

NEW AND RESTRUCTURED
POST-GRADUATE CURRICULA & SYLLABI

Horticultural Sciences

Fruit Science
Vegetable Science Floriculture & Land Scape
Architecture Plantation, Spices, Medicinal &
Aromatic Crops



Education Division
Indian Council of Agricultural Research
New Delhi

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ORGANIZATION OF COURSE CONTENTS & CREDIT REQUIREMENTS

Code Numbers

- All courses are divided into two series: 500-series courses pertain to Master's level, and 600-series to Doctoral level. A Ph. D. student must take a minimum of two 600 series courses, but may also take 500-series courses if not studied during Master's programme.
- Credit seminar for Master's level is designated by code no. 591, and the two seminars for Doctoral level are coded as 691 and 692, respectively.
- Similarly, 599 and 699 codes have been given for Master's research and Doctoral research, respectively.

Course Contents

The contents of each course have been organized into:

- Objective – to elucidate the basic purpose.
- Theory units – to facilitate uniform coverage of syllabus for paper setting.
- Suggested Readings – to recommend some standard books as reference material. This does not unequivocally exclude other such reference material that may be recommended according to the advancements and local requirements.
- A list of journals pertaining to the discipline is provided at the end which may be useful as study material for 600-series courses as well as research topics.
- E-Resources - for quick update on specific topics/events pertaining to the subject.
- Broad research topics provided at the end would facilitate the advisors for appropriate research directions to the PG students.

Minimum Credit Requirements

Subject	Master's programme	Doctoral programme
Major	20	15
Minor	09	08
Supporting	05	05
Seminar	01	02
Research	20	45
Total Credits	55	75
Compulsory Non Credit Courses	See relevant section	

Major subject: The subject (department) in which the students takes admission

Minor subject: The subject closely related to students major subject (e.g., if the major subject is Entomology, the appropriate minor subjects should be Plant Pathology & Nematology).

Supporting subject: The subject not related to the major subject. It could be any subject considered relevant for student's research work.

Non-Credit Compulsory Courses: Please see the relevant section for details. Six courses (PGS 501-PGS 506) are of general nature and are compulsory for Master's programme. Ph. D. students may be exempted from these courses if already studied during Master's degree.

Fruit Science
Course Structure – at a Glance

CODE	COURSE TITLE	CREDITS
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
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

VEGETABLE SCIENCE
Course Structure – at a Glance

CODE	COURSE TITLE	CREDITS
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
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

FLORICULTURE AND LANDSCAPE ARCHITECTURE

Course Structure – at a Glance

CODE	COURSE TITLE	CREDITS
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
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

PLANTATION, SPICES, MEDICINAL & AROMATIC CROPS

Course Structure – at a Glance

CODE	COURSE TITLE	CREDITS
PSMA 501*	PRODUCTION OF PLANTATION CROPS	2+1
PSMA 502*	PRODUCTION TECHNOLOGY OF SPICE CROPS	2+1
PSMA 503*	PRODUCTION TECHNOLOGY OF MEDICINAL AND AROMATIC CROPS	2+1
PSMA 504*	BREEDING OF PLANTATION CROPS AND SPICES	2+1
PSMA 505*	BREEDING OF MEDICINAL AND AROMATIC CROPS	2+1
PSMA 506*	PROCESSING OF PLANTATION CROPS, SPICES, MEDICINAL AND AROMATIC CROPS	2+1
PSMA 507	ORGANIC SPICE AND PLANTATION CROP PRODUCTION TECHNOLOGY	2+1
PSMA 508	UNDEREXPLOITED MEDICINAL AND AROMATIC PLANTS	1+1
PSMA 591	MASTER'S SEMINAR	1+0
PSMA 599	MASTER'S RESEARCH	20
PSMA 601**	ADVANCES IN PRODUCTION OF PLANTATION CROPS	2+1
PSMA 602**	ADVANCES IN SPICE PRODUCTION	2+1
PSMA 603**	ADVANCES IN MEDICINAL AND AROMATIC CROP PRODUCTION TECHNOLOGY	2+1
PSMA 604**	ADVANCES IN BREEDING OF PLANTATION CROPS AND SPICES	2+1
PSMA 605	ADVANCES IN BREEDING OF MEDICINAL AND AROMATIC CROPS	2+1
PSMA 606	BIOTECHNOLOGY IN PLANTATION CROPS AND SPICES	1+1
PSMA 607	POST HARVEST PROCESSING AND EXTRACTION IN MEDICINAL AND AROMATIC CROPS	2+1
PSMA 608	ENVIRONMENTAL HORTICULTURE	2+1
PSMA 691	DOCTORAL SEMINAR I	1+0
PSMA 692	DOCTORAL SEMINAR II	1+0
PSMA 699	DOCTORAL RESEARCH	45

* Compulsory for M. Sc. Programme; ** Compulsory for Doctoral programme

COMPULSORY NON-CREDIT COURSES

(Compulsory for Master's programme in all disciplines; Optional for Ph.D. scholars)

CODE	COURSE TITLE	CREDITS
PGS 501	LIBRARY AND INFORMATION SERVICES	0+1
PGS 502	TECHNICAL WRITING AND COMMUNICATIONS SKILLS	0+1
PGS 503 (e-Course)	INTELLECTUAL PROPERTY AND ITS MANAGEMENT IN AGRICULTURE	1+0
PGS 504	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	1+0