
4	DDE- 121	Thermodynamics	2 (1+1)
5	DDE- 122	Heat & Mass Transfer	3 (2+1)
6	DDE -123	Boilers and Steam Generation	2 (1+1)

  
Dean  
College of Agriculture

  
REGISTRAR  
S.V.B.P.U.A.&T., MEERUT  
कुलसचिव  
संव०प० कृषि एवं प्रौ० विश्वविद्यालय  
मेरठ-250110 (उ०प्र०)



7	DDE -124	Basic Electrical Engineering	3 (2+1)
8	DDE - 211	Refrigeration & Air-conditioning	3 (2+1)
9	DDE - 212	Dairy Engineering	3 (2+1)
10	DDE - 221	Dairy Process Engineering	3 (2+1)
11	DDE - 311	Instrumentation and Process Control	3 (2+1)
12	DDE - 321	Food Engineering	3 (2+1)
13	DDE - 322	Material Strength & Dairy Machine Design	3 (2+1)
14	DDE - 323	Dairy Plant Design and Layout	2(1+1)
15	DDE - 324	Energy Conservation and Management	2(1+1)
<b>Total</b>			<b>38 (23+15)</b>

#### Dairy Chemistry

S.N	Discipline	Discipline and Title of the Course	Credit Hours
1	DDC - 121	Physical Chemistry of Milk	3 (2+1)
2	DDC - 111	Biochemistry	2 (1+1)
3	DDC - 211	Human Nutrition	2 (1+1)
4	DDC - 122	Chemistry of Milk	3 (2+1)
5	DDC - 221	Chemistry of Dairy Products	3 (2+1)
6	DDC - 311	Chemical Quality Assurance	2 (1+1)
7	DDC - 321	Food Chemistry	3 (2+1)
<b>Total</b>			<b>18 (11+7)</b>

#### Dairy Microbiology

S.N	Discipline	Discipline and Title of the Course	Credit Hours
1	DDM - 111	Fundamentals of Microbiology	3 (2+1)
2	DDM - 121	Microbiology of fluid milk	2 (1+1)
3	DDM - 222	Microbiology of Dairy Products	2 (1+1)
4	DDM - 221	Starter Cultures and Fermented Milk Products	3 (2+1)
5	DDM - 311	Quality and Safety Monitoring in Dairy Industry	3 (2+1)
6	DDM - 321	Food and Industrial Microbiology	3 (2+1)
<b>Total</b>			<b>16 (10+6)</b>

#### Dairy Business Management

S.N	Discipline	Discipline and Title of the Course	Credit Hours
1	DBM - 111	Milk Production Management and Dairy Development	3 (2+1)
2	DBM - 113	Computer and Application Software Packages	2 (1+1)
3	DBM - 121	Economic Analysis	2 (2+0)
4	DBM - 114	Environmental Studies	2 (1+1)

कुलसचिव  
संव०प० कृषि एवं प्रौ० विश्वविद्यालय  
मेरठ-250110 (उ०प्र०)

Dean  
College of Agriculture

REGISTRAR  
S.V.B.P.U.A.&T., MEERUT




5	DBM - 311	ICT in Dairy Industry and Operation Research	4(2+2)
6	DBM - 221	Fundamentals of Dairy Extension	3 (2+1)
7	DBM - 312	Marketing Management & International Trade	2 (2+0)
8	DBM - 112	Communication Skills	2 (1+1)
9	DBM - 423	Industrial Statistics	2 (2+0)
10	DBM - 421	Entrepreneurship Development and Industrial Consultancy	2 (2+0)
11	DBM - 422	Financial Management and Cost Accounting	3 (2+1)
		<b>Total</b>	<b>27 (19+8)</b>


### Semester Wise Distribution of Courses

#### Semester - I

S.N.	Discipline	Title of the Course	Credit Hours
1	DDE-111	Workshop Practice	2 (1+1)
2	DDE- 112	Fluid Mechanics	3 (2+1)
3	DDE- 113	Engineering Drawing	1 (0+1)
4	DDM - 111	Fundamentals of Microbiology	3 (2+1)
5	DBM - 111	Milk Production Management and Dairy Development	3 (2+1)
6	DBM - 112	Communication Skills	2 (1+1)
7	DBM - 113	Computer and Application Software Packages	2 (1+1)
8	DDC - 111	Biochemistry	2 (1+1)
9	DBM - 114	Environmental Studies	2 (1+1)
		<b>Total</b>	<b>20 (11+9)</b>

REGISTRAR  
S.V.B.P.U.A.&T., MEERUT

  
**Dean**  
**College of Agriculture**

  
कुलसचिव  
संव०प० कृषि एवं प्रौ० विश्वविद्यालय  
मेरठ-250110 (उ०प्र०)



### Semester – II

S.N	Discipline	Title of the Course	Credit hours
1	DDE – 121	Thermodynamics	2 (1+1)
2	DDC – 121	Physical Chemistry of Milk	3 (2+1)
3	DDE – 122	Heat & Mass Transfer	3 (2+1)
4	DDE – 123	Boilers and Steam Generation	2 (1+1)
5	DDE – 124	Basic Electrical Engineering	3 (2+1)
6	DDM – 121	Microbiology of fluid milk	2 (1+1)
7	DBM – 121	Economic Analysis	2 (2+0)
8	DDC – 122	Chemistry of Milk	3 (2+1)
		<b>Total</b>	<b>20 (13+7)</b>
9	DRW - 121	Student READY Rural Dairy Work Experience Programme-I (Summer Break)	<b>5 (0+5)</b>

### Semester – III

S.N	Discipline	Title of the Course	Credit Hours
1	DDT – 211	Market Milk	4 (3+1)
2	DDT – 212	Traditional Indian Dairy Products	3 (2+1)
3	DDE – 211	Refrigeration & Air-conditioning	3 (2+1)
4	DDE – 212	Dairy Engineering	3 (2+1)
5	DDT – 213	Fat Rich Dairy Products	3 (2+1)
6	DDT – 214	Condensed & Dried Milks	4 (3+1)
7	DDC – 211	Human Nutrition	2 (1+1)
		<b>Total</b>	<b>22 (15+7)</b>

### Semester – IV

S.N	Discipline	Title of the Course	Credit Hours
1	DDE – 221	Dairy Process Engineering	3 (2+1)
2	DDM – 221	Starter Cultures and Fermented Milk Products	3 (2+1)
3	DDM – 222	Microbiology of Dairy Products	2 (1+1)
4	DDT – 221	Cheese Technology	5 (3+2)
5	DDT – 222	Ice-cream & Frozen Deserts	3 (2+1)
6	DDC – 221	Chemistry of Dairy Products	3 (2+1)
7	DBM – 221	Fundamentals of Dairy Extension	3 (2+1)
		<b>Total</b>	<b>22 (14+8)</b>
8	DRW - 221	Student READY Rural Dairy Work Experience Programme-II (Summer Break)	<b>5 (0+5)</b>

### Semester – V

S.N.	Discipline	Title of the Course	Credit Hours
1	DDE - 311	Instrumentation and Process Control	3 (2+1)

Dean

College of Agriculture

कुलसचिव

संवर्धन कृषि एवं प्रौद्योगिकी विभाग  
मेरठ-250110 (उ०प्र०)

REGISTRAR

U.A.&T., MEERUT



2	DDM – 311	Quality and Safety Monitoring in Dairy Industry	3 (2+1)
3	DDT – 311	By Products Technology	3 (2+1)
4	DDT – 312	Packaging of Dairy Products	3 (2+1)
5	DDC – 311	Chemical Quality Assurance	2 (1+1)
6	DBM – 311	ICT in Dairy Industry and Operation Research	4(2+2)
7	DBM – 312	Marketing Management and International Trade	2 (2+0)
		<b>Total</b>	<b>20(13+7)</b>

#### Semester – VI

S.N.	Discipline	Title of the Course	Credit Hours
1	DDE – 321	Food Engineering	3 (2+1)
2	DDE – 322	Material Strength & Dairy Machine Design	3 (2+1)
3	DDE – 323	Dairy Plant Design and Layout	2 (1+1)
4	DDM – 321	Food and Industrial Microbiology	3 (2+1)
5	DDT – 321	Sensory Evaluation of Dairy Products	3 (2+1)
6	DDT – 322	Food Technology - I	3 (2+1)
7	DDC – 321	Food Chemistry	3 (2+1)
8	DDE – 324	Energy Conservation and Management	2(1+1)
		<b>Total</b>	<b>22 (14+8)</b>


#### Semester – VII

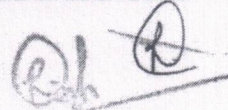
S.N.	Discipline	Title of the Course	Credit Hours
1	DPT – 411	Student READY In- Plant Training	20 (0+20)
		<b>Total</b>	<b>20 (0+20)</b>

