

INSTITUTE OF HOME ECONOMICS

(UNIVERSITY OF DELHI)



1.3 Curriculum Enrichment

1.3.2 Average percentage of courses that include experiential learning through project work/field work/internship during last five years



INSTITUTE OF HOME ECONOMICS
(University of Delhi)
इंस्टिट्यूट ऑफ़ होम इकोनॉमिक्स
(दिल्ली विश्वविद्यालय)



NAAC GRADE 'A' ACCREDITED

Supporting documents

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| 1.3.2 | B.El.Ed. | 3-20 |
| 1.3.2 | B.Sc. Food Technology | 21-26 |
| 1.3.2 | B.Sc. (Hons) Home Science | 27-30 |
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SEMESTER-WISE COURSE STRUCTURE of B.Sc. (Honours) Biochemistry

| SEMESTER I | | SEMESTER II | |
|---------------|---|---------------|--|
| C1 | Molecules of Life | C3 | Proteins |
| C2 | Cell Biology | C4 | Enzymes |
| AECC1 | English/MIL Communication or EVS | AECC2 | English/MIL Communication or EVS |
| GE-I | Generic Elective (<i>Any one</i>) | GE-II | Generic Elective (<i>Any one</i>) |
| | I. Biomolecules (GE-1) | | I. Proteins and Enzymes (GE-3) |
| | II. Techniques in Biochemistry (GE-2) | | II. Techniques in Biochemistry (GE-2A) |
| | | | III. Biochemical Correlation of Diseases (GE-4) |
| SEMESTER III | | SEMESTER IV | |
| C5 | Metabolism of Carbohydrates and Lipids | C8 | Human Physiology |
| C6 | Membrane Biology and Bioenergetics | C9 | Gene Organization, Replication and Repair |
| C7 | Hormone: Biochemistry and Function | C10 | Metabolism of Amino Acids and Nucleotides |
| SEC-I | Skill Enhancement Course (<i>Any one</i>) | SEC-II | Skill Enhancement Course (<i>Any one</i>) |
| | I. Biochemical Techniques (SEC-1) | | I. Bioinformatics (SEC-4) |
| | II. Biostatistics (SEC-2) | | II. Microbial Techniques (SEC-5) |
| | III. Research Methodology (SEC-3) | | III. Research Methodology (SEC-3A) |
| GE-III | Generic Elective (<i>Any one</i>) | GE-IV | Generic Elective (<i>Any one</i>) |
| | I. Intermediary Metabolism (GE-5) | | I. Biochemical Correlation of Diseases (GE-4A) |
| | II. Proteins and Enzymes (GE-3A) | | II. Recombinant DNA Technology (GE-7) |
| | III. Biochemical Applications in Forensics (GE-6) | | III. Biochemical Applications in Forensics (GE-6A) |
| SEMESTER V | | SEMESTER VI | |
| C11 | Concepts in Genetics | C13 | Genetic Engineering and Biotechnology |
| C12 | Gene Expression and Regulation | C14 | Immunology |
| DSE-I | Discipline Specific Elective (<i>Any two</i>) | DSE-II | Discipline Specific Elective (<i>Any two</i>) |
| | I. Nutritional Biochemistry (DSE-1) | | I. Molecular Basis of Infectious Diseases (DSE-4) |
| | II. Advanced Cell Biology (DSE-2) | | II. Plant Biochemistry (DSE-5) |
| | III. Microbiology (DSE-3) | | III. Advanced Methodologies (DSE-6) |

C: Core Courses (14); **GE:** Generic Elective (04); **AECC:** Ability Enhancement Compulsory Course (02); **SEC:** Skill Enhancement Courses (02); **DSE:** Discipline Specific Elective (04). **Numbers within bracket indicate the total number of courses offered in each category.**

Courses containing "A" in their course code are repeated in different semesters.

COURSE STRUCTURE of B.Sc. (Honours) Biochemistry under CBCS

| SEMESTER I | | SEMESTER II | |
|--------------|--|--------------|---|
| C1 | Molecules of Life | C3 | Proteins |
| C2 | Cell Biology | C4 | Enzymes |
| AECC1 | English/MIL Communication or EVS | AECC2 | English/MIL Communication or EVS |
| GE1 | Generic Elective | GE2 | Generic Elective |
| SEMESTER III | | SEMESTER IV | |
| C5 | Metabolism of Carbohydrates and Lipids | C8 | Human Physiology |
| C6 | Membrane Biology and Bioenergetics | C9 | Gene Organization, Replication and Repair |
| C7 | Hormone: Biochemistry and Function | C10 | Metabolism of Amino Acids and Nucleotides |
| SEC1 | Skill Enhancement Course | SEC2 | Skill Enhancement Course |
| GE3 | Generic Elective | GE4 | Generic Elective |
| SEMESTER V | | SEMESTER VI | |
| C11 | Concepts in Genetics | C13 | Genetic Engineering and Biotechnology |
| C12 | Gene Expression and Regulation | C14 | Immunology |
| DSE1 | Discipline Specific Elective | DSE3 | Discipline Specific Elective |
| DSE2 | Discipline Specific Elective | DSE4 | Discipline Specific Elective |

C: Core Courses; **GE:** Generic Elective; **AECC:** Ability Enhancement Compulsory Course; **SEC:** Skill Enhancement Courses; **DSE:** Discipline Specific Elective

Generic Elective (any one per semester in semesters I-IV)

- BCH GE-1: Biochemistry of Cell
- BCH GE-2: Proteins and Enzymes
- BCH GE-3: Intermediary Metabolism
- BCH GE-4: Gene Organization, Expression and Regulation
- BCH GE-5: Fundamentals of Cell Biology and Immunology
- BCH GE-6: Fundamentals of Genetic Engineering
- BCH GE-7: Biochemical Correlations in Diseases

Skill Enhancement Course (any one per semester in semesters III-IV)

- BCH SEC-1: Tools and Techniques in Biochemistry
- BCH SEC-2: Protein Purification Techniques
- BCH SEC-3: Clinical Biochemistry
- BCH SEC-4: Bioinformatics
- BCH SEC-5: Recombinant DNA Technology

Discipline Specific Elective (any two per semester in semesters V-VI)

- BCH DSE-1: Nutritional Biochemistry
- BCH DSE-2: Research Methodology
- BCH DSE-3: Molecular basis of non-infectious human diseases
- BCH DSE-4: Molecular basis of infectious diseases
- BCH DSE-5: Research Project
- BCH DSE-6: Advanced cell biology
- BCH DSE-7: Plant Biochemistry
- BCH DSE-8: Basic Microbiology

Bachelor of Elementary Education **(B.El.Ed.)**

Programme of Study

104 CIE / Z2498

June 2001



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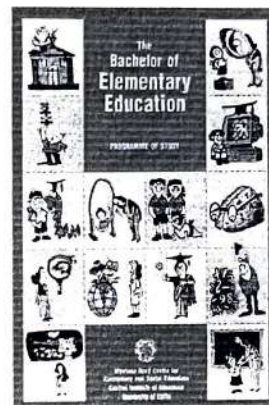
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The Bachelor of Elementary Education Programme of Study

| | |
|-------------------------|------|
| Student Contact Hours : | 3000 |
| Total Maximum Marks : | 2200 |
| Practicum : | 950 |
| Theory : | 1250 |
| Internal Assessment : | 375 |
| Annual Examination : | 875 |



The Bachelor of Elementary Education (B.El.Ed.) Programme is a four-year integrated professional degree programme of Elementary Teacher Education offered after the senior secondary (class XII or equivalent) stage of school. The B.El.Ed is designed to integrate the study of subject knowledge, human development, pedagogical knowledge and communication skills. The programme offers compulsory and optional theory courses, compulsory practicum courses and a comprehensive school internship experience. Both professional and academic options are available to students who graduate with a B.El.Ed degree.

बैचलर ऑफ एलिमेंटरी एजुकेशन (बी.एल.एड.), चार वर्ष का व्यावसायिक डिग्री कार्यक्रम है जो प्रारंभिक (आठवीं तक की) कक्षाओं में पढ़ाने के लिए छात्राओं को प्रशिक्षित करता है। इसमें उच्चतर माध्यमिक (12वीं या समकक्ष) स्तर की स्कूली शिक्षा के बाद प्रवेश मिलता है। बी.एल.एड. कार्यक्रम में विभिन्न विषयों का ज्ञान, मानव-विकास, शिक्षा शास्त्र तथा संप्रेषण कौशलों का समन्वित ज्ञान दिया जाता है। इस कार्यक्रम में विभिन्न अनिवार्य और वैकल्पिक थ्योरी पाठ्यचर्या और अभ्यासक्रम, अनिवार्य अभ्यासक्रम तथा अभ्यास-शिक्षण अनुभव शामिल हैं। बी.एल.एड. डिग्री प्राप्त विद्यार्थियों के लिए व्यावसायिक तथा शैक्षणिक दोनों विकल्प खुले रहेंगे।

"The Bachelor of Elementary Education is a programme that allows one to put into practice many of the theoretical ideas that one has on education. It offers immense scope for incorporating inter-disciplinary ideas through projects, colloquia and other such activities. It provides sound theoretical underpinnings for the work carried out in practice. Exploration, discovery learning and problem - solving are integral parts of the programme and are the methodological devices used in the classroom. The programme allows students to interact continuously between the outside world and the classroom. As students progress through the years they are encouraged to analyse and reflect on their experiences and on various issues related to society at large. As students frequently work in small groups, they learn the problems and advantages of team-work as a tool for learning and teaching."

