

## SYLLABU/COURSES OFFERED BY AGRONOMY DECIPLIN

- Following courses are being offered by the Department of Agronomy for under graduate teaching programme during

Sr No	Sem	Course No.	Course Title	Credits
<b>B.Sc. (Hons.) Agri.</b>				
1	I	AGRO 111 (New)	Fundamentals of Agronomy-I	1+1=2
2	I	AGH-111 (New)	Agricultural Heritage	1+0=1
3	I	AGRO 112 (New)	Introductory Agro-Meteorology and climate change	1+1=2
4	III	AGRO 234 (New)	Crop production Technology-I	1+1=2
5	III	AGRO 235 (New)	Rainfed Agriculture and Watershed Management	1+1=2
6	V	AGRO 359 (New)	Practical crop production- I ( <i>Kharif</i> crops)	0+1=1
7	V	ELE AGRO 3510 (New)	Weed Management	2+1=3
<b>B.Sc. (Agri.) old courses</b>				
1	I	AGRO 111	Principles of Agronomy	1+1=2
2	I	AGRO 112	Agricultural Meteorology	1+1=2
3	I	AGRO 113	Introductory Agriculture (Ancient Heritage, Agriculture Scenario and Gender Equity in Agriculture)	1+0=1
4	III	AGRO 235	Field crops-I ( <i>Kharif</i> crops)	2+1=3
5	III	AGRO 236	Practical crop production- I ( <i>Kharif</i> crops)	0+1=1
6	V	AGRO 359	Weed Management	1+1=2

Following courses are being offered by the Department of Agronomy for under graduate teaching program during *Summer*

Sr No.	Seme-	Course No.	Course Title	Credits
<b>B.Sc. (Hons.)</b>				
1	II	AGRO 123 (New)	Fundamentals of Agronomy –II	1+1=2
2	IV	AGRO 246 (New)	Crop Production Technology –II ( <i>Rabi</i> Crops)	1+1=2
3	IV	AGRO 247 (New)	Farming System and Sustainable Agriculture	1+0=1

4	IV	AGRO 248 (New)	Principles of Organic Farming	1+1=2
5	VI	AGRO 3611 (New)	Practical Crop Production- II ( <i>Rabi</i> Crops)	0+1=1
6	VI	AGRO 3612 (New)	Geo- informatics ,Nano-technology & Precision Farming	1+1=2
7	VIII	AELM-AGRO 4814 (New)	Commercial Production of Organic Inputs	10(0+10)
<b>B.Sc. (Agri.) Old courses</b>				
8	II	AGRO 124	Water Management Including Micro Irrigation	2+1=3
9	IV	AGRO 247	Field Crops -II ( <i>rabi</i> crops)	2+1=3
10	IV	AGRO 248	Practical Crop Production- ( <i>rabi</i> Crops)	0+1=1
11	VI	AGRO 3610	Farming System and Sustainable Agriculture	1+1=2
12	VI	AGRO 3611	Organic and <i>Rainfed</i> Farming	1+1=2

**LIST OF COURSES OFFERED FOR PG (M.Sc. Agronomy)**

Semester No.	Course No.	Title	Credit
<b>Major field :</b>			
Semester-I	AGRO-501	Modern concepts in crop production	3+0=3
	AGRO-503	Principles and practices of weed management	2+1=3
	AGRO-505	Agrometeorology and crop weather forecasting	2+1=3
Semester-II	AGRO-502	Principles and practices of soil fertility and nutrient management	2+1=3
	AGRO-504	Principles and practices of Water management	2+1=3
	AGRO-513	Principles and practices of organic farming	2+1=3
Semester-III	AGRO-512	Dry land farming and watershed management	2+1=3
Semester-IV	AGRO-591	Seminar	0+1=1
<b>Minor field :</b>			
Semester-I	Soils- 501	Soil Physics	2+1=3
	PP-511	Mineral Nutrition	2+1=3
Semester-II	Soils-509	Soil, water and air pollution	2+1=3
Semester-III	---	----	---
Semester-IV	---	----	---
<b>Supporting courses</b>			
Semester-I	STAT-511	Statistical methods for applied science	2+1=3
Semester-II	STAT-512	Experimental design	2+1=3