#### Semester – VIII

S.N.	Discipline	Title of the Course	Credit Hours
1	DDT – 421	Dairy Plant Management	2(1+1)
2	DDT – 422	Waste Disposal and Pollution Abatement	2 (1+1)
3	DDT – 423	Food Technology -II	3 (2+1)
4	DBM – 421	Entrepreneurship Development and Industrial Consultancy	2 (2+0)
5	DBM – 422	Financial Management & Cost Accounting	3 (2+1)
6	DBM – 423	Industrial Statistics	2 (1+1)
7	DEL - 421	Student READY Experiential Learning Module	10 (0+10)
		<b>Total</b>	<b>24 (10+14)</b>

**Note – Accordingly above course numbers shall be adopted in the syllabus of B.Tech. (Dairy Technology) programme.**

  
**Dean**  
**College of Agriculture**

  
**REGISTRAR**  
**S.V.B.P.U.A.&T., MEERUT**  
**कुलसचिव**  
**संवत् २०८० कृषि एवं प्रौ० विश्वविद्यालय**  
**मेरठ -250110 (उ०प्र०)**



### Student READY Program

- In plant Training of six months duration (One semester): 20 (0+20) credit hours
- Rural Dairy Work Experience programme of 10 weeks (0+10) (total 10 credit hours) during summer vacation (spread over 2 or 3 Semester breaks) to be introduced starting from first year. The areas of internship maybe:
  - First year: On Milk Production & Procurement to be taken up in State Dairy Federations/Dairy Development Departments/Private Dairies/Animal Husbandry Department/Cattle farm/Progressive dairy farmers
  - Second Year: On Preliminary Dairy Operations to be taken up in Experimental Dairy/Referral lab/Dairy Plants
  - Third year: Exposure to Product manufacturing operations in Dairy & Food Industry or
  - Plant visits in each Dairy Technology course to have Industrial exposure in specialized products like Ice cream, Milk Powders, Cheese, By-products etc. should be made compulsory
- Experiential Learning Module of 10 (5+5) credit hours to run concurrently in the final semester along with the regular courses. This shall include development of Detailed Project Report on setting up of enterprise in the selected areas of product manufacture and Evaluation of the Module.

## SYLLABUS

### DDE – 111 Workshop Practice

2 (1+1)

#### Theory

*Introduction:* workshop practice, safety, care and precautions in workshop. *Wood working* tools and their use, Carpentry. *Heat treatment process:* Hardening, tempering, annealing and normalizing etc. *Metal work:* Metal cutting, Soldering, Brazing. *Welding:* Electric arc and Gas welding. *Smithy and forging operations:* tools and equipments. *Bench work:* The bench, flat surface filing, chipping, scrapping, marking out, drilling and screwing. *Introduction to following tool machines:* (a) Lathe Machine (b) Milling Machine (C) Shaper and Planner (d) Drilling and Boring machines (e) Grinder (f) CNC Machines etc.

#### Practical

To study different types of measuring tools used in metrology and determine least counts of vernier calipers, micrometers and vernier height gauges. Job work on filing and chipping. To study different types of fitting tools and marking tools used in fitting practice. To study various types of carpentry tools and prepare simple types of at least two wooden joints. Job work on hand hack and power hack saw. Job work on metal sheet working. Job work on butt and lap welding. To study different types of machine tools ( lathe, milling, drilling machines etc). To prepare a job on a lathe involving facing, outside turning, taper turning, step turning, radius making, threading etc.

### DDE – 112 Fluid Mechanics

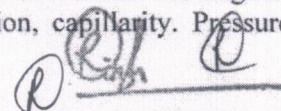
3 (2+1)

#### Theory

Units and dimensions, Properties of fluids. *Static pressure of liquids:* Hydraulic pressure, absolute and gauge pressure, pressure head of a liquid. Pressure on vertical rectangular surfaces. Compressible and non compressible fluids. Surface tension, capillarity. Pressure

  
Dean

College of Agriculture

  
REGISTRAR

कुलसचिव, V.B.P.U.A.&T., MEERUT

संवोधन कृषि एवं प्रौद्योगिकी विश्वविद्यालय  
मेरठ-250110 (उ०प्र०)



Course code	V Semester	
AAE-311	Agricultural Finance and Cooperation	3 (2+1)
SAC-311	Manures, Fertilizers and Soil Fertility Management	3 (2+1)
ENT-311	Pests of Crops and Stored Grain and their Management	3 (2+1)
PPA-312	Principles of Integrated Pest and Disease Management	3(2+1)
GPB-311	Crop Improvement-I ( <i>Kharif Crops</i> )	2 (1+1)
AEC-312 / AAE- 312	Entrepreneurship Development and Business Communication	2 (1+1)
AGR-311	Geo informatics and Nano-technology and Precision Farming	2 (1+1)
AGR-312	Practical Crop Production – I ( <i>Kharif crops</i> )	2 (0+2)
BAS-312	Intellectual Property Rights	1(1+0)
UGE-311	Food Safety and Standards*	3(2+1)
UGE312	Biopesticides & Biofertilizers*	3(2+1)
UGE-313	Protected Cultivation*	3(2+1)
UGE-314	Micro propagation Technologies*	3(1+2)
	<b>TOTAL *Elective Course</b>	<b>21(12+09) + 3*</b>
Course code	VI Semester	
AGR-321	Rainfed Agriculture & Watershed Management	2 (1+1)
HOR-321 / AGE-321	Protected Cultivation and Secondary Agriculture	2 (1+1)
PPA-321	Diseases of Field and Horticultural Crops and their Management-II	3 (2+1)
AGE-322 / HOR-322	Post-harvest Management and Value Addition of Fruits and Vegetables	2 (1+1)
ENT-321	Management of Beneficial Insects	2 (1+1)
GPB-321	Crop Improvement-II ( <i>Rabi crops</i> )	2 (1+1)
AGR-322	Practical Crop Production –II ( <i>Rabi crops</i> )	2 (0+2)
AGR-323	Principles of Organic Farming	2 (1+1)
AAE-321	Farm Management, Production & Resource Economics	2 (1+1)
UGE-321	Hi-tech. Horticulture*	3(2+1)
UGE-322	Weed Management*	3(2+1)
UGE-323	System Simulation and Agro-advisory*	3(2+1)
UGE-324	Agricultural Journalism*	3(2+1)
NGC - 321	Educational Tour**	2(0+2)
	<b>TOTAL *Elective Course, **NC: Non-gradual courses</b>	<b>19(9 + 10)+ 3*+2**</b>

VII Semester		
Activities	No. of weeks	Credit Hours
Rural Agricultural Work Experience and Agro-industrial Attachment(RAWE & AIA)		14
READY-Component-I		
RAWE- 411 (Rural Agricultural Work Experience)		

Dean  
College of Agriculture

कुलसचिव  
संवन्धन कृषि एवं प्रौ. विश्वविद्यालय  
मेरठ-250110 (उ०प्र०)

REGISTRAR  
S.T.B.P.U.A.&T., MEERUT



1. General orientation & On campus training by different faculties	1	
2. (a) Village attachment training programme	8	
i. Orientation and Survey of Village		
ii. Agronomical Interventions		
iii. Plant Protection Interventions		
iv. Soil Improvement Interventions (Soil sampling and testing)		
v. Fruit and Vegetable production interventions		
vi. Food Processing and Storage interventions		
vii. Animal Production Interventions		
viii. Extension and Transfer of Technology activities		
(b) Attachment in University/College/KVK/research Station	5	
<b>READY- Component -II</b>		
<b>AIA- 412 (Agro Industrial Attachment)</b>		
<ul style="list-style-type: none"> <li>Students shall be placed in Agro-and Cottage industries and Commodities Boards for 03 weeks.</li> <li>Industries include Seed/Sapling production, Pesticides- insecticides, Post harvest-processing-value addition, Agri-finance institutions, etc.</li> </ul>	3	4
<b>Plant Clinic</b> <ul style="list-style-type: none"> <li>Seed/Sampling production, Pesticide/insecticide, post harvest industries, processing- value addition, Agri -finance institutions etc.</li> </ul>	2	2
<b>Activities and Tasks during Agro-Industrial Attachment Programme</b>		
i. Acquaintance with industry and staff		
ii. Study of structure, functioning, objective and mandates of the industry		
iii. Study of various processing units and hands-on trainings under supervision of industry staff		
iv. Ethics of industry		
v. Employment generated by the industry		
vi. Contribution of the industry promoting environment		
vii. Learning business network including outlets of the industry		
viii. Skill development in all crucial tasks of the industry		
ix. Documentation of the activities and task performed by the students		
x. Performance evaluation, appraisal and ranking of students		
<b>Total</b>		<b>20</b>

## VII

### I Semester READY- Component -III (Experiential Learning Programme) Modules for Skill Development and Entrepreneurship

A student has to register 20 credits opting for two modules of (0+10) credits each (total 20credits) from the package of modules in the VIII Semester

Course code	Title of module	Department	Credits
ELP-421	Production Technology for Bio-agents and Biofertilizer	Soil Science & Agricultural Chemistry	0+10
ELP-422	Seed Production Technology	Genetics & Plant Breeding	0+10

Dean  
College of Agriculture

कुलसचिव  
संवन्धन कृषि एवं प्रौ० विश्वविद्यालय  
मेरठ-250110 (उ०प्र०)

REGISTRAR  
S.V.S.P.U.A.&T., MEERUT

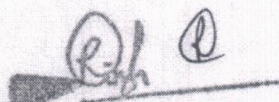


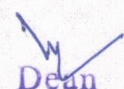
ELP-423	Mushroom Cultivation Technology	Plant Pathology	0+10
ELP-424	Soil, Plant, Water and Seed Testing	Soil Science & Agrl chem	0+10
ELP-425	Commercial Beekeeping	Entomology	0+10
ELP-426	Poultry Production Technology	Animal Production	0+10
ELP-427	Commercial Horticulture	Horticulture	0+10
ELP-428	Floriculture and Landscaping	Horticulture	0+10
ELP-429	Food Processing	Agricultural Engineering	0+10
ELP-430	Agriculture Waste Management	Agricultural Engineering	0+10
ELP-431	Organic Production Technology	Agronomy	0+10
ELP-432	Commercial Sericulture	Entomology	0+10


Grand Total (Credit Hours) = 185

**Elective Courses:** A student can select three elective courses out of the following and offer during 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> semesters.