Year wise scheme of courses and examination for the 4-Year Bachelor of Elementary Education (B.El.Ed.) Programme

| AREA | COURSE | TITLE | MARKS |
|-----------------|--------------|-------------------------------------|------------|
| YEAR I | | | |
| THEORY | F1.1 | Child Development | 100 |
| | F1.2 | Contemporary India | 100 |
| | C1.1 | Nature of Language | 50 |
| | C1.2 | Core Mathematics | 50 |
| | C1.3 | Core Natural Sciences | 50 |
| | C1.4 | Core Social Sciences | 50 |
| | TOTAL | | 550 |
| PRACTICUM | PR 1.1 | Performing and Fine Arts | 75 |
| | PR 1.2 | Craft, Participatory Work | 25 |
| | | Colloquia | 50 |
| | | Academic Enrichment Activities | |
| YEAR II | | | |
| THEORY | F2.3 | Cognition and Learning | 100 |
| | F2.4 | Language Acquisition | 50 |
| | F2.5 | Human Relations and Communication | 50 |
| | P2.1 | Language Across the Curriculum | 50 |
| | | Liberal Course (Optional I)* | 100 |
| | O2.1 | English I | |
| | O2.2 | Hindi I | |
| | O2.3 | Mathematics I | |
| | O2.4 | Physics I | |
| | O2.5 | Chemistry I | |
| | O2.6 | Biology I | |
| | O2.7 | History I | |
| | O2.8 | Political Science I | |
| | O2.9 | Geography I | |
| | O2.10 | Economics I | |
| | TOTAL | | 550 |
| PRACTICUM | PR2.3 | Observing Children | 75 |
| | PR2.4 | Self-development Workshops | 50 |
| | PR2.5 | Physical Education | 25 |
| | | Colloquia | 50 |
| | | Academic Enrichment Activities | |
| YEAR III | | | |
| YEAR IV | | | |
| TOTAL | | | 550 |

| AREA | COURSE | TITLE | MARKS |
|--------------------|------------|--|-------|
| YEAR III THEORY | F3.6 | Basic Concepts in Education | 100 |
| | F3.7 | School Planning and Management | 50 |
| | P3.2 | Logico Mathematics Education | 50 |
| | P3.3 | Pedagogy of Environmental Studies | 50 |
| | | Liberal Course (Optional II)* | 100 |
| | O3.1 | English II | |
| | O3.2 | Hindi II | |
| | O3.3 | Mathematics II | |
| | O3.4 | Physics II | |
| | O3.5 | Chemistry II | |
| | O3.6 | Biology II | |
| | O3.7 | History II | |
| | O3.8 | Political Science II | |
| | O3.9 | Geography II | |
| | O3.10 | Economics II | |
| PRACTICUM | SC3.1 | Classroom Management | 75 |
| | SC3.2 | Material Development and Evaluation | 75 |
| | | Colloquia | 50 |
| | | Academic Enrichment Activities | |
| TOTAL | | | 550 |
| YEAR IV THEORY | F4.8 | Curriculum Studies | 50 |
| | F4.9 | Gender and Schooling | 50 |
| | Option A : | Pedagogy (one of the following) | 50 |
| | OP4.1 | Language | |
| | OP4.2 | Mathematics | |
| | OP4.3 | Natural Science | |
| | OP4.4 | Social Science | |
| | OR | | |
| | Option B : | Specialised courses in education (one of the following) | |
| | OL4.1 | Computer Education | |
| | OL4.2 | Special Education | |
| PRACTICUM | SI | School Internship | 250 |
| | | Project | 100 |
| | | Colloquia | 50 |
| | | Academic Enrichment Activities | |
| TOTAL | | | 550 |

* Option will be offered as per the availability in respective colleges.

F : Foundation Course; C : Core Course; P : Pedagogy Course; O : Optional Liberal Course; OP : Optional Pedagogy; OL : Optional Course;
PR : Practicum; SC : School Contact Programme; SI : School Internship.

In the course nomenclature, the numeral immediately following letters (F,C,P, etc.) denotes the year of the programme in which the course is to be taught. The second numeral denotes the serial number in a particular course type. For instance, F2.5 signifies that Human Relations and Communications is the 5th Foundation Course to be taught in the 2nd Year of the programme of study.

School-Contact Programme

The School-Contact Programme begins with systematized observations and analysis of pedagogic practices in conventional and innovative settings. Gradually the prospective teacher evolves pedagogic practices that address concerns of classroom management, design and choice of activities, material development and evaluation.

School Internship

Placement in schools, a major component in the fourth year of the B.El.Ed. programme, envisions an intense and focussed school experience. Student interns actively engage in teaching elementary school children with systematic feedback and evaluation under select supervisors. Functioning as a regular teacher the intern attempts to translate her knowledge-base and professional skills into reflective classroom practice. School Internship carries a weightage of 250 marks.

Project

Each final year student is expected to undertake short projects based on themes arising out of their school experiences, as interns. The project aims to initiate the trainee into a process of reflective enquiry through classroom-based research. While enhancing basic research skills of systematic observation, documentation and analysis, the overall aim is to develop skills for reflective practice. The projects are allotted 100 marks.

Tutorial

An integral part of the B.El.Ed. programme, tutorials help students to build connections between theory, observations and classroom teaching. Students are expected to present term papers and participate in discussions.

Colloquia

Colloquia is structured to include concerted activity on children's literature, story telling, drama and music; organising teaching and learning resource centres and seminar presentations of school experiences. Colloquia is an essential part of all the four years of study carrying a weightage of 200 marks.

Academic Enrichment Activities

Academic Enrichment Activities, a structural provision within the programme of study for discussions, fora and seminars offers opportunity for interaction with faculty of diverse disciplines from within and outside the college.

In keeping with the vision of creating a bilingually proficient school teacher, teaching in the B.El.Ed. is done in a suitable combination of English and Hindi as per the requirements of the students. The B.El.Ed. faculty comprises of personnel drawn from a wide variety of academic disciplines and divergent work experiences. Known for its invigorating teaching approaches, the faculty imbues the programme with an ethic that fosters a stimulating learning environment, reasoned dialogue, sound scholarship and professional practice.

COLLOQUIA: SCHOOL CONTACT PROGRAMME

Objectives

To learn 'to'

- relate and communicate with children
- place emphasis on craft, theatre, music for organising creative activities and also to plan, design and organise creative activities with children using skills of craft, theatre, music and so on
- conduct meaningful group and individual activities with children
- engage all children in activities and to ensure active participation and free expression
- observe children and collate experiences of interacting with and relating to children
- reflect upon experiences

Tasks

Plan for the School Contact

Planning in terms of theme or topic, method of introduction, content, mode of presentation, duration and specific activities.

School Contact

Interaction with children using planned activities.

Post-Contact

Review and discussion with group members and faculty supervisors. This would include observations of children, collation of experiences and reflection upon experiences.

Record Keeping

Group reports will be informed by systematic written records of each student. Reports will include :

- the plan
- description of the collation of experiences with children, children's involvement etc.
- critical assessment of the plan and the school contact in terms of :
 - * choice and design of activities
 - * organisation
 - * nature of interaction with children
 - * observations of children
 - * the difficulties faced and possible innovation

Time Frame

Each student should have a minimum of 6 contact sessions over the year.

- | | |
|---------------------------|-----------------------------------|
| • Planning | 2-3 hrs with faculty facilitation |
| • School Contact | 3-4 hrs per school contact |
| • Post-Contact discussion | 2-3 hrs with faculty supervisor |

Supervisory Support

Each group of 4-6 students will be supervised by a faculty member who will:

- facilitate the planning process
- observe the interaction of trainee teachers with children during the contact
- give timely feedback and facilitate the process of analysis, interpretation, documentation and reflective learning

The Colloquia

Each group will make a minimum of two presentations based on the collated experiences of all members. Group presentations will be followed by questions, queries and comments from the rest of the class.

Reflective learning

It is expected that the trainees will learn to analyse critically their preparation, choice of activities and materials, developments that take place in a classroom, their own and other classmates' interaction with children. They are also expected to reflect upon issues regarding children's learning, their expressions, creativity, issues of discipline and control and the influence of varying socio-cultural background of children on their learning

Assessment

Each group will be assessed internally by the concerned supervisor on the following basis and criteria

Basis

Planning

Criteria

- theme/topic
- choice of activities
- relevance of materials
- organisation of time

School Contact

- organisation of material
- communication
- engaging children
- spontaneity
- time management

Post Contact Discussion

- insights gained
- analysis and interpretation
- reflective learning

Individual Report

- clarity of thought
- organisation and format
- analysis and reflection
- logical flow

Group Presentations

- identification of key elements
- clarity and organisation of ideas
- openmindedness to critique
- ability to substantiate arguments
- critical and reflective questioning
- cooperation and coordination among group members

SC 3.1 CLASSROOM MANAGEMENT

SC 3.2 MATERIAL DEVELOPMENT AND EVALUATION

Student Contact Hours : 160

Maximum Marks : 150

Internal Assessment : 150



The two practicum courses 'Material Development and Evaluation' and 'Classroom Management' are complementary, with the aim to involve teacher trainees to explore curricular, pedagogic and classroom organisation issues. Students are expected to study and reflect upon official documents in education, observe teaching-learning practices and measures of discipline in the classroom as also to critically analyse their relevance to the contemporary concerns of education. The practicum courses would also include conceptualising alternatives in pedagogy and evaluation within real classroom contexts.

‘सामग्री विकास और मूल्यांकन’ तथा ‘कक्षा प्रबंधन’: यह दो अभ्यासक्रम एक दूसरे के पूरक हैं। इन अभ्यासक्रमों का लक्ष्य विद्यार्थियों को पाठ्यक्रम, शिक्षाशास्त्र और कक्षा-प्रबंधन से संबंधित प्रश्नों को जांचने-समझने के लिए प्रेरित करना है। विद्यार्थियों से यह अपेक्षा है कि वे शिक्षा संबंधी सरकारी दस्तावेजों का अध्ययन-मनन करेंगे, शिक्षण व शिक्षार्जन की पद्धतियों और कक्षा में अनुशासन बनाए रखने के उपायों का अवलोकन करेंगे और इस बात का आलोचनात्मक विश्लेषण भी करेंगे कि शिक्षा के समकालीन सरोकारों के संदर्भ में उनकी कितनी प्रासंगिकता है। कक्षा के यथार्थ के संदर्भ में शिक्षण और मूल्यांकन के क्षेत्र में वैकल्पिक पद्धतियाँ खोजना भी इस अभ्यासक्रम में शामिल है।

“These two practicum courses together included many activities. Besides developing a comprehensive understanding of classroom practices and various policies, I learnt immensely from practices of alternative systems in and outside school. It helped not only in realising for myself the possibility of doing innovative activities with children, but it also proved fruitful in making me very independent and self reliant. It was a turning point in my professional growth and I could sense a professional teacher in me.”

SC 3.1 CLASSROOM MANAGEMENT

SC3.2 MATERIAL DEVELOPMENT AND EVALUATION

Objectives

- To develop a comprehensive understanding of existing classroom practices.
- To develop a critical understanding of textbook lessons of individual subjects and their suitability for learning.
- To draw lessons from innovative classroom practices of alternative or progressive schools.
- To draw linkages between various pedagogy courses and classroom practices.
- To critically review policy and state documents on education and seek to effect ideas into classroom practices.
- To develop and design alternative teaching-learning materials.
- To assess factors that contribute to a classroom culture, its creation and maintenance.
- To explore possibilities of innovations and create space for alternative practices.
- To design, choose, organise and conduct individual and group activities.
- To reflect on personal experiences of classroom management in terms of students' involvement, interest, discipline, communication, time management, organisation of materials, design and choice of activities.