Semester-III	---	----	---
Semester-IV	---	----	---
NCCC Semester-I	PGS-501	Library and information services	0+1=1
	PGS-504	Basic concepts in laboratory techniques	0+1=1
Semester-II	PGS-502	Technical writing and communication skills	0+1=1
	PGS- 503	Intellectual property and its management in agriculture	1+0=1
Semester-III	PGS-505	Agricultural research ethics and rural development programmes	1+0=1
	PGS-506	Disaster Management	1+0=1
Semester-IV	---	----	---
Audit courses & Exempted courses			

Semester	Course Type	Course No.	Course Title	Credits	
<b>Semester-I</b>	Major	AGRON-601	Current trends in Agronomy	3+0=3	
		AGRON-602	Crop ecology	2+0=2	
		AGRON-604	Advances in crop growth and productivity	2+1=3	
	Minor	SOILS-601	Advances in soil physics	2+0=2	
		PP-604	Techniques in plant physiology	1+2=3	
	Supporting	SOILS-603	Physical chemistry of soils	2+0=2	
	Seminar	--	--	--	
	<b>Total course credit</b>				<b>15</b>
	Non-Credit compulsory	--	--	--	
	Research	--	--	--	
<b>Grand Total</b>				<b>15</b>	
<b>Semester-II</b>	Major	AGRON-605	Irrigation management	2+1=3	
		AGRON-607	Integrated farming systems for sustainable Agriculture	2+0=2	
	Minor	PP-605	Climate change and crop growth	2+0=2	
		SOILS- 602	Advances in soil fertility	2+0=2	
	Supporting	--	--	--	
	Seminar	--	--	--	
<b>Total course credit</b>				<b>09</b>	

	Non-Credit compulsory	--	--	--
	Research	--	--	--
			<b>Grand Total</b>	<b>09</b>
<b>Semester-III</b>	Major	AGRON-605	Advances in weed management	2+0=2
	Minor	--	--	--
	Supporting	SOILS-607	Soil resource management	3+0=3
	Seminar-	AGRON-691	Doctoral Seminar I	0+1=1
			<b>Total course credit</b>	<b>06</b>
	<i>Non-Credit compulsory</i>	--	--	--
	Research	AGRO-699	Research work	0+10=10
			<b>Grand Total</b>	<b>16</b>
<b>Semester-IV</b>	Major	--	--	--
	Minor	--	--	--
	Supporting	--	--	--
	Seminar	AGRON-692	Doctoral Seminar II	0+1=1
			<b>Total course credit</b>	<b>01</b>
	<i>Non-Credit compulsory</i>	--	--	--
	<i>Research</i>	AGRO-699	Research work	0+10=10
			<b>Grand Total</b>	<b>11</b>
<b>Semester-V &amp; VI</b>	Research	AGRON-699	Research work	<b>25</b>

**NEW SYLLABUS AS PER FOR PG BSMA Discipline: Agronomy**  
**Committee on Agronomy**

<b>ICAR-BSMA Broad Subject</b>	<b>ICAR-BSMA Approved Disciplines</b>	<b>Degree Programmes</b>		<b>Broad Subject Coordinator (Chairman of all Disciplines' Sub-Committees)</b>	<b>Discipline Coordinator (Secretary of respective Discipline Sub-Committee)</b>
<b>Physical Science</b>	<b>Agronomy</b>	M.Sc. (Agri.)	Ph.D.	<b>Dr. Syed Ismail,</b> ADP, CoA, VNMKV, Parbhani	<b>Dr. A.B. Kamble</b> Prof.(Agronomy), CoA, Pune (MPKV, Rahuri)

**Implementation of New Curriculum**

The universities offering PG programmes in Agronomy need to be supported for establishing specialized laboratories equipped with state-of-the art equipments for conducting practical classes especially, Water management, Weed management, Conservation Agriculture, Geoinformatics, Precision Agriculture, Nano technology & Organic farming.