S.N.	Course Code	Courses	Department	Credit Hours
<b>IV Semester</b>				
1.	UGE-221	Agribusiness Management	Agricultural Economics	3(2+1)
2.	UGE-222	Agrochemicals	Soil Science & Agricultural Chemistry	3(2+1)
3.	UGE-223	Commercial Plant Breeding	Genetics & Plant Breeding	3(1+2)
4.	UGE-224	Landscaping	Horticulture	3(2+1)
<b>V Semester</b>				
1.	UGE-311	Food Safety and Standards	Agricultural Engineering	3(2+1)
2.	UGE-312	Bio-pesticides & Bio-fertilizers	Soil Science & Agricultural Chemistry	3(2+1)
3.	UGE-313	Protected Cultivation	Horticulture	3(2+1)
4.	UGE-314	Micro propagation Technologies	Horticulture	3(1+2)
<b>VI Semester</b>				
1.	UGE-321	Hi-tech. Horticulture	Horticulture	3(2+1)
2.	UGE-322	Weed Management	Agronomy	3(2+1)
3.	UGE-323	System Simulation and Agro-advisory	Soil Science & Agricultural Chemistry	3(2+1)
4.	UGE-324	Agricultural Journalism	Agriculture Extension & Communication	3(2+1)

  
REGISTRAR  
S.T.P.U.A.S.T., MERH


  
Dean  
College of Agriculture

  
कुलसचिव  
संव०प० कृषि एवं प्रौ० विश्वविद्यालय  
मेरठ-250110 (उ०प्र०)



Student READY - Project Formulation, Execution and Presentation	BTS 421	CO1. Carry out a substantial research-based project. CO2. Analyze data and synthesize research findings. CO3. Report research findings in written and verbal forms.
Student READY - Entrepreneurial Development in Biotechnology	BTS 422	CO1. Develop idea generation, creative and innovative skills. CO2. Aware of different opportunities and successful growth stories. CO3. Learn how to start an enterprise and design research plans those are suitable for funding by considering all dimensions of business. CO4. Understand entrepreneurial process by way of studying different case studies.


  
 REGISTRAR  
 S.V.B.P.U.A.T., MEERUT

  
 Dean  
 College of Agriculture

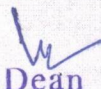
  
 कुलसचिव  
 संवत् २०८० कृषि एवं प्रौद्योगिकी विश्वविद्यालय  
 मेरठ-250110 (उ०प्र०)



**AGRONOMY**  
**Course Structure – at a Glance**

CODE	COURSE TITLE	CREDITS
AGRON 501*	Modern concepts in crop production	3+0
AGRON 502*	Principles and practices of soil fertility and	2+1
AGRON 503*	Nutrient management Principles and practices of weed management	2+1
AGRON 504*	Principles and practices of water management	2+1
AGRON 505	Agrometeorology and crop weather forecasting	2+1
AGRON 506	Agronomy of major cereals and pulses	2+1
AGRON 507	Agronomy of oilseed, fibre and sugar crops	2+1
AGRON 508	Agronomy of medicinal, aromatic and under	2+1
AGRON 509	Utilized crops Agronomy of fodder and forage crops	2+1
AGRON 510	Agrostology and agroforestry	2+1
AGRON 511	Cropping systems	2+0
AGRON 512	Dryland farming	2+1
AGRON 513	Principles and practices of organic farming	2+1
AGRON 591	Master's seminar	1+0
AGRON 599	Master's research	20
AGRON 601	Current trends in agronomy	3+0
AGRON 602	Crop ecology	2+0
AGRON 603	Crop production and system modeling	2+1
AGRON 604	Advances in crop growth and productivity	2+1
AGRON 605	Irrigation management	2+1
AGRON 606	Advances in weed management	2+0
AGRON 607	Integrated farming systems	2+0
AGRON 608	Soil conservation and watershed management	2+1
AGRON 609	Stress crop production	2+1
AGRON 691	Doctoral seminar I	1+0
AGRON 692	Doctoral seminar II	1+0
AGRON 699	DOCTORAL RESEARCH	45

  
 REGISTRAR  
 S.V.B.P.U.A.&T., MEERUT

  
 Dean  
 College of Agriculture

  
 कुलसचिव  
 संवत् २०८० कृषि एवं प्रौद्योगिकी विश्वविद्यालय  
 मेरठ-250110 (उ०प्र०)

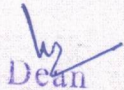


**AGRICULTURE ECONOMICES**  
**Course Structure – at a Glance**

CODE	COURSE TITLE	CREDITS
AG ECON 501*	Micro economic theory and applications	2+0
AG ECON 502*	Macro economics and policy	2+0
AG ECON 503*	Evolution of economic thought	1+0
AG ECON 504*	Agricultural production economics	1+1
AG ECON 505*	Agricultural marketing & price analysis	2+1
AG ECON 506*	Research methodology for social sciences	1+1
AG ECON 507*	Econometrics	2+1
AG ECON 508*	Linear programming	1+1
AG ECON 509*	Agricultural finance and project management	2+1
AG ECON 511	International economics	1+1
AG ECON 512	Institutional economics	1+0
AG ECON 513	Agricultural development policy analysis	2+0
AG ECON 514	Natural resource and environmental economics	1+1
AG ECON 515	Intellectual property management	1+0
AG ECON 516#	Computer applications for agricultural economics	2+1
AG ECON 517	Rural marketing	2+0
AG ECON 518	Commodity futures trading	2+0
AG ECON 591	Master's seminar	1+0
AG ECON 599	Master's research	20
AG ECON 601**	Advanced micro-economic analysis	1+1
AG ECON 602**	Advanced macro-economic analysis	2+0
AG ECON 603**	Advanced econometrics	2+1
AG ECON 604**	Advanced production economics	2+1
AG ECON 605**	Quantitative development policy analysis	1+1
AG ECON 606**	Advanced agricultural marketing and price analysis	2+1
AG ECON 608	Commodity futures trading	2+0
AG ECON 609	Natural resource management	1+1
AG ECON 610	Environmental economics	2+0
AG ECON 691	Doctoral seminar I	1+0
AG ECON 692	Doctoral seminar II	1+0
AG ECON 699	DOCTORAL RESEARCH	45

Compulsory for Master's programme; \*\* Compulsory for Doctoral programme # Cross-listed with Statistics  
The following Basic Supporting courses (5 credits) are recommended for M. Sc. / Ph. D. programmes

  
 REGISTRAR  
 S.P.S.P.U.A.&T., MEERUT

  
 Dean  
 College of Agriculture

  
 कुलसचिव  
 संवत् २०७० कृषि एवं प्रौ० विश्वविद्यालय  
 मेरठ-250110 (उ०प्र०)

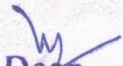


**PLANT PATHOLOGY**  
**Course Structure – at a Glance**

CODE	COURSE TITLE	CREDITS
PL PATH 501*	Mycology	2+1
PL PATH 502*	Plant virology	2+1
PL PATH 503*	Plant bacteriology	2+1
PL PATH 504*	Principles of plant pathology	3+0
PL PATH 505*	Detection and diagnosis of plant diseases	0+2
PL PATH 506	Principles of plant disease management	2+1
PL PATH 507	Diseases of field and medicinal crops	2+1
PL PATH 508	Diseases of fruits, plantation and ornamental crops	2+1
PL PATH 509	Diseases of vegetable and spices crops	2+1
PL PATH 510	Seed health technology	2+1
PL PATH 511	Chemicals in plant disease management	2+1
PL PATH 512	Ecology of soil-borne plant pathogens	2+1
PL PATH 513	Disease resistance in plants	2+0
PL PATH 514/ ENT 514\$	INSECT VECTORS OF PLANT VIRUSES AND OTHER PATHOGENS	1+1
PL PATH 515	Biological control of plant diseases	2+1
PL PATH 516	Integrated disease management	2+1
PL PATH 517	Mushroom production technology	2+1
PL PATH 518	Epidemiology and forecasting of plant diseases	2+1
PL PATH 519	Post harvest diseases	2+1
PL PATH 520/ ENT 520\$	Plant quarantine	2+0
PL PATH 591	Master's seminar	1+0
PL PATH 599	Master's research	20
PL PATH 601	Advanced mycology	2+1
PL PATH 602	Advanced virology	2+1
PL PATH 603	Advanced bacteriology	2+1
PL PATH 604**	Molecular basis of host-pathogen interaction	2+1
PL PATH 605	Principles and procedures of certification	1+0
PL PATH 606	Plant biosecurity and biosafety	2+0
PL PATH 691	Doctoral seminar I	1+0
PL PATH 692	Doctoral seminar II	1+0
PL PATH 699	DOCTORAL RESEARCH	45