Tasks

Students will take up the following tasks in the given sequence, over the academic year.

Task I: Observation of classrooms

Students in groups of 4-6 will visit select schools and conduct classroom observations, individually. Each classroom is to be observed by a single student only. The objectives would be:

- (a) to document and reflect on actual classroom practices of teachers engaged in teaching language, mathematics and environmental sciences with a view to understand the kind of learning such practices engender.
- (b) to study lessons from textbook and plans (if any) in order to understand the objectives of the concerned topics, the design and presentation of the lesson, and to critically evaluate their suitability for learning.

Task II: Visits to Centres of Innovation in Elementary School Education

Students in groups of 4-6 will visit one centre of innovative practice in elementary school education in or outside Delhi. The aim is to expose students to the practice of innovation in diverse settings: rural, urban, formal, nonformal etc. This could include detailed observations of alternative practices as well as trying innovative approaches with children.

Task III : Document and Text Analysis

- (a) To study significant issues in National Curriculum Framework documents, National Policy documents, other relevant official documents on education and their linkages with issues of pedagogy and curriculum design.
- (b) To critically review elementary school textbooks in order to understand the sequencing and progression of concepts; the requirement of diverse learning experiences, opportunities for individual learning capacities and pace; conceptual demands and the scope for spiral learning.
- (c) To undertake a comparative study of state curriculum and an alternative curriculum developed within the country or outside.

Task IV : Block Teaching

- (a) Students will teach for a block period of two weeks in pairs in a government elementary school. They will choose two or three topics or units of study in each subject with the aim to develop these units. The units could be those which the students have critically analysed.
- (b) To develop a "thematic" unit to teach, bringing in as many different aspects (relating to different subjects) of learning as possible and different ways of working with children.

Task V : Record Keeping

Students are expected to keep detailed raw records of their classroom observations and an interpretive analysis of these.

Students are expected to maintain a diary of their visits to centres of innovation for reflection.

- Students are expected to keep detailed records of their teaching experience in a government elementary school. Records will be maintained in the form of unit plans and reflective journals which will include the following:

- description of activities
- reflective and critical analysis of the teaching-learning process in terms of choice of activities; organisation of activities; evaluation of materials used for communication; children's responses and indicators of learning

Time Frame

Each student is expected to observe classrooms in a government elementary school for a period of 5-7 days. Classroom observations could be organised in the months of August and September of the relevant year.

- Each student must visit centres of innovation for a minimum period of two weeks during the autumn and or winter vacations.

- Each student is expected to teach for a block period of two weeks in a government elementary school during the months December to February of the relevant year..

Supervisory Support

The School Contact Programme is to be facilitated and supervised by faculty with specialisation in language, maths and environmental science pedagogy, as well as faculty dealing with more general pedagogy and issues of classroom organisation and management. Supervisors will:

- assist students in formulating guidelines for observations
- coordinate weekly meetings for reflective and analytical discussions based on observations and experiences in the classrooms
- facilitate in planning and development of materials for teaching in schools
- observe classroom interactions during teaching and assist students to reflect on their practices

Reflective Learning

It is expected that through this practicum students would develop a critical understanding of curricular materials and teaching practices in terms of their suitability for learning. They learn to study policy documents critically and identify specific issues and problems in Indian education, they would also learn to construct appropriate alternatives to the materials and the teaching practices they have critiqued, thus internalising the process of reflective teaching.

Assessment

The following basis and criteria will be used for ongoing internal assessment by supervisors.

| Basis | Criteria |
|------------------------------|---|
| Observations | <ul style="list-style-type: none"> • Detailed records • Focus on key elements |
| Individual and Group Reports | <ul style="list-style-type: none"> • Interpretive analysis • Logical and analytical reflections • Linkages with various concepts in pedagogy courses |
| Material Development | <ul style="list-style-type: none"> • Relevance, simplicity and adequacy • Innovation • Organisation of material • Time-frame for different activities • Method of introduction and summing up |
| Journal | <ul style="list-style-type: none"> • Assessment of an activity's success or failure • Identifying reasons • Linkages with theory • Reflective learning for future practices • Possible innovations |

SCHOOL INTERNSHIP PROGRAMME

Student Contact Hours : 400

Maximum Marks : 250

Internal Assessment : 250



The School Internship Programme is envisioned to offer an intense and focussed school experience. Structured to be a process in partnership between the school and the intern, the programme seeks to provide physical and psychological space for evolving innovations in teaching. While functioning as a regular teacher, the intern gets the opportunity to translate her knowledge base, pedagogic theory, understanding of children and her repertoire of skills into reflective classroom practice. The school benefits from this alliance in terms of witnessing possibilities of unconventional pedagogies.

अभ्यास-शिक्षण कार्यक्रम की कल्पना भावी शिक्षक को स्कूल का गहन और सकेंद्रित अनुभव कराने के लिए की गई है। इसकी रचना स्कूल और अभ्यास शिक्षक के बीच सहभागी प्रक्रिया के रूप में की गई जिससे शिक्षण में नए प्रयोग विकसित करने के लिए भौतिक और मनोवैज्ञानिक अवसर उपलब्ध हो सकें। इससे नियमित शिक्षक के रूप में कार्य करते हुए अभ्यास शिक्षक ज्ञान के आधार, शैक्षिक सिद्धांत, बच्चों के बारे में अपनी समझ और अपने कौशलों को कक्षा में मननशील अध्यापन में बदल पाएंगे। गैर-परम्परागत शैक्षिक प्रक्रियाओं की संभावितताओं के साकार होने से स्कूलों को भी फ़ायदा हो सकेगा।

"I finally got a platform to carry out my planned and thoughtout activities in reality. While dealing with a class of 55 students I could feel a very sensitive and a very scientific teacher in me. It is an extremely useful inclusion as it gives the feeling of a school in totality, ranging from classroom activities to teacher-parent interaction. I have learnt to be very realistic in expecting things from myself and from children. I could also see myself bridging the gap between theory and reality."

Phase II

Teaching in primary classes will involve teaching of all subjects, while middle level will involve teaching of specific subjects.

Teaching

- Develop unit plans of the curriculum to be transacted. These may vary in format for individual students.
- Choose and design activities for the transaction of unit plans. This may require out of classroom activities as well.
- Transact the planned activities and critically assess the developments that take place during the teaching-learning process.
- Identify and make available materials and teaching aids for curriculum transaction. This will serve towards developing a resource centre in the school.
- Identify needs of individual children including mentally and physically challenged, children 'labelled' as failures and children with specific learning and other difficulties.
- Keep detailed records of individual children's learning for improving classroom practices. This will serve towards projects that the interns are expected to undertake.

Developing Resources

- Develop and sustain for continuity, a teacher's resource centre in the school. This is expected to be a team activity for all the interns in a given school. The resource centre will comprise of material support for regular teachers and future interns.
- Identify infrastructural problems within the school such as poor blackboard surface, broken furniture, inadequacy of space, drinking water etc. and attempt to find appropriate individual and school level solutions.

Record Keeping

1. Maintain regular written records of the units plans. This will include monthly and daily plans. While maintaining individual creativity in designing plans, the intern is expected to include the following:
 - Subject or topic of the unit,
 - Rationale for choosing it
 - Methods of introduction
 - Organisation of activity chosen and designed, and
 - The materials required.
2. Maintain regular reflective daily journals which would include: a reflection of the activities transacted, their success or failure, issues in the process of transaction, appropriateness of material and activities, children's involvement and learning, time-management, discipline in the classroom and cooperation amongst children. The journal should include the intern's reflection on choice of activity in terms of children's levels of learning and interest. Reflections should also express the linkages that the intern draws between pedagogy and theory courses and their appropriate integration with skills of teaching.

The journal must project the lessons that the intern draws out of her own classroom, the experience and suggestions for future practices.

Time Frame

Each intern is expected to spend 17 weeks in the internship programme. Of these, one week is expected to be spent on classroom observations at the beginning of the internship. The subsequent 16 weeks are to be divided into two blocks for regular teaching. The first block of 11-12 weeks is to be spent in teaching a primary class (I-V). In the second block of 4-5 weeks, the interns will teach middle level (VI-VIII) classes.

The intern is expected to teach a minimum of four days per week, adding up to a total of 64 days. It is expected that the internship programme will be considered complete only after an intern has satisfied the requirement of one week of observations and a minimum of 55 days of teaching.

Supervisory Support

Interns will work under the professional guidance and facilitation of faculty supervisors. Supervision will be provided at two levels.

- General in terms of teaching- learning processes, classroom organisation management and planning.
- Subject supervision in terms of language, maths and environmental science at the primary level and the required subjects at the middle level.

Supervision visits need to be worked out amongst the faculty. A minimum of two supervisory visits per week are recommended. The supervisors would follow agreed upon, appropriate formats for recording observations of interns and evaluation parameters and criteria. More specifically, the supervisors will:

- act as a mediator between the intern and the B.El.Ed. vision and curriculum.
- help liaise between the intern and the cooperating (regular) teacher of the school.
- facilitate the intern to reflect on her classroom practices, her struggle with unconventional practices, matters of classroom discipline, translating ideas / plans into effective practice, and clarifying concepts to be taught.