One-time catch-up grant should be awarded to each SAU, offering PG programmes in Agronomy for meeting expenditure for upgrading the course requirements.

Faculty training and retraining should be an integral component. For imparting total quality management, a minimum of two faculty in each department under an SAU should be given on job training in reputed national and international institutes. To execute the new PG and Ph.D. programmes in Agronomy discipline in effective manner, special funds from ICAR would be required for outsourcing of faculty from Indian/Foreign Universities for some initial years.

The already existing M.Sc. and Ph.D. Programmes in Agronomy will be considered at par with the recommended M.Sc. & Ph.D. programme by V<sup>th</sup> Deans Committee for admission and employment.

### Expected Outcome

- Revamping of post graduate programme in whole of Agronomy throughout the country.
- Imparting quality education.
- Development of technical manpower to cater the need of farmers governments, corporate sector and research organization in India and abroad.
- Exposure to the faculty in the latest technical knowhow.

### Credit Requirements

Course Details	Master's Degree	Doctoral Degree
Major Courses	20	15
Minor Courses	08	06
Supporting / Optional	06	05
Common PGS Courses	05	-
Seminar	01	02
Research	30	75
<b>Total</b>	<b>70</b>	<b>100</b>

### M.Sc. (Agri) Agronomy

#### Course Structure

1. M.Sc. (Agriculture) Agronomy			
Course No	Credit hour	Course title	
AGRON 501*	3+0 = 3	Modern Concepts in Crop Production	
AGRON502*	2+1=3	Principles and practices of soil fertility and nutrient management	
AGRON 503*	2+1 = 3	Principles and Practices of Weed Management	

AGRON 504*	2+1 = 3	Principles and Practices of Water Management
AGRON 505	1+1 = 2	Conservation Agriculture
AGRON 506	2+0	Agronomy of major Cereals and Pulses
AGRON 507	2+1	Agronomy of oilseed, fibre and sugar crops
AGRON 508	2+1	Agronomy of medicinal, aromatic & underutilized crops
AGRON 509	2+1	Agronomy of fodder and forage crops
AGRON 510	2+1	Agrostology and Agro- Forestry
AGRON 511	2+0	Cropping System and Sustainable Agriculture
AGRON 512	2+1	Dryland Farming and Watershed Management
AGRON 513	2+1	Principles and practices of organic farming
AGRON 550	(1+0)	Master's Seminar
AGRON 560	(30)	Master's research

*\*Compulsory Courses*

### Semester wise core Courses offered based on credit requirement

Course Code	Semester	Course Title	Credit Hrs.
AGRON 501*	I	Modern Concepts in Crop Production	3+0 = 3
AGRON 503*	I	Principles and Practices of Weed Management	2+1 = 3
AGRON 513	I	Principles and practices of organic farming	2+1 = 3
AGRON 502*	II	Principles and practices of soil fertility and nutrient management	2+1 = 3
AGRON 504*	II	Principles and Practices of Water Management	2+1 = 3
AGRON 505	II	Conservation Agriculture	1+1 = 2
AGRON 511	III	Cropping System and Sustainable Agriculture	2+0 = 2
AGRON 512	III	Dryland Farming and Watershed Management	2+1 = 3
AGRON 513	III	Principles and practices of organic farming	2+1 = 3
AGRON 550	IV	Master's Seminar	1+0 = 1
<b>Total</b>			<b>19+7=26</b>
		Master's Research	0+30 = 30