\*Compulsory for Master's programme; \*\* Compulsory for Ph. D. programme; \$ Cross-listed with Entomology

  
 REGISTRAR  
 S.V.S.P.U.A.&T., MEERUT

  
 Dean  
 College of Agriculture

  
 कुलसचिव  
 संवत् २०७० कृषि एवं प्रौ० विश्वविद्यालय  
 मेरठ-250110 (उ०प्र०)

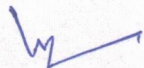


**AGRICULTURE EXTENSION**  
Course Structure – at a Glance

CODE	COURSE TITLE	CREDITS
EXT 501*	Development perspectives of extension education	1+1
EXT 502*	Development communication and information management	2+1
EXT 503*	Diffusion and adoption of innovations	2+1
EXT 504*	Research methods in behavioral sciences	2+1
EXT 505*	E-extension	2+1
EXT 506*	Entrepreneurship development and management in extension	2+1
EXT 507*	Human resource development	2+1
EXT 508	Visual communication	2+1
EXT 509	Participatory methods for technology development and transfer	1+1
EXT 510	Gender sensitization for development	2+1
EXT 511	Perspectives of distance education	2+0
EXT 512	Market-led extension	2+0
EXT 591	Master's seminar	1+0

**ANIMAL HUSBANDRY**  
Course Structure – at a Glance

CODE	COURSE TITLE	CREDITS
AAH-410	Poultry breeding	2+1
AAH-420	Poultry feeding	2+1
AAH-430	Egg and meat technology	1+1
AAH-440	Poultry farm management	2+1
AAH-450	Hatchery and brooding management	0+2
AAH-460	Broiler and layer management	0+2
AAH-470	Sheep goat and swine production	4+0
AAH-480	Sheep goat and swine breeding	4+0
AAH-490	Feed additives	2+0
AAH-510	Dairy cattle breeding	2+1
AAH-520	Dairy cattle feeding	2+1
AAH-530	Dairy farm management	2+1
AAH-540	Nutritional physiology of animals	3+0
AAH-550	Speciation and Evolution as Applied to Livestock Population	3+0
AAH-560	Livestock physiology	3+0
AAH-570	Application of selection theory	2+1
AAH-580	Diseases of dairy animals	2+0

  
Dean  
College of Agriculture

  
कुलसचिव  
संव०प० कृषि एवं पौ० विश्वविद्यालय  
मेरठ-250110 (उ०प्र०)

  
REGISTRAR  
S.V.B.P.U.A.&T., MEERUT



AAH-590	Experimental techniques in animal nutrition	1+1
AAH-630	Population genetics	3+1
AAH-640	Quantitative genetics as applied to animal breeding - i	1+1
AAH-650	Quantitative genetics as applied to animal breeding - ii	1+1
AAH-660	Non-ruminant nutrition	2+1
AAH-670	Feed stuff evaluation	0+2
AAH-680	Ruminant nutrition	3+1
AAH-710	Advances in dairy animal production	3+0
AAH-720	Commercial dairy herd management	2+1
AAH-730	Feed and Fodder Technology	2+1
AAH-740	Energy nutrition	2+0
AAH-750	Protein nutrition	2+0
AAH-760	Vitamin nutrition	2+0
AAH-770	Mineral nutrition	2+0
AAH-780	Advanced animal breeding	2+1

**ENTOMOLOGY**  
Course Structure – at a Glance

CODE	COURSE TITLE	CREDITS
ENT 501*	Insect morphology	1+1
ENT 502*	Insect anatomy, physiology and nutrition	2+1
ENT 503	Principles of taxonomy	2+0
ENT 504*	Classification of insects	2+1
ENT 505*	Insect ecology	1+1
ENT 506	Insect pathology	1+1
ENT 507*	Biological control of crop pests and weeds	1+1
ENT 508*	Toxicology of insecticides	2+1
ENT 509	Plant resistance to insects	1+1
ENT 510*	Principles of integrated pest management	1+1
ENT 511*#	Pests of field crops	1+1
ENT 512*#	Pests of horticultural and plantation crops	1+1
ENT 513	Storage entomology	1+1
ENT 514	Insect vectors of plant viruses and other pathogens	1+1
ENT 515	General acarology	1+1
ENT 516	Soil arthropods and their management	1+1
ENT 517	Vertebrate pest management	1+1
ENT 518*	Techniques in plant protection	0+1
ENT 519	Commercial entomology	1+1
ENT 520	Plant quarantine	2+0
ENT 591	Master's seminar	1+0
ENT 599	Master's research	20
ENT 601	Advanced insect systematics	1+2
ENT 602	Immature stages of insects	1+1
ENT 603	Advanced insect physiology	2+0
ENT 604	Advanced insect ecology	1+1
ENT 605	Insect behaviour	1+1
ENT 606	Recent trends in biological control	1+1



ENT 607	Advanced insecticide toxicology	2+1
ENT 608	Advanced host plant resistance	1+1
ENT 609	Advanced acarology	1+1
ENT 610	Agricultural ornithology	1+1
ENT 611**	Molecular approaches in entomological research	1+1
ENT 612**	Advanced integrated pest management	2+0
ENT 613/		
PL PATH 606\$ Plant biosecurity and biosafety		2+0
ENT 691	DOCTORAL SEMINAR I	1+0
ENT 692	DOCTORAL SEMINAR II	1+0
ENT 699	DOCTORAL RESEARCH	45
*Compulsory for Master's programme; ** Compulsory for Ph.D. programme		

#One out of 511 or 512 is compulsory; \$ Cross-listed with Plant Pathology

### GENETICS AND PLANT BREEDING Course Structure – at a Glance

CODE	COURSE TITLE	CREDITS
GP 501*	Principles of genetics	3 (2 + 1)
GP 502*	Principles of cytogenetics	3 (2 + 1)
GP 503*	Principles of plant breeding	3 (2 + 1)
GP 504*	Principles of quantitative genetics	3 (2 + 1)
GP 505	Mutagenesis and mutation breeding	3 (2 + 1)
GP 506	Population genetics	2 (1 + 1)
GP 507*	Heterosis breeding	2 (1 + 1)
GP 508*	Cell biology and molecular genetics	3 (2 + 1)
GP 509*	Biotechnology for crop improvement	3 (2 + 1)
GP 510	Breeding for biotic and abiotic stress resistance	3 (2 + 1)
GP 511	Breeding cereals, forages and sugarcane	3 (2 + 1)
GP 512	Breeding legumes, oilseeds and fibre crops	3 (2 + 1)
GP 513	Breeding for quality traits	2 (1 + 1)
GP 514	Gene regulation and expression	2 (2 + 0)
GP 515	Maintenance breeding, concepts of variety release	2 (1 + 1)
	And seed production	
GP 516	Germplasm collection, exchange and quarantine	3 (2 + 1)
GP 517	Database management, evaluation and utilization of pgr	3 (2 + 1)
GP 591	Master's seminar	1 (1 + 0)
GP 599	Master's research	20
GP 601	Plant genetics resources and pre-breeding	2 (2 + 0)
GP 602	Advanced biometrical and quantitative genetics	3 (2 + 1)
GP 603**	Genomics in plant breeding	3 (2 + 1)
GP 604**	Molecular and chromosomal manipulations for	2 (2 + 0)
	Crop breeding	
GP 605**	Advanced plant breeding systems	2 (2 + 0)
GP 606	Crop-evolution	3 (2 + 1)



GP 607	Breeding designer crops	2 (1 + 1)
GP 608	Advances in breeding of major field crops	3 (3 + 0)
GP 609	Microbial genetics	3 (2 + 1)
GP 610**	In situ and ex situ conservation of germplasm	3 (2 + 1)
GP 691	Doctoral seminar I	1 (1 + 0)
GP 692	Doctoral seminar II	1 (1 + 0)
GP 699	DOCTORAL RESEARCH	45

Note : \*Compulsory for Master's Programme; \*\* Compulsory for Ph.D. Programme

### HORTICULTURE

Course Structure – at a Glance

CODE	COURSE TITLE	CREDITS
APH-503	Systematic horticulture	2+1
APH-511	Plant propagation and nursery management	2+1
APH-513	Orchard management	2+1
APH-515	Advance pomology	2+1
APH-516	Advance olericulture	2+1
APH-521	Advance floriculture	2+1
APH-531	Medicinal and aromatic plant	2+1
APH-711	Nutrition of horticultural crops	3+1
APH-731	Post harvest physiology of horticultural crops	2+1
APH- 733	Research methods in horticulture	0+2
EXT 599	Master's research	20
EXT 601**	Advances in agricultural extension	2+1
EXT 602**	Advanced design and techniques in social science research	2+1
EXT 603**	Advances in training technology	2+1
EXT 604**	Organizational development	2+1
EXT 605**	Advanced instructional technology	2+1
EXT 606	Theory construction in social sciences	2+0
EXT 607	Advanced management techniques	2+1
EXT 608	Media management	2+1
EXT 609	Transfer of technology in agriculture	2+1
EXT 691	Doctoral seminar I	1+0
EXT 692	Doctoral seminar II	1+0
EXT 699	DOCTORAL RESEARCH	45

\* Compulsory for Master's programme; \*\* Compulsory for Doctoral programme

The following Basic Supporting courses (5 credits) are recommended for M. Sc. / Ph. D. programmes  
M. Sc.