Assessment

Each intern will be assessed internally by the supervisors on the following basis and criteria. The basis and criteria suggested below may be used for evaluating the intern at the primary and middle level of teaching. The weightage of a total of 250 marks per school internship could be divided in the following manner: 100 marks for classroom observation, 75 marks for Reflective Journals and 75 marks for Unit Plans. A peer review exercises could be undertaken amongst colleges for greater objectivity in assessment.

| Basis | Criteria |
|--|--|
| Classroom observations | <ul style="list-style-type: none">Knowledge-base |
| Regular supervision and Rotatory supervision | <ul style="list-style-type: none">Oral and written communicationCulture of learningChoice of activities and materialsSensitivity towards needs of childrenClassroom management |

Reflective journals

- Descriptions of classroom practices
- Analysis and reflection of experiences
- Quality of development in the intern's reflection.
- Conceptual clarity and an understanding of the linkages between classroom practice and theory
- Summative report

Unit Plans

- Appropriateness of the activities and materials used
- Organisation and time allotment
- Method of introduction and summing up
- Use of various skills

Number of teaching days

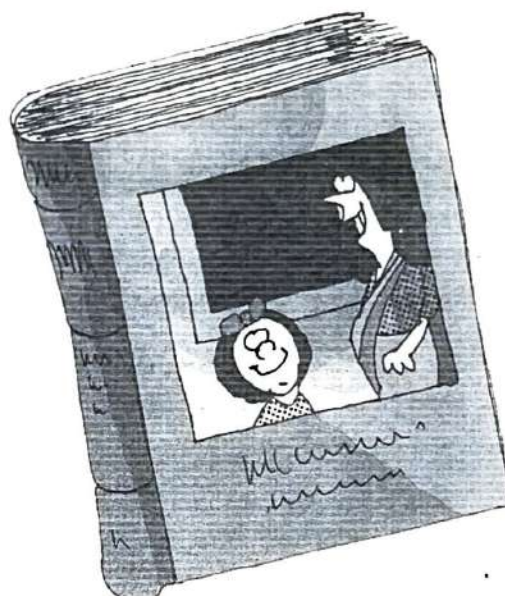
- Deduction in marks (maximum: 5) if less than 55

PROJECT

Student Contact Hours : 30

Maximum Marks : 100

Internal Assessment : 100



Projects aim to further develop the process of reflective enquiry through classroom-based research. While enhancing skills of systematic observation, documentation and analysis, the overall aim is to equip the intern for reflective teaching.

परियोजना प्राकल्प का उद्देश्य व्यवस्थित अवलोकन, दस्तावेजीकरण और विश्लेषण जैसे कुछ बुनियादी शोध कौशलों को निखारना है। स्कूली शिक्षा के अनुभवों से उपजे प्राकल्प के ज़रिये विद्यार्थी यह सीखते हैं कि कक्षा पर आधारित शोध के माध्यम से वैज्ञानिक जांच-परख कैसे की जाती है। कुल मिलाकर इसका उद्देश्य विद्यार्थियों में विचारशील ढंग से सीखने-सिखाने की प्रक्रिया विकसित करना है।

"Although the four projects that I took up were quite short ones, yet they took a lot of time. The projects were very interesting because I got the freedom to choose the topics on my own, based on classroom experiences. I could actually relate the concept of "action-research" with my teaching."

6.1. Credit Distribution in B.Sc. (Hons.) Food Technology

| CORE courses | | | |
|--------------|-------------|---|----------------------|
| Semester | Course Code | Course Name | Credits (Th.+Pr.) |
| I | CC FT101 | Fundamentals of Food Technology | 4 +2 |
| | CC FT102 | Principles of Food Science | 4 +2 |
| II | CC FT 201 | Technology of Food Preservation | 4 +2 |
| | CC FT 202 | Food Processing Technology | 4 +2 |
| III | CC FT 301 | Food and Nutrition | 4 +2 |
| | CC FT 302 | Technology of Fruits, Vegetables and Plantation Crops | 4 +2 |
| | CC FT 303 | Technology of Dairy and Sea Food | 4 +2 |
| IV | CC FT 401 | Technology of Cereals, Pulses and Oilseeds | 4 +2 |
| | CC FT 402 | Food Microbiology | 4 +2 |
| | CC FT 403 | Technology of Meat, Poultry and Egg | 4 +2 |
| V | CC FT 501 | Food Engineering | 4 +2 |
| | CC FT 502 | Food Chemistry-I | 4 +2 |
| VI | CC FT 601 | Food Chemistry-II | 4 +2 |
| | CC FT 602 | Food Quality And Sensory Evaluation | 4 +2 |

| DISCIPLINE SPECIFIC ELECTIVE COURSES | | | |
|--------------------------------------|------------------|------------------------------------|------------------------|
| Semester | Course Code | Course Name | Credits (Theory+Pr) |
| V and VI | DSE FT 01 | Food Safety | 4+2 |
| DSE 1 | DSE FT 02 | Food Quality Management | |
| (Any One) | DSE FT 03 | Bakery Technology | |
| | DSE FT 04 | Food Packaging | |
| | DSE FT 05 | Nutraceutical and Functional foods | |
| | DSE FT 06 | Food Plant Sanitation | |
| DSE II | DSE FT 01 | Food Safety | 4+2 |
| (Any One) | DSE FT 02 | Food Quality Management | |
| | DSE FT 03 | Bakery Technology | |
| | DSE FT 04 | Food Packaging | |
| | DSE FT 05 | Nutraceutical and Functional foods | |
| | DSE FT 06 | DSE FT06 Food Plant Sanitation | |

| SKILL ENHANCEMENT ELECTIVE COURSES | | | |
|------------------------------------|-------------|------------------------------|------------------------|
| Semester | Course Code | Course Name | Credits (Theory+Pr) |
| III & IV | SEC FT 01 | Entrepreneurship Development | 4 |
| | SEC FT 02 | Food Product Development | |
| | SEC FT 03 | Food Fermentation Technology | |
| | SEC FT 04 | Confectionary Technology | |
| | SEC FT 05 | Project and Technical Report | |

| GENERIC ELECTIVE COURSES | | | |
|--------------------------|-------------|--------------------------------------|------------------------|
| Semester | Course Code | Course Name | Credits (Theory+Pr) |
| I, II, III and IV | GE FT 01 | Food Processing and Preservation | 4+2 |
| | GE FT 02 | Chemistry of Food | |
| | GE FT 03 | Sensory Evaluation of Food | |
| | GE FT 04 | Food Microbiology and Food Safety | |
| | GE FT 05 | Food Engineering and Packaging | |
| | GE FT 06 | Technology of Plant and Animal Foods | |

STRUCTURE OF B.SC HONOURS FOOD TECHNOLOGY UNDER CBCS

CORE COURSE (14 Courses) Total Credits 84

CREDITS – 6 Each (4 Credits Theory + 2 Credits Practical = 6)

C1 –Fundamentals of Food Technology: 4 Credits Theory + 2 Credits Practical

C2-Principles of Food Science: 4 Credits Theory + 2 Credits Practical

C3- Technology of Food Preservation: 4 Credits Theory + 2 Credits Practical

C4- Food Processing Technology: 4 Credits Theory + 2 Credits Practical

C5-Food and Nutrition: 4 Credits Theory + 2 Credits Practical

C6- Technology of Fruits, Vegetables and Plantation Crops: 4 Credits Theory + 2 Credits Practical

C7-Technology of Dairy and Sea Food: 4 Credits Theory + 2 Credits Practical

C8- Technology of Cereals, Pulses and Oilseeds: 4 Credits Theory + 2 Credits Practical

C9- Food Microbiology: 4 Credits Theory + 2 Credits Practical

C10- Technology of Meat, Poultry and Egg: 4 Credits Theory + 2 Credits Practical

C11-Food Engineering: 4 Credits Theory + 2 Credits Practical

C12-Food Chemistry-I: 4 Credits Theory + 2 Credits Practical

C13-Food Chemistry-II: 4 Credits Theory + 2 Credits Practical

C14-Food Quality and Sensory Evaluation: 4 Credits Theory + 2 Credits Practical

DISCIPLINE SPECIFIC ELECTIVE (ANY FOUR) (4 x 6 = 24 Credits)

CREDITS – 6 Each (4 Credits Theory + 2 Credits Practical = 6)

DSE-1 Food Safety: 4 Credits Theory + 2 Credits Practical

DSE-2 Food Quality Management: 4 Credits Theory + 2 Credits Practical

DSE-3 Bakery Technology: 4 Credits Theory + 2 Credits Practical

DSE-4 Food Packaging: 4 Credits Theory + 2 Credits Practical

DSE-5 Nutraceutical and Functional Foods: 4 Credits Theory + 2 Credits Practical

DSE-6 Food Plant Sanitation: 4 Credits Theory + 2 Credits Practical

STRUCTURE OF B.SC HONOURS FOOD TECHNOLOGY UNDER CBCS

CORE COURSE (14 Courses) Total Credits 84

CREDITS – 6 Each (4 Credits Theory + 2 Credits Practical = 6)

C1 –Fundamentals of Food Technology: 4 Credits Theory + 2 Credits Practical

C2-Principles of Food Science: 4 Credits Theory + 2 Credits Practical

C3- Technology of Food Preservation: 4 Credits Theory + 2 Credits Practical

C4- Food Processing Technology: 4 Credits Theory + 2 Credits Practical

C5-Food and Nutrition: 4 Credits Theory + 2 Credits Practical

C6- Technology of Fruits, Vegetables and Plantation Crops: 4 Credits Theory + 2 Credits Practical

C7-Technology of Dairy and Sea Food: 4 Credits Theory + 2 Credits Practical

C8- Technology of Cereals, Pulses and Oilseeds: 4 Credits Theory + 2 Credits Practical

C9- Food Microbiology: 4 Credits Theory + 2 Credits Practical

C10- Technology of Meat, Poultry and Egg: 4 Credits Theory + 2 Credits Practical

C11-Food Engineering: 4 Credits Theory + 2 Credits Practical

C12-Food Chemistry-I: 4 Credits Theory + 2 Credits Practical

C13-Food Chemistry-II: 4 Credits Theory + 2 Credits Practical

C14-Food Quality and Sensory Evaluation: 4 Credits Theory + 2 Credits Practical

DISCIPLINE SPECIFIC ELECTIVE (ANY FOUR) (4 x 6 = 24 Credits)

CREDITS – 6 Each (4 Credits Theory + 2 Credits Practical = 6)

DSE-1 Food Safety: 4 Credits Theory + 2 Credits Practical

DSE-2 Food Quality Management: 4 Credits Theory + 2 Credits Practical

DSE-3 Bakery Technology: 4 Credits Theory + 2 Credits Practical

DSE-4 Food Packaging: 4 Credits Theory + 2 Credits Practical

DSE-5 Nutraceutical and Functional Foods: 4 Credits Theory + 2 Credits Practical

DSE-6 Food Plant Sanitation: 4 Credits Theory + 2 Credits Practical

SKILL ENHANCEMENT ELECTIVE COURSE (ANY TWO) (2 x 2 = 4)

CREDITS – 2 Each (2 Credits Theory or Practical = 2)

SEC-1 Entrepreneurship Development: 2 Credits Theory

SEC-2 Food Product Development: 2 Credits Practical

SEC-3 Food Fermentation Technology: 2 Credits Practical

SEC-4 Confectionary Technology: 2 Credits Practical

SEC 5 Project and Technical Report: 2 Credits Practical

GENERIC ELECTIVE (ANY FOUR) (4 x 6 = 24)

