



National University (NU)

**Syllabus for
Bachelor of Science (Hon's) in
Fashion Design & Technology (FDT)**

Session: 2018-2019

Detailed Syllabus

Year & Semester	Total Credits	Theory (credits)	Practical (credits)
1 st Year: 1 st Semester	20	17	03
1 st Year: 2 nd Semester	24	16	08
2 nd Year: 3 rd Semester			
2 nd Year: 4 th Semester			
3 rd Year: 5 th Semester			
3 rd Year: 6 th Semester			
4 th Year: 7 th Semester			
4 th Year: 8 th Semester			
Total credits			

Semester-wise course offering for B. Sc. (Hons) in Fashion Design & Technology (FDT)

First Year: 1st semester

Course Code	Course Title	Credits	Remark
510701	Introduction to Fashion & Apparel Industries	3	
510501	Textile Science: Fiber-Yarn - Fabric	3	
510702	Elements of design - Practical	3	
512801	Basic Science: Chemistry	3	
511501	History of the emergence of independent Bangladesh	3	
511101	English Foundation Course: Part-1	3	
510703	History of Fashion	2	
	Total	20	

First Year: 2nd Semester

Course Code	Course Title	Credits	Remark
510503	Sewing Technology	2	
510504	Sewing Technology - Practical	1	
510505	Dyeing, Printing & Finishing for Apparel	3	
510506	Dyeing, Printing & Finishing for Apparel - Practical	1	
515312	Basic Applications of Computer- Practical	3	
512711	Basic Science: Physics	3	
512211	Introduction to Economics	3	
511111	English Foundation Course: Part-2	3	
510507	Clothing Materials & Techniques	2	
510508	Clothing Materials & Techniques - Practical	1	
510704	Basic draping – 1 - Practical	2	
	Total	24	

Details of Course Outline of Each Subject

Year -1, Semester-1

Course Code : 510701	Credits : 3	Class Hours: -----hrs.
Course Title :	Introduction to Fashion & Apparel Industries	

Introduction to Ready Made Garment Industry: Historical evolution of Ready Made Garment Industry, The inception of RMG Ready Made Garment Industry in Bangladesh, Detailed idea on Garment and textile industries, Relationships between Garment and textile industries, Characteristics of global clothing business, Differences between tailoring & garment industry.

Style & Fashion: Definition of style & fashion, Difference between fashion & style, Fashion Cycle, Different stages of fashion cycle with appropriate graph, Length of fashion cycle, Purposes of wearing clothes.

Present Conditions of RMG Industry: The contribution of RMG industry in Bangladesh, Data on increase of factories, earning, and major apparel items exported from Bangladesh, percentage of woven & knit exports in terms of quantity and value for previous years.

Backward & Forward Linkage Industries: Definition of backward & forward linkage industries, List of backward linkage industries, Detailed discussion on different types of backward & forward linkage industries.

Departments in Ready Made Garment Industry: General working procedure of garment industry, Various departments in woven, cut and sew knit and fully fashioned knit factories, Definition, activities & structure of store, cutting, sewing, finishing, sample, merchandising, research and product development, CAD, quality control departments.

Detailing on Different Garments: A complete list of woven, cut and sew knit and fully fashioned knit items, Detailed discussion on commonly exported woven, cut and sew knit and fully fashioned knit items.

Global Apparel Markets: The large markets for Bangladeshi apparels, Key business factors for RMG industry. SWOT analysis for our RMG industry.

Others: BGMEA, Role of BGMEA to strengthen RMG sector, Missions and visions of BGMEA, Important terms for RMG industry, some necessary abbreviations and acronyms related to RMG industry.

Reference Books:

1. The Readymade Garment Industry of Bangladesh by Hafiz G.A. Siddiqi- published in 2004 by The University Press Limited.

2. An Introductory knowledge About Garments manufacturing Technology by Md. SaifulAzam, Md. Abu Saleh, Khondokar Abu Nafiz – published in July 2009 by Books Fair.

Course Code : 510501	Credits : 3	Class Hours: -----hrs.
Course Title :	Textile Science: Fiber-Yarn- Fabric	

Introduction to textile science introduces the basic concepts of fiber, yarn and fabric to the apprentices such as properties and types of fiber and fabric used in apparel manufacturing.

Terms Definitions: Terms and Definitions of textile; Fiber, Natural fiber, Manmade fiber, Synthetic fiber, Staple fiber, Continuous filament, Bast fiber, leaf fiber, seed fiber.