STAT	STATISTICAL METHODS FOR SOCIAL SCIENCES	2+1
STAT	NON-PARAMETRICS	2+0
Ph. D.		
STAT	STATISTICS	2+1
STAT	COMPUTER APPLICATION	1+1

Dean  
College of Agriculture

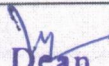
कुलसचिव  
संव०प० कृषि एवं प्रौ० विश्वविद्यालय  
मेरठ-250110 (उ०प्र०)  
REGISTRAR  
S.V.P.U.A.T., MEERUT

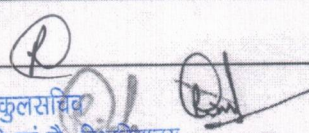


**SOIL SCIENCE**  
Course Structure – at a Glance

CODE                      COURSE TITLE  
CREDITS

SOILS 501* 2+1	SOIL PHYSICS	
SOILS 502* 3+1	Soil fertility and fertilizer use	
SOILS 503* 2+1	SOIL CHEMISTRY	
SOILS 504* 2+1	Soil mineralogy, genesis, classification and survey	
SOILS 505 2+1	Soil erosion and conservation	
SOILS 506* 2+1	Soil biology and biochemistry	
SOILS 507 2+0	Geomorphology and geochemistry	
SOILS 508 1+1	radioisotopes in soil and plant studies	
SOILS 509 2+1	Soil, water and air pollution	
SOILS 510 2+1	Remote sensing and GIS techniques for soil and crop studies	
SOILS 511 0+2	Analytical techniques and instrumental methods in Soil and Plant Analysis	
SOILS 512 2+1	System approaches in soil and crop studies	
SOILS 513 2+1	Management of problematic soils and waters	
SOILS 514 1+0	Fertilizer technology	
SOILS 515 1+0	Land degradation and restoration	
SOILS 591 1+0	Master's seminar	
SOILS 599 20	MASTER'S RESEARCH	
SOILS 601 2+0	Advances in soil physics	
SOILS 602 2+0	Advances in soil fertility	
SOILS 603 2+0	Physical chemistry of soils	
SOILS 604	Soil genesis and micropedology	2+0
SOILS 605	Biochemistry of soil organic matter	2+0
SOILS 606	Land use planning and watershed management	2+0
SOILS 691	Doctoral seminar I	1+0
SOILS 692 1+0	DOCTORAL SEMINAR II	
SOILS 699 45	DOCTORAL RESEARCH	

  
**Dean**  
**College of Agriculture**

  
कुलसचिव  
संव० प्र० कृषि एवं प्रौ० विश्वविद्यालय  
मेरठ-250110 (उ० प्र०)

REGISTRAR  
B.V.S.P.U.A&T - MEERUT

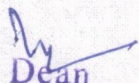


\*Compulsory for Master's programme

### BASIC SCIENCE

MCA 502	introduction to networking and internet applications	1+1
STAT 511 / BST 511	statistical methods for applied sciences	3+1
STAT 563 / BST 563	multivariate analysis	2+1
PGS 501	LIBRARY AND INFORMATION SERVICES	
PGS 502	TECHNICAL WRITING AND COMMUNICATIONS SKILLS	
0+1		
PGS 503 (e-Course)	INTELLECTUAL PROPERTY AND ITS MANAGEMENT IN AGRICULTURE	
1+0		
PGS 504 (e-Course)	BASIC CONCEPTS IN LABORATORY TECHNIQUES	
0+1		
PGS 505 (e-Course)	AGRICULTURAL RESEARCH, RESEARCH ETHICS AND RURAL DEVELOPMENT PROGRAMMES	
1+0		
PGS 504 (e-Course)	BASIC CONCEPTS IN LABORATORY TECHNIQUES	
0+1		
PGS 505 (e-Course)	AGRICULTURAL RESEARCH, RESEARCH ETHICS AND RURAL DEVELOPMENT PROGRAMMES	
1+0		
PGS 506 (e-Course)	DISASTER MANAGEMENT	

  
REGISTRAR  
S.V.P. U.A.&T., MEERUT

  
Dean  
College of Agriculture

  
Registrar  
S.V.P. Uai. of Agri. & Tech.  
Meerut-250110 (U.P.)

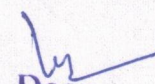



**\* AGRICULTURE ENGINEERING AND FOOD TECHNOLOGY PROCESSING AND FOOD ENGINEERING**  
**Course Structure – at a Glance**

CODE	COURSE TITLE	CREDITS
PFE 501*	Transport phenomena in food processing	2+1
PFE 502*	Engineering properties of food materials	2+1
PFE 503*	Advanced food process engineering	2+1
PFE 504*	Unit operations in food process engineering	2+1
PFE 505	Energy management in food processing industries	2+1
PFE 506	Processing of cereals, pulses and oilseeds	2+1
PFE 507	Food processing equipment and plant design	2+1
PFE 508	Fruits and vegetables process engineering	2+1
PFE 509	Meat processing	2+1
PFE 510	Food packaging	2+1
PFE 511	Food quality and safety engineering	2+1
PFE 512	Farm structures and environmental control	1+1
PFE 513	Storage engineering and handling of agricultural products	2+1
PFE 514	Seed drying, processing and storage	2+1
PFE 515	Biochemical and process engineering	2+1
PFE 591	Master's seminar	1+0
PFE 592	Special problem	0+1
PFE 595#	Industry/ institute training	
PFE 599	Master's research	20
PFE 601**	Textural & rheological characteristics of food materials	2+1
PFE 602**	Advances in food processing	3+0
PFE 603	Mathematical models in food processing	3+0
PFE 604	Advances in drying of food materials	2+1
PFE 605	Agricultural waste and by-products utilization	2+1
PFE 691	Doctoral seminar I	1+0
PFE 692	Doctoral seminar II	1+0
PFE 693	Special problem	0+1
PFE 694	Case study	0+1
PFE 699	DOCTORAL RESEARCH	45

\*Compulsory for Master's programme; \*\* Compulsory for Doctoral programme # PFE 595 – Minimum of Three Weeks Training

**Note:** Some of the identified Minor/Supporting fields are Mechanical Engineering, Processing & Food Engineering, Energy in Agriculture, Civil Engineering, Computer Science, Electrical Engineering, Mathematics and Statistics; The contents of some of the identified Minor/Supporting courses have been given.

  
**Dean**  
**College of Agriculture**

  
**REGISTRAR**  
**S.V.P.U.A.&T., MERRUT**  
**कुलसचिव**  
**संवोधन कृषि एवं प्रौ. विश्वविद्यालय**  
**मेरठ-250110 (उ.प्र.)**

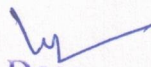



**College of Biotechnology**  
**Course Structure- PG/ Ph.D. Program in**


**PLANT MOLECULAR BIOLOGY AND BIOTECHNOLOGY**

Code	Course Title	Credits	Pages
BTF 501	Principles of Biotechnology**	2+1	07
BTM 502	Fundamentals of Molecular Biology**	3+0	08
BTC 503	Molecular Cell Biology**	3+0	08
BTF 504	Plant Tissue Culture & Genetic Transformation	1+2	09
BTA 505	Techniques In Molecular Biology I**	0+3	10
BTO 506	Microbial/ Industrial Biotechnology	2+1	10
BTF 507	Molecular Breeding	2+0	11
BTR 508	Genomics & Proteomics	2+0	12
BTA 509	Techniques In Molecular Biology II	0+3	13
BTO 510	Biosafety, IPR and Bioethics*	2+0	13
BTI 511	Animal Biotechnology*	3+0	14
BTI 512	Immunology and Molecular Diagnostics*	2+1	15
BTB 513	Nano-Biotechnology*	3+0	16
BTM 551	Principles of Genetics*	2+1	17
BTB 552	Basic Biochemistry*	2+1	17
BAS 553	Biostatistics and Computers*, **	2+1	18
BTP 554	Principles of Microbiology*	2+1	19
BTI 555	Introduction to Bioinformatics	2+1	20
BTC 556	Environmental Biotechnology	3+0	20
BTS 591	Master's Seminar	1+0	-
BTS 599	Master's Research	20	-
BTM 601	Advances in Plant Molecular Biology	3+0	21
BTM 602	Advances in Genetic Engineering	3+0	22
BTP 603	Advances in Microbial Biotechnology	3+0	22
BTF 604	Advances in Crop Biotechnology	3+0	23
BTR 605	Advances in Functional Genomics and Proteomics	2+0	23
BTO 606	Commercial Plant Tissue Culture	2+0	24
BTI 607	Advances in Animal Biotechnology	2+0	24
BTS 691	Doctoral Seminar I	1+0	-
BTS 692	Doctoral Seminar II	1+0	-
BTS 699	Doctoral Research	45	-