CREDITS – 6 Each (4 Credits Theory + 2 Credits Practical = 6)

GE 1. Food Processing and Preservation: 4 Credits Theory + 2 Credits Practical

GE 2. Chemistry of Food: 4 Credits Theory + 2 Credits Practical

GE 3. Sensory Evaluation of Food: 4 Credits Theory + 2 Credits Practical

GE 4. Food Microbiology and Food Safety: 4 Credits Theory + 2 Credits Practical

GE 5. Food Engineering and Packaging: 4 Credits Theory + 2 Credits Practical

GE 6. Technology of Plant and Animal Foods: 4 Credits Theory + 2 Credits Practical

| Semester | Course Opted | Course Name | Credits |
|----------|----------------|--|------------|
| I | AE – I/ AE -II | Environmental Science / English Communications | 4 |
| | CC HH 101 | Human Development I: The Childhood Years | 4 +2 |
| | CC HH 102 | Food and Nutrition | 4 +2 |
| | GE -1 | GE -1 | 4 +2 |
| II | AE – I/ AE -II | Environmental Science / English Communications | 4 |
| | CC HH 201 | Dynamics of Communication & Extension | 4 +2 |
| | CC HH 202 | Resource Management | 4 +2 |
| | GE -2 | GE -2 | 4 +2 |
| III | CC HH 301 | Introduction to Textiles | 4 +2 |
| | CC HH 302 | Communication Systems and Mass Media | 4 +2 |
| | CC HH 303 | Personal Finance & Consumer Studies | 4 +2 |
| | SEC-1 | SEC-1 | 4 |
| | GE -3 | GE -3 | 4 +2 |
| IV | CC HH 401 | Human Development II: Development in Adolescence and Adulthood | 4 +2 |
| | CC HH 402 | Nutrition: A Life Cycle Approach | 4 +2 |
| | CC HH 403 | Fashion Design Concepts | 4 +2 |
| | SEC-2 | SEC-2 | 4 |
| | GE -4 | GE -4 | 4 +2 |
| V | CC HH 501 | Life Sciences | 4 +2 |
| | CC HH 502 | Physical Sciences | 4 +2 |
| | DSE -1 | DSE -1 | 4 +2 |
| | DSE -2 | DSE -2 | 4 +2 |
| VI | CC HH 601 | Research Methodology in Home Science | 4 +2 |
| | CC HH 602 | Socio Economic Environment | 4 +2 |
| | DSE -3 | DSE -3 | 4 +2 |
| | DSE -4 | DSE -4 | 4 +2 |
| | | TOTAL | 148 |

***Any 4 DSE, 2 SEC AND 4 GE to be picked up by the student from the pool.**

| DISCIPLINE SPECIFIC ELECTIVE COURSES | | | |
|--------------------------------------|--------------------|--|------------------------|
| Semester | Course Code | Course Name | Credits (Theory+Pr) |
| V | DSE-1 (Any One) | Food Science Theories of Human Development Communication For Development: BCC Childhood in India Textile Processing Ergonomic Design Physiology and Promotive Health | 4+2 |
| | DSE-2 (Any One) | Nutritional Biochemistry Childhood in India Interior Design & Decoration Gender, Media and Society Apparel Production Basics of Interior Design and Hospitality Management | 4+2 |
| VI | DSE-3 (Any One) | Entrepreneurship Development & Enterprise Management Public Nutrition Childhood Disability and Social Action Programme Design and Evaluation Apparel Marketing and Merchandising Advertising and Public Relation Basics of Nutrition Epidemiology and Anthropology Commercial Clothing Understanding Gender in Contemporary India | 4+2 |
| | DSE-4 (Any One) | Extension for Development Indian Textile Heritage Therapeutic Nutrition Child Rights and Gender Justice Human Resource Management Pattern Making and Draping Non Formal Adult and Life Long Education Child Rights in India | 4+2 |

| SKILL ENHANCEMENT ELECTIVE COURSES | | | |
|------------------------------------|-------------|---|----------------|
| Semester | Course Code | Course Name | Credits (4) |
| III & IV | SEC HH 01 | Home Based Catering | |
| | SEC HH 02 | Maternal and Child Nutrition | |
| | SEC HH 03 | Early Childhood Care and Development | |
| | SEC HH 04 | Self Development and Well-Being | |
| | SEC HH 05 | Training and Capacity Building | |
| | SEC HH 06 | Advertising and Social Marketing | |
| | SEC HH 07 | Surface Ornamentation | |
| | SEC HH 08 | CAD in Textiles and Apparel | |
| | SEC HH 09 | Resources and Sustainable Development | |
| | SEC HH 10 | Autocad and Spatial Planning | |
| | SEC HH 11 | Understanding Psychology | |
| | SEC HH 12 | Computer Applications in Communication and Media Design | |
| | SEC HH 13 | Information, Education and Communication Material for Development | |
| | SEC HH 14 | House Keeping | |
| | SEC HH 15 | Travel and Tourism | |
| | SEC HH 16 | Nutrition Health Communication | |
| | SEC HH 17 | Biophysics | |
| | SEC HH 18 | Life Skills Education | |
| | SEC HH 19 | Activities and Resources for Child Development – I | |
| | SEC HH 20 | Activities and Resources for Child Development II | |
| | SEC HH 21 | Product Development in Textiles and Apparel | |
| | SEC HH 22 | Image Styling | |
| | SEC HH 23 | Fashion Illustration | |
| | SEC HH 24 | NGO Management & CSR | |

CORE COURSES (14 Courses) Total Credits – 84

(6 credits each Theory 4 credits + Practical 2 credits =6)

CC 1: Human Development I: The Childhood Years Theory 4 credits + Practical 2 credits

CC 2: Food and Nutrition Theory 4 credits + Practical 2 credits

CC 3: Dynamics of Communication and Extension Theory 4 credits + Practical 2 credits

CC 4: Resource Management Theory 4 credits + Practical 2 credits

CC 5: Introduction to Textiles Theory 4 credits + Practical 2 credits

CC 6: Communication Systems and Mass Media Theory 4 credits + Practical 2 credits

CC 7: Personal Finance & Consumer Studies Theory 4 credits + Practical 2 credits

CC 8: Human Development II: Development in Adolescence and Adulthood Theory 4 credits

+ Practical 2 credits

CC 9: Nutrition: A Life Cycle Approach Theory 4 credits + Practical 2 credits

CC10: Fashion Design Concepts Theory 4 credits + Practical 2 credits

CC11: Life Sciences Theory 4 credits + Practical 2 credits

CC12: Physical Science Theory 4 credits + Practical 2 credits

CC13: Research Methodology in Home Science Theory 4 credits + Practical 2 credits

CC14: Socio Economic Environment Theory 4 credits + Practical 2 credits

DISCIPLINE SPECIFIC ELECTIVE (4 Courses) Total Credits – 24

(6 Credits each –Theory 4 credits + Practical 2 credits =2)

DSE 1: Food Science Theory 4 credits + Practical 2 credits

DSE 2: Nutritional Biochemistry Theory 4 credits + Practical 2 credits

DSE 3: Theories of Human Development Theory 4 credits + Practical 2 credits

DSE 4: Childhood in India Theory 4 credits + Practical 2 credits

DSE 5: Communication for Development: BCC Theory 4 credits + Practical 2 credits

DSE 6: Extension for Development Theory 4 credits + Practical 2 credits

DSE 7: Textile Processing Theory 4 credits + Practical 2 credits

DSE 8: Indian Textile Heritage Theory 4 credits + Practical 2 credits

DSE 9: Entrepreneurship Development & Enterprise Management Theory 4 credits + Practical 2 credits

DSE 10: Interior Design & Decoration Theory 4 credits + Practical 2 credits

DSE 11: Therapeutic Nutrition Theory 4 credits + Practical 2 credits

DSE 12: Public Nutrition Theory 4 credits + Practical 2 credits

DSE 13: Child Rights and Gender Justice Theory 4 credits + Practical 2 credits

DSE 14: Childhood Disability and Social Action Theory 4 credits + Practical 2 credits

DSE 15: Gender, Media and Society Theory 4 credits + Practical 2 credits

DSE 16: Programme Design and Evaluation Theory 4 credits + Practical 2 credits

DSE 17: Apparel Marketing and Merchandising Theory 4 credits + Practical 2 credits

DSE 18: Apparel Production Theory 4 credits + Practical 2 credits

DSE 19: Ergonomic Design Theory 4 credits + Practical 2 credits

DSE 20: Human Resource Management Theory 4 credits + Practical 2 credits

DSE 21: Space Planning and Design Theory 4 credits + Practical 2 credits

DSE 22: Physiology and Promotive Health Theory 4 credits + Practical 2 credits

DSE 23: Advertising and Public Relation Theory 4 credits + Practical 2 credits

DSE 24: Non Formal, Adult and Life Long Education Theory 4 credits + Practical 2 credits

DSE 25: Basics of Interior Design and Hospitality Management Theory 4 credits + Practical 2 credits

CORE COURSES (14 Courses) Total Credits – 84
(6 credits each Theory 4 credits + Practical 2 credits =6)

CC 1: Human Development I: The Childhood Years Theory 4 credits + Practical 2 credits

CC 2: Food and Nutrition Theory 4 credits + Practical 2 credits

CC 3: Dynamics of Communication and Extension Theory 4 credits + Practical 2 credits

CC 4: Resource Management Theory 4 credits + Practical 2 credits

CC 5: Introduction to Textiles Theory 4 credits + Practical 2 credits

CC 6: Communication Systems and Mass Media Theory 4 credits + Practical 2 credits

CC 7: Personal Finance & Consumer Studies Theory 4 credits + Practical 2 credits

CC 8: Human Development II: Development in Adolescence and Adulthood Theory 4 credits
+ Practical 2 credits

CC 9: Nutrition: A Life Cycle Approach Theory 4 credits + Practical 2 credits

CC10: Fashion Design Concepts Theory 4 credits + Practical 2 credits

CC11: Life Sciences Theory 4 credits + Practical 2 credits

CC12: Physical Science Theory 4 credits + Practical 2 credits

CC13: Research Methodology in Home Science Theory 4 credits + Practical 2 credits