Textile process cycle, Characteristics of textile fiber, Classification of textile fiber, Difference between natural and manmade fiber etc.

Cotton Fiber: producing countries of cotton fiber, Physical properties of cotton fiber, chemical properties of cotton fiber, Thermal and Biological properties of cotton fiber, micro structure and cross section of cotton fiber.

Wool fiber: Wool producing countries, Composition and characteristics of wool, Wool shearing, Physical properties of wool fiber, chemical properties of wool fiber, Thermal and Biological properties of wool fiber, micro structure and cross section of wool fiber, Classification of wool fiber, details about merino wool.

Silk fiber: Silk producing countries, Composition and characteristics of silk, Silk manufacturing process, Physical properties of silk fiber, chemical properties of silk fiber, Thermal and Biological properties of silk fiber, Classification of silk fiber.

Manmade fiber: Physical and chemical properties polyester, nylon and spandex fiber; Brand name of polyester, nylon and spandex fiber, end uses of polyester, nylon and spandex fiber, spandex fiber characteristics.

Yarn: Yarn, yarn twist, regularity and hairiness. Briefly manufacturing process of ring, rotor, carded and combed yarn; Yarn classification i.e. spun, filament, plied, cable, worsted and woolen yarn, difference between carded and combed yarn. Yarn count(Ne, Worsted, Nm, Tex and Denier

count), measurement system. Problem solving of count, count conversion. Video presentation on yarn production of a spinning factory.

Fabric: Fabric, Classification of Fabric (woven, knit, non-woven, braid fabric), classification of woven fabric (plain, twill, satin), classification of knit fabric (single jersey, rib, interlock, purl fabric). GSM an oz/yd² of fabric, conversion from gsm to oz/yd².

Reference book:

1. EPG Gohl & L.D. Vilensky (1999), Textile Science, 2nd Edition, CBS Publishers & Distributors.
2. Understanding Textile for Merchandiser by Prof. Engr. Dr. Shah Alimuzzaman Belal
3. Bernard P. Corbman (1983), Textiles Fiber to Fabric, 6th Edition.

Course Code : 510702	Credits : 3	Class Hours: -----hrs.
Course Title :	Elements of design – Practical	

The element design course deals with the theories & practicalities of visual design . basic principal of visual design & composition continue to be emphasized, clarified and experimented with. This course add an intense elaboration of design principles related to the practical application of the element of design, focusing on the interaction and relativity. Students will develop themselves through a series of projects like line composition, line & shape composition, color composition, motif making & arrangement, etc. students will learn how to arrange the aforementioned elements. The course involves a balance of lecture and discussion along with extensive exercises:

- Introduction to Color theory Characteristics, Properties of Color (Hue, Value, Light)
- **Design Process:** Balance, Rhythm proportion, Harmony, point, Line and Shape, Emphasis etc.
- **Practical:** Color exercise, Hue, color wheel, intermediate Hues (optional) values (Tint, pure Hue, Shade)
- **Texture :** Actual and Implied Visual Impression.
- Shape / volume, naturalism / abstraction/ non-objective.
- Make collage, collage using founding materials.
- Multiple perspective open form / closed form.
- Visual Impression-Selecting to create a mood board.
- Visual Presentation: Collecting different object and make mood board (4 Board)

The Faculty may readjust this plan during the semester if necessary

Text book:

1. Color by Edith Anderson Feisner (2nd Edition)
2. By - Sharon Lee Tate and Bill Glazer. The Snap Fashion Sketch Book - sketching and design the fast way 1995 Edition, Prentice Hall, Englewood Cliffs New jersey-07632.
3. By- Kathryn McKelvey Fashion Source Book. Blackwell Science, Gerry Cooklin-1994

Course Code : 512801	Credits : 3	Class Hours: -----hrs.
Course Title :	Basic Science: Chemistry	

Introduction to Chemistry: Atoms, Molecules, Ions, Symbol of elements, Molecular weight, Empirical formula, Molecular formula, Fundamental particles of atom, Bohr's atomic model, Atomic number, Mass number, Isotope, Modern periodic law and table, groups and periods of periodic table.

Acids and Bases: Modern theories of acids and bases (Arrhenius, Brønsted-Lowry and Lewis concept), amphoteric substance, conjugate acids and bases, neutralization reactions, Strength of acids and bases, salt, use of salt in dyeing process, hardness of water, pH, methods of measuring pH, calculation of pH, pH scale, Buffer solution, Indicators, bleaching agents: H₂O₂, H₂S, SO₂ etc.