\*May be taken as minor/ supporting course (07 course: 22 credit), \*\*Compulsory for M.Sc./M.Tech. Program (05 course: 15 credit)

  
**Dean**  
**College of Agriculture**

  
**कुलसचिव**  
संव०प० कृषि एवं प्रौ० विश्वविद्यालय  
मेरठ-250110 (उ०प्र०)

  
**REGISTRAR**  
**S.V.B.P.U.A.&T., MEERUT**



# ANIMAL GENETICS AND BREEDING


## Course Structure

COURSE NO.	COURSE TITLE	CREDITS	SEM
AGB 601*	ANIMAL CYTOGENETICS AND IMMUNOGENETICS	2+1	I
AGB 602	MOLECULAR GENETICS IN ANIMAL BREEDING	2+1	II
AGB 603*	POPULATION AND QUANTITATIVE GENETICS IN ANIMAL BREEDING	2+1	I
AGB 604*	SELECTION METHODS AND BREEDING SYSTEMS	3+1	II
AGB 605*	BIOMETRICAL TECHNIQUES IN ANIMAL BREEDING	3+1	I
AGB 606	CONSERVATION OF ANIMAL GENETIC RESOURCES	2+0	I
AGB 607	CATTLE AND BUFFALO BREEDING	2+1	II
AGB 608	SMALL FARM ANIMAL BREEDING	2+0	II
AGB 609	POULTRY BREEDING	2+1	I
AGB 610	LABORATORY ANIMAL BREEDING	1+0	II
AGB 691	MASTER'S SEMINAR	1	I, II
AGB 699	MASTER'S RESEARCH	20	I, II
AGB 701	RECENT ADVANCES IN ANIMAL GENETICS	2+0	I
AGB 702	RECENT TRENDS IN ANIMAL BREEDING	2+0	II
AGB 703	ADVANCES IN BIOMETRICAL GENETICS	2+1	II
AGB704**	ADVANCES IN SELECTION METHODOLOGY	2+1	I
AGB 705	BIOINFORMATICS IN ANIMAL GENETICS AND BREEDING	2+0	I
AGB 706	ADVANCES IN MOLECULAR CYTOGENETICS	2+0	II
AGB707**	UTILIZATION OF NON-ADDITIVE GENETIC VARIANCE IN FARM ANIMALS	2+1	I
AGB 791	DOCTORAL SEMINAR I	1	I, II
AGB 792	DOCTORAL SEMINAR II	1	I, II
AGB 799	DOCTORAL RESEARCH	45	I, II

\*Compulsory for Master's programme; \*\*Compulsory for Doctoral programme

  
REGISTRAR  
S.V.B.P.U.A.&T., MEERUT

  
Dean  
College of Agriculture

  
कुलसचिव  
संव०प० कृषि एवं प्रौ० विश्वविद्यालय  
मेरठ-250110 (उ०प्र०)




# VETERINARY PARASITOLOGY

## Course Structure

COURSE NO.	COURSE TITLE	CREDITS	SEM
VPA 601	VETERINARY HELMINTHOLOGY - I	2+1	I
VPA 602	VETERINARY HELMINTHOLOGY - II	2+1	II
VPA 603	VETERINARY ENTOMOLOGY AND ACAROLGY	2+1	I
VPA 604	VETERINARY PROTOZOOLOGY	2+1	II
VPA 605	PARASITOLOGICAL TECHNIQUES	0+2	I
VPA 606	CLINICAL PARASITOLOGY	1+1	I
VPA 607	TRENDS IN CONTROL OF LIVESTOCK AND POULTRY PARASITES	1+1	II
VPA 608	IMMUNOPARASITOLOGY	2+1	I
VPA 609	PARASITIC ZOOSES	2+0	II
VPA 610	PARASITES OF ZOO AND WILD ANIMALS	2+1	II
VPA 611	MALACOLOGY	1+1	I
VPA 691	MASTER'S SEMINAR	1	I, II
VPA 699	MASTER'S RESEARCH	20	I, II
VPA 701	APPLICATIONS OF REMOTE SENSING AND GEOGRAPHIC INFORMATION SYSTEM IN PARASITOLOGY	1+2	I
VPA 702	MOLECULAR DIAGNOSTICS AND VACCINE DEVELOPMENT IN PARASITOLOGY	2+1	II
VPA 703	HOST PARASITE INTERACTIONS	2+0	I
VPA 704	ADVANCES IN PROTOZOOLOGY	2+1	II
VPA 705	ADVANCES IN HELMINTHOLOGY - I	2+1	I
VPA 706	ADVANCES IN HELMINTHOLOGY - II	2+1	II
VPA 707	ADVANCES IN ENTOMOLOGY AND ACAROLGY	2+1	I
VPA 708	IN VITRO CULTIVATION OF PARASITES	1+2	II
VPA 709	EMERGING AND RE-EMERGING PARASITIC DISEASES	2+0	II
VPA 710	BIONOMICS OF PARASITES	3+0	I
VPA 711	ENVIRONMENTAL PARASITOLOGY	1+1	I
VPA 790	SPECIAL PROBLEM	0+2	I, II
VPA 791	DOCTORAL SEMINAR I	1	I, II
VPA 792	DOCTORAL SEMINAR II	1	I, II
VPA 799	DOCTORAL RESEARCH	45	I, II

  
 REGISTRAR  
 S.V.B.P.U.A.&T., MEERUT

  
 Dean  
 College of Agriculture

  
 कुलसचिव  
 संव०प० कृषि एवं प्रौ० विश्वविद्यालय  
 मेरठ-250110 (उ०प्र०)




# LIVESTOCK PRODUCTION MANAGEMENT

## Course Structure

COURSE NO.	COURSE TITLE	CREDITS	SEM
LPM 601*	CATTLE AND BUFFALO PRODUCTION AND MANAGEMENT	2+1	I
LPM 602*	SHEEP AND GOAT PRODUCTION AND MANAGEMENT	2+1	II
LPM 603	SWINE PRODUCTION AND MANAGEMENT	1+1	I
LPM 604	LABORATORY ANIMAL PRODUCTION AND MANAGEMENT	1+1	II
LPM 605	SHELTER MANAGEMENT	1+1	I
LPM 606	PRINCIPLES OF ENVIRONMENTAL HYGIENE AND WASTE MANAGEMENT	2+0	II
LPM 607	CLIMATOLOGY AND ANIMAL PRODUCTION	1+0	I
LPM 608*	POULTRY FARM AND HATCHERY MANAGEMENT	2+1	I
LPM 609	FARM ANIMAL BEHAVIOR	1+0	II
LPM 610	INTEGRATED LIVESTOCK FARMING SYSTEM	2+1	II
LPM 611	EQUINE PRODUCTION AND MANAGEMENT	1+1	I
LPM 612	WILDLIFE MANAGEMENT AND CONSERVATION	2+0	II
LPM 613	LIVESTOCK BUSINESS MANAGEMENT	1+1	I
LPM 691	MASTER'S SEMINAR	1	I, II
LPM 699	MASTER'S RESEARCH	20	I, II
LPM 701**	ADVANCES IN CATTLE AND BUFFALO PRODUCTION AND MANAGEMENT	3+0	I
LPM 702**	ADVANCES IN SHEEP AND GOAT PRODUCTION AND MANAGEMENT	2+1	II
LPM 703	ADVANCES IN SWINE PRODUCTION AND MANAGEMENT	2+1	I
LPM 704	ADVANCES IN LABORATORY ANIMAL PRODUCTION AND MANAGEMENT	1+0	II
LPM 705**	ADVANCES IN POULTRY PRODUCTION AND MANAGEMENT	2+1	I
LPM 706	ADVANCES IN ENVIRONMENTAL MANAGEMENT	1+1	II
LPM 707	ADVANCES IN EQUINE MANAGEMENT	2+0	I
LPM 791	DOCTORAL SEMINAR I	1	I, II
LPM 792	DOCTORAL SEMINAR II	1	I, II
LPM 799	DOCTORAL RESEARCH	45	I, II
<b>SERVICE COURSE</b>			
ABM 533	POULTRY AND HATCHERY MANAGEMENT	2+0	

\* Compulsory for Master's programme; \*\*Compulsory for Doctoral programme

  
 REGISTRAR  
 S.V.S.P.U.A.&T., MEERUT

  
 Dean  
 College of Agriculture

  
 कुलसचिव  
 संवत् २०५० कृषि एवं प्रौ० विश्वविद्यालय  
 मेरठ-250110 (उ०प्र०)