CC14: Socio Economic Environment Theory 4 credits + Practical 2 credits

DISCIPLINE SPECIFIC ELECTIVE (4 Courses) Total Credits – 24
(6 Credits each –Theory 4 credits + Practical 2 credits =2)

DSE 1: Food Science Theory 4 credits + Practical 2 credits

DSE 2: Nutritional Biochemistry Theory 4 credits + Practical 2 credits

DSE 3: Theories of Human Development Theory 4 credits + Practical 2 credits

DSE 4: Childhood in India Theory 4 credits + Practical 2 credits

DSE 5: Communication for Development: BCC Theory 4 credits + Practical 2 credits

DSE 6: Extension for Development Theory 4 credits + Practical 2 credits

DSE 7: Textile Processing Theory 4 credits + Practical 2 credits

DSE 8: Indian Textile Heritage Theory 4 credits + Practical 2 credits

DSE 9: Entrepreneurship Development & Enterprise Management Theory 4 credits + Practical 2 credits

DSE 10: Interior Design & Decoration Theory 4 credits + Practical 2 credits

DSE 11: Therapeutic Nutrition Theory 4 credits + Practical 2 credits

DSE 12: Public Nutrition Theory 4 credits + Practical 2 credits

DSE 13: Child Rights and Gender Justice Theory 4 credits + Practical 2 credits

DSE 14: Childhood Disability and Social Action Theory 4 credits + Practical 2 credits

DSE 15: Gender, Media and Society Theory 4 credits + Practical 2 credits

DSE 16: Programme Design and Evaluation Theory 4 credits + Practical 2 credits

DSE 17: Apparel Marketing and Merchandising Theory 4 credits + Practical 2 credits

DSE 18: Apparel Production Theory 4 credits + Practical 2 credits

DSE 19: Ergonomic Design Theory 4 credits + Practical 2 credits

DSE 20: Human Resource Management Theory 4 credits + Practical 2 credits

DSE 21: Space Planning and Design Theory 4 credits + Practical 2 credits

DSE 22: Physiology and Promotive Health Theory 4 credits + Practical 2 credits

DSE 23: Advertising and Public Relation Theory 4 credits + Practical 2 credits

DSE 24: Non Formal, Adult and Life Long Education Theory 4 credits + Practical 2 credits

DSE 25: Basics of Interior Design and Hospitality Management Theory 4 credits + Practical 2 credits

| DISCIPLINE SPECIFIC ELECTIVE COURSES | | | |
|--------------------------------------|-------------|-------------------------------------|--------------------|
| Semester | Course Code | Course Name | Credits (Th+Pr) |
| V | DSE HP 1A | Nutritional Biochemistry | 4+2 |
| DSE 1 | DSE HP 2A | Children with Disabilities | |
| DSE 2 | DSE HP 3A | Communication for Development | |
| DSE 3 | DSE HP 4A | Processes in Apparel Design | |
| (Any three) | DSE HP 5A | Entrepreneurship Development | |
| VI | DSE HP 1B | Public Nutrition and Dietetics | 4+2 |
| DSE 3 | DSE HP 2B | Child Rights and Gender Empowerment | |
| DSE 4 | DSE HP 3B | Extension Management | |
| DSE 5 | DSE HP 4B | Traditional Indian Textiles | |
| (Any three) | DSE HP 5B | Basics of Design Application | |

| SKILL ENHANCEMENT ELECTIVE COURSES | | | |
|------------------------------------|-------------|--|----------------|
| Semester | Course Code | Course Name | Credits (4) |
| III, IV, V & VI (One each) | SEC HP 1 | Sociology of Working with Families and Communities | |
| | SEC HP 2 | Understanding Psychology | |
| | SEC HP 3 | Overview of Indian Economy | |
| | SEC HP 4 | Human Physiology | |
| | SEC HP 5 | Bakery Science | |
| | SEC HP 6 | Home Based Catering | |
| | SEC HP 7 | Nutrition and Fitness | |
| | SEC HP 8 | Early Childhood Care and Education | |
| | SEC HP 9 | Adolescents' Relations and Well-Being | |
| | SEC HP 10 | Training for Development | |
| | SEC HP 11 | Advocacy and Behavior Change Communication | |
| | SEC HP 12 | Textile Design | |
| | SEC HP 13 | Computer Applications in Fashion Design | |

| | |
|-----------|---|
| SEC HP 14 | Resource Management and Sustainable Development |
| SEC HP 15 | Autocad and Space Planning |
| SEC HP 16 | Social Media and Digital Communication |
| SEC HP 17 | Basics of Design |
| SEC HP 18 | Computer Applications in Communication and Media Design |
| SEC HP 19 | Information, Education and Communication Material for Development |
| SEC HP 20 | House Keeping |
| SEC HP 21 | Training for Development |
| SEC HP 22 | Advocacy and Behavior Change Communication |
| SEC HP 23 | Textile Design |
| SEC HP 24 | Computer Applications in Fashion Design |
| SEC HP 25 | Resource Management and Sustainable Development |
| SEC HP 26 | Activities and Resources for Child Development II |
| SEC HP 27 | Product Development in Textiles and Apparel |
| SEC HP 28 | Image Styling |
| SEC HP 29 | Fashion Illustration |
| SEC HP 30 | NGO Management & CSR |
| SEC HP 31 | Going About Research |

CORE COURSES (12 Courses) Total Credits 72

(6 Credits each Theory 4 Credits +Practical 2 Credits =6)

CC1: Communication and Extension Theory 4 Credits +Practical 2 Credit

CC 2: Resource Management Theory 4 Credits +Practical 2 Credit

CC 3: Fashion Studies Theory 4 Credits +Practical 2 Credit

CC 4: Fundamentals of Nutrition and Food Science Theory 4 Credits +Practical 2 Credit

CC 5: Life Span Development I Theory 4 Credits +Practical 2 Credit

CC 6 : Fundamentals of Textiles Theory 4 Credits +Practical 2 Credit

CC 7: Physical Sciences Theory 4 Credits +Practical 2 Credit

CC 8: Life Span Development II Theory 4 Credits +Practical 2 Credit

CC 9: Nutrition for the Family Theory 4 Credits +Practical 2 Credit

CC 10: Life Sciences Theory 4 Credits +Practical 2 Credit

CC 11 : Personal Finance and Consumer Studies Theory 4 Credits +Practical 2 Credit

CC 12 : Communication Systems and Social Change Theory 4 Credits +Practical 2 Credit

DISCIPLINE SPECIFIC ELECTIVE (6 Courses) Total Credits -36

(6 Credits Each – Theory 4 Credits +Practical 2 Credits)

DSE 1A: Nutritional Biochemistry Theory 4 Credits +Practical 2 Credit

DSE-1B: Public Nutrition and Dietetics Theory 4 Credits +Practical 2 Credit

DSE 2A : Children with Disabilities Theory 4 Credits +Practical 2 Credit

DSE 2B : Child Rights and Gender Empowerment Theory 4 Credits +Practical 2 Credit

DSE 3A: Communication for Development Theory 4 Credits +Practical 2 Credit

DSE 3B: Extension Management Theory 4 Credits +Practical 2 Credit

DSE 4A: Processes in Apparel Design Theory 4 Credits +Practical 2 Credit

DSE 4B : Traditional Indian Textiles Theory 4 Credits +Practical 2 Credit

DSE 5A: Entrepreneurship Development Theory 4 Credits +Practical 2 Credit

DSE 5B: Basics of Design Application Theory 4 Credits +Practical 2 Credit

SKILL ENHANCEMENT COURSES (4 Courses) Total Credits – 8

(2 Credits Each Theory 2 Credits or Theory 1 + Practical 1Credit or Practical's 2 Credits)

SEC 1: Sociology of Working with Families and Communities Theory 2 Credit

SEC 2: Understanding Psychology Theory 2 Credit

SEC 3 : Overview of Indian Economy Theory 2 Credit

SEC 4: Human Physiology Theory 2 Credit

SEC 5: Bakery Science Practical 2 Credit

SEC-6: Home Based Catering Theory 2 Credit

SEC 7: Nutrition and Fitness Theory 2 Credit

SEC 8: Early Childhood Care and Education Practical 2 Credit

SEC 9: Adolescents' Relations and Well-Being Practical 2 Credit

SEC 10: Training for Development Practical 2 Credit

SEC 11: Advocacy and Behavior Change Communication Practical 2 Credit

SEC 12: Textile Design Practical 2 Credit

SEC 13: Computer Applications in Fashion Design Practical 2 Credit

SEC 14: Resource Management and Sustainable Development Practical 2 Credit

SEC 15: Autocad and Space Planning Practical 2 Credit

SEC 16: Social Media and Digital Communication Practical 2 Credit

SEC 17: Basics of Design Practical 2 Credit

SEC 18: Computer Applications in Communication and Media Design Practical 2 credits

SEC 19: Information, Education and Communication Material for Development Practical 2 credits

SEC 20: House Keeping Theory 2 credits

SEC 21: Travel and Tourism Theory 2 credits

SEC 22: Nutrition Health Communication Theory 2 credits

SEC 23: Biophysics Theory 2 credits

SEC 24: Life Skills Education Theory 2 credits

SEC 25: Activities and Resources for Child Development – I Practical 2 credits

SEC 26: Activities and Resources for Child Development II Practical 2 credits

SEC 27: Product Development in Textiles and Apparel Practical 2 credits

SEC 28: Image Styling Practical 2 credits

SEC 29: Fashion Illustration Practical 2 credits

SEC 30: NGO Management & CSR Theory 2 credits

Total Credits 72 Core + 36 DSE + 8 SEC + 4 AECC = 120 Credits

Structure of B.A. Honors Journalism Professional course (English) under LOCF

Core Course

Paper Titles Page

Semester II

| | |
|------------------------------------|---|
| 1. Reporting and Editing for Print | 1 |
| 2. Media and Cultural Studies | 3 |

Generic Elective (GE) (Any one)

Papers 3 and 4 will be offered in the 2nd semester. Students of other disciplines may choose any **one** in each semester from the following papers that are to be offered by each college.

Papers Titles Page

Semester II

| | |
|--|---|
| 1. Photography | 5 |
| 2. Advertising and Corporate Communication | 7 |

| SEM | CORE | SEC | DSE | GE |
|-----|---|-------|-------|---|
| II | C3 Reporting and Editing for Print C4 Media and Cultural Studies | ----- | ----- | GE (Sem II) 3. Photography 4. Advertising and Corporate Communication |

SEMESTER II

Reporting and Editing for Print

Objective: The students will be introduced to the nuances of reporting and editing. They will also grasp the skills required to cover and edit news. They will also understand the contemporary trends and issues in news reporting.