*\*Compulsory Courses*

### Common Courses: (Non-Credit)

Course code	Semester	Course Title	Credits
PGS 501	I	Library and Information Services	0+1=1
PGS 504	I	Basic Concepts in Laboratory Techniques	0+1=1
PGS 502	I	Technical Writing and Communications Skills	0+1=1

PGS 503	II	Intellectual Property and its management in Agriculture	1+0=1
PGS 505	III	Agricultural Research, Research Ethics and Rural Development Programmes	1+0=1

**Optional Courses :**

Course Code	Semester	Course Title	Credit Hrs.
STAT 502,	I	Statistical Methods for Applied Sciences	3+1=4
STAT 511	II	Experimental Designs	2+1=3
COM 501	II	Information Technology in Agriculture	2+1=3

**Minor Disciplines:**

1. Natural Resource Management
2. Seed Science and Technology
3. Plant Physiology
4. Soil Science
5. Agricultural Meteorology
6. Plant Protection
7. Micobiology

**Compulsory Non Credit Deficiency Courses  
(those who are non B.Sc.(Hon) Agriculture Graduates)**

Course Code	Semester	Course Title	Credit Hrs.
AGRON 411	I	Fundamentals of Agronomy	2 (1+1)
AGRON 412	I	Farming System and Sustainable Agriculture	1 (1+0)
AGRON 413	I	Crop Production Technology-II (Rabi crops)	2 (1+1)
AGRON 424	II	Crop Production Technology-I (Kharif crops)	2 (1+1)
AGRON 425	II	Rainfed Agriculture and Watershed Management	2 (1+1)
		<b>Total</b>	<b>9 (5+4)</b>

Students from Forestry and Horticulture stream will be required to completed Non credit deficiency courses (6 to 9 credits ) from the above courses related to the discipline in which admitted and as decided by the Student Advisory Committee.

**Ph.D. (Agriculture) Agronomy**

**Course Structure**

Course No.	Credit hour	Course title
Agron 601*	3+0	Current trends inAgronomy
Agron 602	2+1	Recent trends in crop growth and productivity
Agron 603	2+1	Irrigation management

Agron 604	2+0	Recent trends in weed management
Agron 605	2+0	Integrated farming systems for sustainable Agriculture
Agron 606	2+1	Soil Conservation and Watershed Management
Agron 607	2+1	Stress Crop Production
Agron 608*	2+0	Research and Publication ethics
Agron-691	1+0	Doctor's Seminar
Agron-692	1+0	Doctor's Seminar
Agron-699	(75)	Doctors research

**\*Indicates Core course for Ph.D.**

**Semester wise core Courses offered based on credit requirement**

**1. Ph. D. (Agriculture) Agronomy**

Course Code	Semester	Course Title	Credit Hrs.
<b>Agron 601*</b>	I	Current trends in Agronomy	3+0 = 3
<b>Agron 604</b>	I	Recent trends in weed management	2+0 = 2
<b>Agron 603</b>	II	Irrigation management	2+1 = 3
<b>Agron 605</b>	II	Integrated farming systems for sustainable Agriculture	2+0 = 2
<b>Agron 607</b>	II	Stress Crop Production ( <b>Supporting</b> )	2+1 = 3
<b>Agron 608*</b>	III	Research and Publication ethics	2+0 = 2
<b>Agron 606</b>	III	Recent trends in crop growth and productivity ( <b>Supporting</b> )	2+1 = 3
<b>Agron 691</b>	III	Doctoral Seminar	1+0 = 1
<b>Agron 692</b>	IV	Doctoral Seminar	1+0 = 1
		<b>Total</b>	<b>17+3 = 20</b>
		Doctoral Research	<b>0+75 = 75</b>

**\*Compulsory Courses**

**Optional Courses :**

Course Code	Semester	Course Title	Credit Hrs.
STAT 601	II	Bioinformatics	2+0
STAT 602	I	Experimental Designs	2+1
AGM 601*	II	Climate Change and Sustainable Development	2+1