**LIVESTOCK PRODUCTS TECHNOLOGY**  
**Course Structure - at a Glance**

CODE	COURSE TITLE	CREDITS
LPT 601	FRESH MEAT TECHNOLOGY	1+1
LPT 602	MEAT PROCESSING, PACKAGING, QUALITY CONTROL AND MARKETING	2+1
LPT 603	POULTRY AND FISH PRODUCTS TECHNOLOGY	2+1
LPT 604	EGG AND EGG PRODUCTS TECHNOLOGY	1+1
LPT 605	ABATTOIR AND POULTRY PROCESSING PLANT PRACTICES	1+1
LPT 606	SLAUGHTER HOUSE BYPRODUCTS TECHNOLOGY	2+1
LPT 607	PROCESSING AND MARKETING OF WOOL	2+1
LPT 608*	MARKET MILK PROCESSING AND DAIRY PLANT PRACTICES	2+1
LPT 609	QUALITY CONTROL OF MILK AND MILK PRODUCTS	1+1
LPT 610	TECHNOLOGY OF MILK PRODUCTS	2+1
LPT 611	BIOTECHNOLOGY OF FOODS OF ANIMAL ORIGIN	1+1
LPT 612*	IN-PLANT TRAINING (NON CREDIT)	0+2
LPT 691	MASTER'S SEMINAR	1+0
LPT 699	MASTER'S RESEARCH	20
LPT 701	ADVANCES IN ABATTOIR PRACTICES AND ANIMAL BYPRODUCTS UTILIZATION	2+1
LPT 702	ADVANCES IN FRESH AND PROCESSED MEAT PRODUCTS TECHNOLOGY	3+1
LPT 703	ADVANCES IN POULTRY PRODUCTS TECHNOLOGY	2+1
LPT 704	ADVANCES IN MILK AND MILK PRODUCTS TECHNOLOGY	3+1
LPT 705	ADVANCES IN QUALITY CONTROL OF LIVESTOCK PRODUCTS	2+0
LPT 706	BIOTECHNOLOGICAL TECHNIQUES AND PROCESSES IN ANIMAL PRODUCTS	1+1
LPT 791	DOCTORAL SEMINAR I	1+0
LPT 792	DOCTORAL SEMINAR II	1+0
LPT 799	DOCTORAL RESEARCH	45

\* Non-Credit (Satisfactory/Unsatisfactory)

REGISTRAR  
S.V.B.P.U.A.&T., MEERUT

62

  
Dean  
College of Agriculture

  
कुलसचिव  
संव०प० कृषि एवं प्रौ० विश्वविद्यालय  
मेरठ-250110 (उ०प्र०)




# ANIMAL NUTRITION

## Course Structure

COURSE NO.	COURSE TITLE	CREDITS	SEM
ANN 601*	ANIMAL NUTRITION – ENERGY AND PROTEIN	3+0	I
ANN 602*	ANIMAL NUTRITION – MINERALS, VITAMINS AND FEED ADDITIVES	3+1	II
ANN 603	FEED TECHNOLOGY	1+1	II
ANN 604*	FEED CONSERVATION STORAGE AND QUALITY CONTROL	2+2	I
ANN 605	RUMINANT NUTRITION	2+1	I
ANN 606	NON-RUMINANT NUTRITION	1+1	I
ANN 607	NUTRITION OF COMPANION / LABORATORY, WILD AND ZOO ANIMALS	2+1	II
ANN 608*	RESEARCH TECHNIQUES IN ANIMAL NUTRITION	1+3	II
ANN 609	NON CONVENTIONAL FEED STUFF AND TOXIC CONSTITUENTS / ANTIMETABOLITES IN ANIMAL FEEDSTUFF	2+1	II
ANN 691	MASTER'S SEMINAR	1	I, II
ANN 699	MASTER'S RESEARCH	20	I, II
ANN 701**	MODERN CONCEPTS OF FEEDING RUMINANTS AND FORAGE UTILIZATION	3+0	I
ANN 702	MODERN CONCEPTS OF FEEDING MONOGASTRIC ANIMALS	2+0	I
ANN 703	NUTRITION AND RUMEN FERMENTATION	1+1	II
ANN 704	ADVANCES IN MICRONUTRIENTS	1+0	II
ANN 705**	ADVANCED TECHNIQUES IN NUTRITION AND RESEARCH	1+2	I
ANN 706	ADVANCES IN FEED TECHNOLOGY	1+1	II
ANN 707	CLINICAL NUTRITION	1+1	I
ANN 708	NUTRIENT AND DRUG INTERACTION	2+0	II
ANN 709**	NEW FEED RESOURCES AND TOXICANTS IN ANIMAL FEEDING	2+0	II
ANN 791	DOCTORAL SEMINAR I	1	I, II
ANN 792	DOCTORAL SEMINAR II	1	I, II
ANN 799	DOCTORAL RESEARCH	45	I, II
<b>SERVICE COURSE</b>			
ABM 531	FEED BUSINESS MANAGEMENT	2+0	

\*Compulsory for Master's programme; \*\*Compulsory for Doctoral programme

  
REGISTRAR  
S.V.B.P.U.A.&T., MEERUT

  
Dean  
College of Agriculture


  
कुलसचिव  
संव०प० कृषि एवं प्रौ० विश्वविद्यालय  
मेरठ-250110 (उ०प्र०)





# VETERINARY MEDICINE

## Course Structure

COURSE NO.	COURSE TITLE	CREDITS	SEM
VMD 601	RUMINANT MEDICINE - I	3+0	I
VMD 602	RUMINANT MEDICINE - II	3+0	II
VMD 603	EQUINE MEDICINE	2+0	I
VMD 604	CANINE AND FELINE MEDICINE	2+0	II
VMD 605	AVIAN MEDICINE	2+1	II
VMD 606	DISEASES OF ANIMAL SPECIES OF REGIONAL IMPORTANCE	1+0	I
VMD 607	SWINE MEDICINE	1+0	I
VMD 608	METABOLIC DISEASES	2+0	I
VMD 609	DISEASES OF ANIMALS CAUSED BY TOXICANTS	1+0	II
VMD 610	VETERINARY FORENSIC MEDICINE	1+1	II
VMD 611	CLINICAL DIAGNOSTIC TECHNIQUES	0+2	I
VMD 612	CLINICAL PRACTICE - I	0+3	I
VMD 613	CLINICAL PRACTICE - II	0+3	II
VMD 691	MASTER'S SEMINAR	1	I, II
VMD 699	MASTER'S RESEARCH	20	I, II
VMD 701	ADVANCES IN GASTROENTROLOGY	2+0	I
VMD 702	ADVANCES IN CARDIOPULMONARY MEDICINE	2+0	II
VMD 703	ADVANCES IN NEUROLOGICAL AND UROLOGICAL DISORDERS	2+0	II
VMD 704	ADVANCES IN ENDOCRINE AND DERMATOLOGICAL DISORDERS	2+0	II
VMD 705	ADVANCES IN METABOLIC DISEASES	1+2	I
VMD 706	ADVANCES IN INFECTIOUS DISEASES OF RUMINANTS	1+2	II
VMD 707	ADVANCES IN INFECTIOUS DISEASES OF EQUINES	1+2	I
VMD 708	ADVANCES IN INFECTIOUS DISEASES OF PET ANIMALS	1+2	II
VMD 709	ADVANCES IN DISEASES OF POULTRY	1+2	I
VMD 710	ADVANCES IN VETERINARY DIAGNOSTICS	1+2	II
VMD 711	ADVANCES IN VETERINARY THERAPEUTICS	1+2	I
VMD 712	ADVANCED CLINICAL PRACTICE I	0+2	I
VMD 713	ADVANCED CLINICAL PRACTICE II	0+2	II
VMD 714	ADVANCED CLINICAL PRACTICE III	0+2	I
VMD 790	SPECIAL PROBLEM	0+2	I, II
VMD 791	DOCTORAL SEMINAR I	1	I, II
VMD 792	DOCTORAL SEMINAR II	1	I, II
VMD 799	DOCTORAL RESEARCH	45	I, II

  
 REGISTRAR  
 S.V.B.P.U.A.&T., MEEHUT

  
 Dean  
 College of Agriculture

  
 कुलसचिव  
 संवत् २०८० कृषि एवं पशु विश्वविद्यालय  
 मेरठ-250110 (उत्तर प्रदेश)