Unit I- Covering news

Reporter- role, functions and qualities

Working on a beat; news agency reporting.

Covering speeches, meetings and press conferences

Covering of beats- crime, courts, city reporting, health, education, sports

Structure of B.A. Honours Journalism Professional course (English) under LOCF




| Paper Titles | Core Course | Page |
|-------------------------------------|-------------|------|
| Semester III | | |
| 1. Introduction to Broadcast Media | | 5 |
| 2. History of the Media | | 6 |
| 3. Advertising and Public Relations | | 9 |
| Semester IV | | |
| 4. Introduction to New Media | | 11 |
| 5. Development Communication | | 13 |
| 6. Media Ethics and the Law | | 15 |

Skill Enhancement Course (SEC) (Any two)

Papers 1 and 2 will be offered in the 3rd semester and papers 3 and 4 will be offered in the 4th semester. Students are required to choose any **one** in each semester from the four papers that are to be offered by each college (two in each semester).

| Paper Titles | Page |
|---------------------------|------|
| Semester III | |
| 1. Radio Production | 24 |
| 2. Mobile Journalism | 25 |
| Semester IV | |
| 3. Documentary Production | 27 |
| 4. Animation and Graphics | 29 |

CBCS REVISED SYLLABUS 2019 B.A. Journalism (Honors) under LOCF

| Sem | CORE | SEC | DSE | GE |
|--|---|---|------------|---|
| III | C5 Introduction to Broadcast Media C6 History of the Media C7 Advertising and Public Relations | SEC 1. Radio Production SEC-2 2. Mobile Journalism | | GE(Sem3) 5.Film Appreciation 6.Television Journalism 7. Web Journalism 8. Law, Media and Society |
| IV | C8 Introduction to New Media C9 Development Communication C10 Media Ethics and the Law | SEC 3. Documentary Production SEC-4 Animation and Graphics | | GE (Sem4) 9.Video Production 10. Print Journalism 11. Media and Popular Culture |
|    | | | | |
| | | | | |

COURSES OFFERED UNDER B.SC. (H) MICROBIOLOGY PROGRAMME (CBCS)

| Core Courses | | | |
|--|---------------|---|---------|
| SEMESTER | COURSE CODE | NAME OF THE COURSE | CREDITS |
| I | MICROB-CC101 | Introduction to Microbiology and Microbial Diversity | L=4 P=2 |
| | MICROB-CC102 | Bacteriology | L=4 P=2 |
| II | MICROB-CC201 | Biochemistry | L=4 P=2 |
| | MICROB-CC202 | Cell Biology | L=4 P=2 |
| III | MICROB-CC301 | Microbial Physiology and Metabolism | L=4 P=2 |
| | MICROB-CC302 | Environmental Microbiology | L=4 P=2 |
| | MICROB-CC303 | Molecular Biology | L=4 P=2 |
| IV | MICROB-CC401 | Microbial Genetics and Genomics | L=4 P=2 |
| | MICROB-CC402 | Virology | L=4 P=2 |
| | MICROB-CC403 | Food and Dairy Microbiology | L=4 P=2 |
| V | MICROB-CC501 | Industrial Microbiology | L=4 P=2 |
| | MICROB-CC502 | Immunology | L=4 P=2 |
| VI | MICROB-CC601 | Medical Microbiology | L=4 P=2 |
| | MICROB-CC602 | Recombinant DNA Technology | L=4 P=2 |
| Discipline Specific Elective Courses (DSE) | | | |
| V | MICROB-DSE501 | Bioinformatics | L=4 P=2 |
| | MICROB-DSE502 | Instrumentation and Biotechniques | L=4 P=2 |
| | MICROB-DSE503 | Principles of Genetics | L=4 P=2 |
| | MICROB-DSE504 | Biomathematics and Biostatistics | L=4 P=2 |
| VI | MICROB-DSE601 | Microbial Biotechnology | L=4 P=2 |
| | MICROB-DSE602 | Advances in Microbiology | L=4 P=2 |
| | MICROB-DSE603 | Plant Pathology | L=4 P=2 |
| | MICROB-DSE604 | Biosafety and Intellectual Property Rights (IPR) | L=4 P=2 |
| | MICROB-DSE605 | Project Work | L=4 P=2 |
| Generic Electives Courses (GE) | | | |
| I | MICROB-GE101 | Introduction and Scope of Microbiology | L=4 P=2 |
| II | MICROB-GE201 | Bacteriology and Virology | L=4 P=2 |
| III | MICROB-GE301 | Microbial Metabolism | L=4 P=2 |
| | MICROB-GE302 | Microbial Genetics and Molecular Biology | L=4 P=2 |
| | MICROB-GE303 | Applications of Microbes in Biotechnology | L=4 P=2 |
| IV | MICROB-GE401 | Industrial and Food Microbiology | L=4 P=2 |
| | MICROB-GE402 | Microbes in Environment | L=4 P=2 |
| | MICROB-GE403 | Medical Microbiology and Immunology | L=4 P=2 |
| | MICROB-GE404 | Genetic Engineering and Biotechnology | L=4 P=2 |
| Skill Enhancement Elective Courses (SEC) | | | |
| III-IV | MICROB-SE1 | Microbial Quality Control in Food and Pharmaceutical Industries | L=2 P=2 |
| | MICROB-SE2 | Microbial Biotechnology in Health Care | L=2 P=2 |
| | MICROB-SE3 | Biofertilizers and Biopesticides | L=2 P=2 |
| | MICROB-SE4 | Food Fermentation Techniques | L=2 P=2 |
| | MICROB-SE5 | Management of Human Microbial Diseases | L=2 P=2 |
| | MICROB-SE6 | Microbiological Analysis of Air and Water | L=2 P=2 |
| | MICROB-SE7 | Fundamentals of Bioinformatics | L=2 P=2 |
| | MICROB-SE8 | Biostatistics | L=2 P=2 |

B.Sc (HONOURS) MICROBIOLOGY (CBCS STRUCTURE)
C-11: INDUSTRIAL MICROBIOLOGY (THEORY)
SEMESTER –V

TOTAL HOURS: 60

CREDITS: 4

Unit 1 Introduction to industrial microbiology and fermentation processes No. of Hours: 10

Brief history and developments in industrial microbiology.

Types of fermentation processes - Solid-state and liquid-state (stationary and submerged) fermentations; batch, fed-batch (eg. baker's yeast) and continuous fermentations.

Unit 2 Types of bio-reactors and measurement of fermentation parameters No. of Hours: 12

Components of a typical bio-reactor, Types of bioreactors-Laboratory, pilot- scale and production fermenters, constantly stirred tank and air-lift fermenters, Measurement and control of fermentation parameters - pH, temperature, dissolved oxygen, foaming and aeration.

Unit 3 Isolation of industrially important microbial strains and fermentation media

No. of Hours: 10

Sources of industrially important microbes and methods for their isolation, preservation and maintenance of industrial strains, strain improvement, Crude and synthetic media; molasses, corn-steep liquor, sulphite waste liquor, whey, yeast extract and protein hydrolysates.

Unit 4 Down-stream processing

No. of Hours: 6

Cell disruption, filtration, centrifugation, solvent extraction, precipitation, lyophilization and spray drying.

Unit 5 Microbial production of industrial products (micro-organisms involved, media, fermentation conditions, downstream processing and uses)

No. of Hours: 18

Citric acid, ethanol, , glutamic acid, Vitamin B12.

Enzymes (amylase, protease, lipase).

Wine, beer.

Antibiotics – Penicillin, Streptomycin.

Unit 6 Enzyme immobilization

No. of Hours: 4

Methods of immobilization, advantages and applications of immobilization, large scale applications of immobilized enzymes (glucose isomerase and penicillin acylase).

C-11: INDUSTRIAL MICROBIOLOGY (PRACTICAL)

SEMESTER –V

TOTAL HOURS: 60

CREDITS: 2

1. Study different parts of fermenter.

2. Microbial fermentations for the production and estimation (qualitative and quantitative) of:

(a) Enzymes: Amylase and Protease.

(b) Amino acid: Glutamic acid.

(c) Organic acid: lactic acid/ Acetic Acid

(d) Alcohol: Ethanol.

3. A visit to any educational institute/industry to see an industrial fermenter, and other downstream processing operations.

SUGGESTED READINGS

1. Patel A.H. (1996). Industrial Microbiology. 1st edition, Macmillan India Limited.

2. Okafor N. (2007). Modern Industrial Microbiology and Biotechnology. 1st edition. Bios Scientific Publishers Limited. USA.

3. Waites M.J., Morgan N.L., Rockey J.S. and Higton G. (2001). Industrial Microbiology: An Introduction. 1st edition. Wiley – Blackwell.

B.Sc (HONOURS) MICROBIOLOGY (CBCS STRUCTURE)
SE-3: BIOFERTILIZERS AND BIOPESTICIDES

TOTAL HOURS: 30

CREDITS: 2

Unit 1 Biofertilizers

No of Hours: 10

General account of the microbes used as biofertilizers for various crop plants and their advantages over chemical fertilizers.

Symbiotic N₂ fixers: *Rhizobium* - Isolation, characteristics, types, inoculum production and field application, legume/pulses plants.

Frankia - Isolation, characteristics, Alder, Casurina plants, non-leguminous crop symbiosis.

Cyanobacteria, *Azolla* - Isolation, characterization, mass multiplication, Role in rice cultivation, Crop response, field application.

Unit 2 Non - Symbiotic N₂ fixers

No of Hours: 4

Free living *Azospirillum*, *Azotobacter* - free isolation, characteristics, mass inoculum production and field application.

Unit 3 Phosphate and silicate solubilizers

No of Hours: 4

Phosphate and silicate solubilizing microbes - Isolation, characterization, mass inoculum production, field application.

Unit 4 Mycorrhizal biofertilizers

No of Hours: 5

Importance of mycorrhizal inoculum, types of mycorrhizae and associated plants, Mass inoculum production of VAM, field applications of Ectomycorrhizae and VAM.

Unit 5 Bioinsecticides

No of Hours: 7

General account of microbes used as bioinsecticides and their advantages over synthetic pesticides,

Bacillus thuringiensis, production, Field applications, Viruses – cultivation and field applications. Introduction to mycoinsecticides.

