DAIRY TECHNOLOGY

Course Structure - at a Glance

CODE	COURSE TITLE	CREDITS
	MAJOR COURSES	
DT 511*	ADVANCED DAIRY PROCESSING	3+1
DT 512*	ADVANCED FOOD PROCESSING	3+1
DT 513	RHEOLOGY OF DAIRY AND FOOD PRODUCTS	2+1
DT 514*	DAIRY PROCESS BIOTECHNOLOGY	2+1
DT 515	TRADITIONAL AND VALUE-ADDED DAIRY PRODUCTS	2+1
DT 521	MEMBRANE TECHNOLOGY IN DAIRY PROCESSING	2+1
DT 522	ADVANCED DAIRY AND FOOD PACKAGING	2+1
DT 523	ALTERNATIVE PROCESSES FOR THE DAIRY & FOOD INDUSTRIES	2+1
DT 524*	FUNCTIONAL FOODS AND NEW PRODUCT DEVELOPMENT	3+1
DT 525	TECHNOLOGY OF FOOD EMULSIONS, FOAMS & GELS	2+1
DT 591	MASTER'S SEMINAR	1+0
DT 599	MASTER'S RESEARCH	20
DT 611	ADVANCES IN LIPID TECHNOLOGY	3+0
DT 612	ADVANCES IN PROTEIN TECHNOLOGY	3+0
DT 621	PRODUCT MONITORING AND PROCESS CONTROL	3+0
DT 622#	R & D MANAGEMENT IN DAIRY INDUSTRY	3+0
DT 691	DOCTORAL SEMINAR I	1+0
DT 692	DOCTORAL SEMINAR II	1+0
DT 699	DOCTORAL RESEARCH	45
	SUGGESTED SUPPORTING COURSES	
ES 525	DAIRY BUSINESS MANAGEMENT	2+1
ES 529	STATISTICS IN INDUSTRIAL APPLICATIONS	3+1
CS 521	COMPUTER SOFTWARE	2+1
DCRT 524#	RESEARCH TECHNIQUES	2+1
DC 523	CHEMICAL QUALITY ASSURANCE	2+1
DM 523	MICROBIAL QUALITY & SAFETY IN DAIRY INDUSTRY	2+2
DE 524	ENVIRONMENTAL ENGINEERING	2+0

* Compulsory for Master's programme; # Cross-listed

NOTE : *Doctoral students shall take a minimum of two 600-level courses*

DAIRY CHEMISTRY
Course Structure - at a Glance

CODE	COURSE TITLE	CREDITS
DC 511	PHYSICOCHEMICAL ASPECT OF MILK CONSTITUENTS AND MILK PRODUCTS	2+1
DC 512*	MILK CARBOHYDRATES, MINERALS AND WATER SOLUBLE VITAMINS	2+1
DC 513*	CHEMISTRY OF MILK LIPIDS	2+1
DC 514	FOOD CHEMISTRY	3+1
DC 521*	CHEMISTRY OF MILK PROTEINS	3+1
DC 522*	CHEMISTRY OF MILK PRODUCTS	3+1
DC 523	CHEMICAL QUALITY ASSURANCE	2+1
DCRT 524	RESEARCH TECHNIQUES	2+1
DC 591	MASTER'S SEMINAR	1+0
DC 599	MASTER'S RESEARCH	20
DC 611	ADVANCES IN CHEMISTRY OF MILK PROTEINS	3+0
DC 612	ADVANCES IN CHEMISTRY OF MILK LIPIDS	3+0
DC 621	ADVANCES IN THE CHEMISTRY OF MILK PROCESSING	3+0
DC 622	ADVANCES IN ANALYTICAL TECHNIQUES IN DAIRY CHEMISTRY	3+0
DT 622#	R & D MANAGEMENT IN DAIRY INDUSTRY	3+0
DC 691	DOCTORAL SEMINAR I	1+0
DC 692	DOCTORAL SEMINAR II	1+0
DC 699	DOCTORAL RESEARCH	45

* Compulsory for Master's programme;
# Cross-listed with Dairy Technology
NOTE : Doctoral students shall take a minimum of two 600-level courses

DAIRY MICROBIOLOGY

Course Structure - at a Glance

CODE	COURSE TITLE	CREDITS
DM 511	MICROBIAL MORPHOLOGY AND TAXONOMY	2+1
DM 512*	MICROBIAL PHYSIOLOGY	2+1
DM 513	METHODS IN MICROBIOLOGY	2+2
DM 514	ENVIRONMENTAL MICROBIOLOGY	2+1
DM 515*	MICROBIOLOGY OF PROCESSED DAIRY FOODS	3+1
DM 516	APPLICATION OF BIOTECHNOLOGY IN DAIRY INDUSTRY	2+1
DM 521*	DAIRY STARTER CULTURES	2+1
DM 522	MICROBIAL GENETICS	2+1
DM 523*	MICROBIAL QUALITY AND SAFETY IN DAIRY INDUSTRY	2+2
DM 524	FEED AND RUMEN MICROBIOLOGY	2+1
DM 525	PROBIOTICS AND FERMENTED DAIRY PRODUCTS	2+1
DM 526	MICROBIAL FERMENTATION AND TECHNOLOGY	2+1
DM 591	MASTER'S SEMINAR	1+0
DM 599	MASTER'S RESEARCH	20
DM 611	MICROBIAL DIVERSITY AND PHYSIOLOGY	3+0
DM 612	ADVANCES IN MICROBIAL GENETICS	3+0
DM 621	ADVANCES IN DAIRY AND FOOD MICROBIOLOGY	3+0
DM 622	MICROBIOLOGY OF FOOD-BORNE PATHOGENS	3+0
DM 691	DOCTORAL SEMINAR I	1+0
DM 692	DOCTORAL SEMINAR II	1+0
DM 699	DOCTORAL RESEARCH	45

* Compulsory for Master's programme.

NOTE : *Doctoral students shall take a minimum of two 600-level courses*

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

Course Contents

PGS 501 LIBRARY AND INFORMATION SERVICES 0+1

Objective

To equip the library users with skills to trace information from libraries efficiently, to apprise them of information and knowledge resources, to carry out literature survey, to formulate information search strategies, and to use modern tools (Internet, OPAC, search engines, etc.) of information search.

Practical

Introduction to library and its services; Role of libraries in education, research and technology transfer; Classification systems and organization of library; Sources of information- Primary Sources, Secondary Sources and Tertiary Sources; Intricacies of abstracting and indexing services (Science Citation Index, Biological Abstracts, Chemical Abstracts, CABI Abstracts, etc.); Tracing information from reference sources; Literature survey; Citation techniques/Preparation of bibliography; Use of CD-ROM Databases, Online Public Access Catalogue and other computerized library services; Use of Internet including search engines and its resources; e-resources access methods.

PGS 502 TECHNICAL WRITING AND COMMUNICATIONS SKILLS 0+1

Objective

To equip the students/scholars with skills to write dissertations, research papers, etc.

To equip the students/scholars with skills to communicate and articulate in English (verbal as well as writing).

Practical

Technical Writing - Various forms of scientific writings- theses, technical papers, reviews, manuals, etc; Various parts of thesis and research communications (title page, authorship contents page, preface, introduction,