**New course implemented July 2021-22.**

**Ph.D. Agricultural Engineering (Process and Food Engineering) degree program**

Semester	Course code	Courses offered	Credit hr (s)
I	PFE 513	Storage Engineering and Handling of Agricultural Products	3(2-0-1)
	PFE 605	Agricultural Waste and Byproduct Utilization	3(2-0-1)
	STAT 512	Experimental Design	3(2-0-1)
	FMPE 603	Energy Conservation and Management in Farm Machinery and Power Engineering	2(2-0-0)
	PGS-504	Basic concepts in laboratory techniques	1
	PGS-506	Disaster Management	1
	PGS-505	Agriculture research, research ethics and rural development	1
	PGS-501	Library and information Services	1
	PGS-503	Intellectual property and its management in agriculture	1
II	PFE 604	Advances in Drying of Food Materials	3(2-0-1)
	PFE 601	Textural and Rheological characteristics of Food Materials	3(2-0-1)
	FMPE 503	Testing and Evaluation of Tractors and Farm Equipment	3(2-0-1)
	FMPE 510	Ergonomics and Safety in Farm Operations	3(2-0-1)
	PGS-502	Technical writing and communication skills	1
III	PFE 602	Advances in Food Processing	3(3-0-0)
	STAT 513	Statistical Methods for Social Sciences	3(2-0-1)
IV	PFE 691	Doctoral Seminar I	1
	PFE 699	Doctoral Research	15
V	PFE 692	Doctoral Seminar II	1
	PFE 699	Doctoral Research	15
VI	PFE 699	Doctoral Research	15
<b>Total Credits</b>			<b>82</b>

**Course Content (Ph.D.) Agric. Engg.**


**Core Courses-major syllabus**

**PFE-513: Storage Engineering and Handling of Agricultural Products 3(2-0-1)**

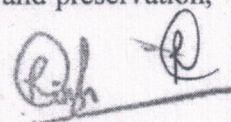
UNIT I: Storage of grains, biochemical changes during storage, production, distribution and storage capacity estimate models, storage capacity models, ecology, storage factors affecting losses, storage requirements.

UNIT II: Bag and bulk storage, godowns, bins and silos, rat proof godowns and rodent control, method of stacking, preventive method, bio-engineering properties of stored products, function, structural and thermal design of structures, aeration system.

UNIT III: Grain markets, cold storage, controlled and modified atmosphere storage, effects of nitrogen, oxygen, and carbon dioxide on storage of durable and perishable commodities, irradiation, storage of dehydrated products, food spoilage and preservation, BIS standards.

  
Dean  
College of Agriculture

  
कुलसचिव  
संवोधन कृषि एवं प्रौद्योगिकी विश्वविद्यालय  
मेरठ-250110 (उ०प्र०)

  
REGISTRAR  
S.V.B.P.U.A.&T., MEERUT





**FRUIT SCIENCE**  
**Course Structure – at a Glance**

CODE	COURSE TITLE	CREDITS
<b>Master's Programme</b>		
FSC 501*	TROPICAL AND DRY LAND FRUIT PRODUCTION	2+1
FSC 502*	SUBTROPICAL AND TEMPERATE FRUIT PRODUCTION	2+1
FSC 503*	BIODIVERSITY AND CONSERVATION OF FRUIT CROPS	2+1
FSC 504	CANOPY MANAGEMENT IN FRUIT CROPS	1+1
FSC 505	PROPAGATION AND NURSERY MANAGEMENT FOR FRUIT CROPS	2+1
FSC 506*	BREEDING OF FRUIT CROPS	2+1
FSC 507	POST HARVEST TECHNOLOGY FOR FRUIT CROPS	2+1
FSC 508	GROWTH AND DEVELOPMENT OF HORTICULTURAL CROPS	2+1
FSC 509	BIOTECHNOLOGY OF HORTICULTURAL CROPS	2+1
FSC 510	ORGANIC HORTICULTURE	1+1
FSC 511	PROTECTED CULTIVATION	2+1
FSC 512	GAP FOR HORTICULTURAL CROPS	1+0
FSC 513	CLIMATE MANAGEMENT IN HORTICULTURAL PRODUCTION	1+0
FSC 591	MASTER'S SEMINAR	1+0
FSC 599	MASTER'S RESEARCH	20
<b>Ph.D. Programme</b>		
FSC 601**	ADVANCES IN BREEDING OF FRUIT CROPS	2+1
FSC 602**	ADVANCES IN PRODUCTION OF FRUIT CROPS	2+1
FSC 603	ADVANCES IN GROWTH REGULATION OF FRUIT CROPS	2+1
FSC 604	GENOMICS AND BIOINFORMATICS IN HORTICULTURE	2+1
FSC 605	BIOTIC AND ABIOTIC STRESS MANAGEMENT IN HORTICULTURAL CROPS	2+1
FSC 691	DOCTORAL SEMINAR I	1+0
FSC 692	DOCTORAL SEMINAR II	1+0
FSC 699	DOCTORAL RESEARCH	45

\*Compulsory for Master's programme; \*\* Compulsory for Doctoral programme

  
**Dean**  
**College of Agriculture**

  
कुलसचिव  
संव०प० कृषि एवं प्रौ० विश्वविद्यालय  
मेरठ-250110 (उ०प्र०)

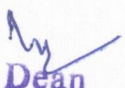
  
**REGISTRAR**  
S.V.B.P.U.A.&T., MEERUT




**VEGETABLE SCIENCE**  
**Course Structure – at a Glance**

CODE	COURSE TITLE	CREDITS
<b>MASTER'S Courses</b>		
VSC 501*	PRODUCTION TECHNOLOGY OF COOL SEASON VEGETABLE CROPS	2+1
VSC 502*	PRODUCTION TECHNOLOGY OF WARM SEASON VEGETABLE CROPS	2+1
VSC 503*	BREEDING OF VEGETABLE CROPS	2+1
VSC 504*	GROWTH AND DEVELOPMENT OF VEGETABLE CROPS	2+1
VSC 505	SEED PRODUCTION TECHNOLOGY OF VEGETABLE CROPS	2+1
VSC 506	SYSTEMATICS OF VEGETABLE CROPS	1+1
VSC 507	PRODUCTION TECHNOLOGY OF UNDEREXPLOITED VEGETABLE CROPS	1+1
VSC 508	ORGANIC VEGETABLE PRODUCTION TECHNOLOGY	1+1
VSC 509	FUNDAMENTALS OF PROCESSING OF VEGETABLES	1+1
VSC 591	MASTER'S SEMINAR	1+0
VSC 599	MASTER'S RESEARCH	20
<b>Ph.D. Courses</b>		
VSC 601**	ADVANCES IN VEGETABLE PRODUCTION	2+1
VSC 602**	ADVANCES IN BREEDING OF VEGETABLE CROPS	2+1
VSC 603**	PROTECTED CULTIVATION OF VEGETABLE CROPS	1+1
VSC 604**	BIOTECHNOLOGY OF VEGETABLE CROPS	2+1
VSC 605	SEED CERTIFICATION, PROCESSING AND STORAGE OF VEGETABLE CROPS	1+1
VSC 606	ABIOTIC STRESS MANAGEMENT IN VEGETABLE CROPS	2+1
VSC 691	DOCTORAL SEMINAR I	1+0
VSC 692	DOCTORAL SEMINAR II	1+0
VSC 699	DOCTORAL RESEARCH	45

\* Compulsory for Master's programme; \*\*Compulsory for Doctoral programme

  
Dean  
College of Agriculture

  
कुलसचिव  
संवोधन कृषि एवं पौ. विश्वविद्यालय  
मेरठ-250110 (उप्र.)

  
REGISTRAR  
S.V.B.P.U.A.&T., MEERUT




# FLORICULTURE AND LANDSCAPE ARCHITECTURE

## Course Structure – at a Glance

CODE	COURSE TITLE	CREDITS
<b>Master's Programme</b>		
FLA.501*	BREEDING OF FLOWER CROPS AND ORNAMENTAL PLANTS	2+1
FLA.502*	PRODUCTION TECHNOLOGY OF CUT FLOWERS	2+1
FLA.503*	PRODUCTION TECHNOLOGY OF LOOSE FLOWERS	2+1
FLA.504*	LANDSCAPING AND ORNAMENTAL GARDENING	2+1
FLA.505	PROTECTED FLORICULTURE	2+1
FLA.506	VALUE ADDITION IN FLOWERS	2+1
FLA.507*	TURFING AND TURF MANAGEMENT	2+1
FLA.508	CAD FOR OUTDOOR AND INDOORSCAPING	2+1
FLA 591	MASTER'S SEMINAR	1+0
FLA 599	MASTER'S RESEARCH	20
<b>Ph.D. Programme</b>		
FLA 601**	ADVANCES IN BREEDING OF FLOWER CROPS	2+1
FLA 602**	ADVANCES IN FLOWER PRODUCTION TECHNOLOGY	2+1
FLA 603	ADVANCES IN PROTECTED AND PRECISION FLORICULTURE	1+1
FLA 604**	ADVANCES IN LANDSCAPE ARCHITECTURE	1+2
FLA 605	ADVANCES IN BIOCHEMISTRY AND BIOTECHNOLOGY OF FLOWERS	2+1
FLA 691	DOCTORAL SEMINAR I	1+0
FLA 692	DOCTORAL SEMINAR II	1+0
FLA 699	DOCTORAL RESEARCH	45

\*Compulsory for Master's programme; \*\* Compulsory for Doctoral programme

  
REGISTRAR  
S.V.B.P.U.A.&T., MEERUT

  
Dean  
College of Agriculture

  
कुलसचिव  
संव०प० कृषि एवं प्रौ० विश्वविद्यालय  
मेरठ-250110 (उ०प्र०)