Suggested Readings

1. Kannaiyan, S. (2003). Bioethnology of Biofertilizers, CHIPS, Texas.
2. Mahendra K. Rai (2005). Hand book of Microbial Biofertilizers, The Haworth Press, Inc. New York.
3. Reddy, S.M. et. al. (2002). Bioinoculants for Sustainable Agriculture and Forestry, Scientific Publishers.
4. Subba Rao N.S (1995) Soil Microorganisms and Plant Growth, Oxford and IBH publishing co. Pvt. Ltd. NewDelhi.
5. Saleem F and Shakoori AR (2012) Development of Bioinsecticide, Lap Lambert Academic Publishing GmbH KG.
6. Aggarwal SK (2005) Advanced Environmental Biotechnology, APH publication.

| SEMESTER I | | | | |
|--|-----------------------------|-----------|----------|---------|
| Number of core courses | Credits in each core course | | | |
| Course | Theory | Practical | Tutorial | Credits |
| Core course 1 CC101: Research Methods | 4 | | | 4 |
| Core course 2 FASCC102: Advanced Fabric Science and Quality Control | 4 | 2 | | 6 |
| Core course 3 FASCC103: Garment Manufacturing Technology | 4 | 2 | | 6 |
| Core course 4 FASCC104: Historic Textiles | 4 | | | 4 |
| Total credits in core course | 20 | | | |
| Total credits in Semester I | 20 | | | |
| SEMESTER II | | | | |
| Number of core courses | Credits in each core course | | | |
| Course | Theory | Practical | Tutorial | Credits |
| Core course 5 CC205: Statistics and Computer Applications | 4 | 2 | | 6 |
| Core course 6 FASCC206: Textile Finishing and Evaluation | 4 | 2 | | 6 |
| Core course 7 FASCC207: Advanced Computer Aided Design | | 4 | | 4 |
| Core course 8 FASCC208: Fashion Merchandise and Retail | 4 | | | 4 |
| Core course 9 Integrated Practical FASCC209: Advanced Pattern Making and Garment Construction | | 4 | | 4 |
| Total credits in core course | 24 | | | |
| Total credits in Semester II | 24 | | | |

| SEMESTER III | | | | |
|--|-----------|---------------------------------|----------|---------|
| Number of core courses | | Credits in each core course | | |
| Course | Theory | Practical | Tutorial | Credits |
| Core course 10 FASCC310: Historic Costume | 4 | | | 4 |
| Core course 11 FASCC311: Dyeing, Printing and Colour Measurement | 4 | | | 4 |
| Core course 12 Integrated Practical FASCC312: Dyeing, Printing and Colour Measurement | | 4 | | 4 |
| Core course 13 FASCC313: Internship | | 2 | | 2 |
| Core course 14 FASCC314: Dissertation I: Technical Writing and Seminar | | 2 | | 2 |
| Total credits in core course | 16 | | | |
| Number of elective courses | | Credits in each Elective course | | |
| Credits in each elective course | Theory | Practical | Tutorial | Credits |
| Elective course 1 | 4 | 2 | | 6 |
| Elective course 2 | 4 | 2 | | 6 |
| Total credits in elective courses | 12 | | | |
| Number of Open Electives | | Credits in each open elective | | |
| | Theory | | | Credits |
| Open Elective | 4 | | | 4 |
| Total credits in open elective | 4 | | | |
| Total credits in Semester III | 32 | | | |

Elective Courses: Select any two of the following:

- FASEC31-Extension and Economic Empowerment
- FASEC32- Psychology of Fashion
- FASEC33- Women's Wear
- FASEC34- Sustainability in Textiles and Fashion Industry
- FASEC35-Marketing Management

Open Elective Courses for Semester III - Select any one of the following:

- FNOE31 : Community Nutrition Assessment
- HDCSOE31 : Parenting & High Risk Infants

- DCEOE31 : Communication Processes and Techniques
- RMDAOE31 : Entrepreneurship & Innovation
- FASOE31: Fabric Study

| SEMESTER IV | | | | |
|---|---------------------------------|-----------|----------|---------|
| Number of core courses | Credits in each core course | | | |
| Course | Theory | Practical | Tutorial | Credits |
| Core course 15 FASCC414: Dissertation II /Experiential Learning Project | | 6 | | 6 |
| Total credits in core course | | | | |
| Number of elective courses | Credits in each Elective course | | | |
| Credits in each elective course | Theory | Practical | Tutorial | Credits |
| Elective course 3 | 4 | 2 | | 6 |
| Elective course 4 | 4 | 2 | | 6 |
| Elective course 5 | 4 | 2 | | 6 |
| Total credits in elective courses | 18 | | | |
| Total credits in Semester IV | 24 | | | |

Elective Courses: Select any three of the following:

- FASEC41-Children's Wear
- FASEC42-Functional Clothing
- FASEC43- Textiles for Home and Hospitality
- FASEC44- Technical Textiles
- FASEC45- Textile Conservation
- FASEC46- Fashion Communication
- FASEC47- Commercial Laundry Practices

SEMESTER -3

| PAPER NO. | TITLE | CREDITS | Max Marks | Periods /week | Duration of exam (Hrs) |
|-----------|---|---------|-----------|---------------|------------------------|
| | THEORY | | | | |
| 1341 | DYEING, PRINTING AND COLOUR MEASUREMENT | 4 | 100 | 3 | 3 |
| 1342 | FASHION WORLD | 4 | 100 | 3 | 3 |
| | PRACTICAL | | | | |
| 1343 | DYEING PRINTING & COLOUR MEASUREMENT | 4 | 100 | 9 | 6 hrs |
| 1344 | FASHION ILLUSTRATION | 4 | 100 | 9 | 6 hrs |
| 1345 (a) | INTERNSHIP | 2 | 50 | 2 | |
| 1345 (b) | DISSERTATION | 2 | - | 2 | |
| | TOTAL | 20 | 450 | 28 | 200 |

TOTAL MARKS: 450

SEMESTER -4

| PAPER NO. | TITLE | CREDITS | Max Marks | Periods /week | Duration of exam (Hrs) |
|-----------|--|---------|-----------|---------------|------------------------|
| | THEORY | | | | |
| 1441 | QUALITY ASSURANCE IN TEXTILES & APPAREL | 4 | 100 | 3 | 3 |
| 1442 | ELECTIVES (<u>Any two of the following</u>): a) TEXTILE CONSERVATION AND DOCUMENTATION b) EXTENSION PROGRAMME DESIGNS c) TEXTILES FOR HOME AND HOSPITALITY d) FASHION MERCHANDISE RETAIL | 4 each | 100 each | 3 | 3 |
| 1443 | PRACTICAL | | | | |
| | a) TEXTILE DESIGN DEVELOPMENT b) CAD FOR FABRICS AND APPAREL | 4 | 100 | 9 | 6 hrs on 2 Days |
| 1444 | DISSERTATION | 4 | 150 | 4 | |
| | TOTAL | 20 | 500 | 22 | |

TOTAL MARKS: 550

GRAND TOTAL = 2000

| Semester I | | | | |
|---|-----------------------------|-----------|----------|---------|
| Core courses | Credits in each core course | | | |
| | Theory | Practical | Tutorial | Credits |
| Core course 1 FNCC 101 Research Methods | 4 | | | 4 |
| Core course 2 FNCC 102 Advanced Nutritional Biochemistry and Techniques-I | 4 | 2 | | 6 |
| Core course 3 FNCC 103 Principles of Food Science | 4 | 2 | | 6 |
| Core course 4 FNCC 104 Human Physiology | 4 | | | 4 |
| Total credits in core course | 20 | | | |
| | | | | |
| Total credits in Semester I | 20 | | | |

| Semester II | | | | |
|---|-----------------------------|-----------|----------|---------|
| Core courses | Credits in each core course | | | |
| | Theory | Practical | Tutorial | Credits |
| Core course 5 FNCC 205 Statistics and Computer Application | 4 | 2 | | 6 |
| Core course 6 FNCC 206 Food Microbiology and Food Safety | 4 | 2 | | 6 |
| Core course 7 FNCC 207 Advanced Human Nutrition – I | 4 | | | 4 |
| Core course8 FNCC 208 Advanced Nutritional Biochemistry and Techniques –II | 4 | | | 4 |
| Core course 9 FNCC 209 Integrated Nutrition Practical | | 4 | | 4 |
| Total credits in core course | 24 | | | |
| | | | | |
| Total credits in Semester II 24 | | | | |

| Semester III | | | | | |
|--|-------------------|---------------------------------|-----------|----------|---------|
| Core courses | | Credits in each core course | | | |
| | | Theory | Practical | Tutorial | Credits |
| Core course 10 FNCC 310 Advanced Human Nutrition- II | | 4 | | | 4 |
| Core course 11 FNCC 311 Clinical Nutrition | | 4 | | | 4 |
| Core course 12 FNCC 312 Integrated practical | | | 4 | | 4 |
| Core course 13 FNCC 313 Internship | | | 2 | | 2 |
| Core course 14 FNCC 314 Dissertation I: Technical Writing and Seminar | | | 2 | | 2 |
| Total credits in core course | | 16 | | | |
| Elective courses* | | Credits in each Elective course | | | |
| | | Theory | Practical | Tutorial | Credits |
| Group A | Elective course 1 | 4 | 2 | | 6 |
| | Elective course 2 | 4 | 2 | | 6 |
| Group B | Elective course 1 | 4 | 2 | | 6 |
| | Elective course 2 | 4 | 2 | | 6 |
| Group C | Elective course 1 | 4 | 2 | | 6 |
| | Elective course 2 | 4 | 2 | | 6 |
| Total credits in elective courses | | 12 49 | | | |
| Number of Open | Credits in each | | | | |

Specialization A: Clinical Nutrition

Elective Course 1: FNEC 31 A: Public Health Aspects of Malnutrition

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Elective Course 2: FNEC 32 A: Institutional Food Management

Specialization B: Public Health Nutrition

Elective Course 1: FNEC 31 B: Public Health Nutrition

Elective Course 2: FNEC 32 B: Programme Planning in Public Health Nutrition

Specialization C: Food Science and Processing

Elective Course 1: FNEC 31 C: Principles of Food Processing

Elective Course 2: FNEC 32 C: Food Processing Technology -I

Open Elective Courses for Semester III - Select any one of the following:

- FNOE31 : Community Nutrition Assessment
- HDCSOE31 : Parenting & High Risk Infants
- DCEOE31 : Communication Processes and Techniques
- RMDAOE31 : Entrepreneurship & Innovation
- FASOE31: Fabric Study