Chemical Bonds: Valence electrons, Chemical bond, Types of chemical bonds: Ionic bond, Covalent bond, Sigma and pi bond, Co-ordination bond, polarity of covalent bonds, Hydrogen bond, intermolecular forces: Van-der Waal's forces and H-bond.

Introduction to Organic Chemistry: Definition of organic compounds, difference between inorganic and organic compounds, classification of organic compounds, Hydrocarbons and their classification, Aliphatic hydrocarbons: Alkanes, Alkenes, Alkynes; Aromatic hydrocarbon, Structure of benzene; Functional group of hydrocarbons, IUPAC nomenclature of organic compounds.

Soap and detergent: Definition of soap and detergent, classification of detergent, saponification, preparation of detergents, Cleansing action of soap and detergent, Limitations of soap and detergent, comparison between soap and detergent.

Chemistry of biomolecules: Definition of carbohydrate, Classification of carbohydrates, structure of glucose, fructose, starch and cellulose, difference between cellulose and starch. **Basic Concept of Polymers:** Definition of polymer and monomer, Repeating unit, degree of polymerization, calculation of degree of polymerization, Classification of Polymers, classification of copolymer, polymerization: addition and condensation polymerization, Plastics.

Color chemistry: Definition of color, dye and pigment, Difference between dye and pigment, classification of dyes according to chemical structure and application, preparation of Azo dyes, Nitro dyes.

Reference Books:

1. General Chemistry, By- Ebbing, Houghton Mifflin Company, New York.
2. Introduction to Modern Inorganic Chemistry, By- S. Z. Haider, Edexcel Publications, Dhaka, Bangladesh.
3. A Textbook of Organic Chemistry, By - B. S. Bahl and ArunBahl, , S. Chand & Company Ltd., New Delhi, India.
4. Carl H. Snyder: The Extraordinary Chemistry of Ordinary Things, Publisher: Jhon Wiley & Sons, Inc., New York, ISBN 0-471-31042-5.

Course Code : 511501	Credits : 3	Class Hours: -----hrs.
Course Title :	History of the emergence of independent Bangladesh	

Introduction: Scope and description of the emergence of Independent Bangladesh.

Writing on this topic.

1. Description of the country and its people.

- a. Geographical features and their influence.
- b. Ethnic composition.
- c. Language.
- d. Cultural syncretism and religious tolerance.
- e. Distinctive identity of Bangladesh in the context of undivided Bangladesh.

2. Proposal for undivided sovereign Bengal and the partition of the Sub Continent, 1947.

- a. Rise of communalism under the colonial rule, Lahore Resolution 1940.
- b. The proposal of Suhrawardi and Sarat Bose for undivided Bengal : consequences
- c. The creation of Pakistan 1947.

3. Pakistan: Structure of the state and disparity.

- a. Central and provincial structure.
- b. Influence of Military and Civil bureaucracy.
- C. Economic, social and cultural disparity

4. Language Movement and quest for Bengali identity

- a. Misrule by Muslim League and Struggle for democratic politics.

- b. The Language Movement: context and phases.
- c. United front of Haque – Vasani – Suhrawardi: election of 1954, consequences.

5. Military rule: the regimes of Ayub Khan and Yahia Khan (1958-1971)

- a. Definition of military rules and its characteristics.
- b. Ayub Khan's rise to power and characteristics of his rule (Political repression, Basic democracy, Islamisation)
- c. Fall of Ayub Khan and Yahia Khan's rule (Abolition of one unit, universal suffrage, the Legal Framework Order)

6. Rise of nationalism and the Movement for self-determination.

- a. Resistance against cultural aggression and resurgence of Bengali culture.
- b. Sheikh Mujibur Rahman and the six point movement
- c. Reactions : Importance and significance
- d. The Agortola Case 1968.

7. The mass- upsurge of 1969 and 11 point movement: background, programme and significance.

8. Election of 1970 and the Declaration of Independence by Bangobondhu

- a. Election result and centres refusal to comply
- b. The non-co-operation movement, the 7th March , Address , Operation Searchlight
- c. Declaration of Independence by Bangobondhu and his arrest

9. The war of Liberation 1971

- a. Genocide, repression of women, refugees
- b. Formation of Bangladesh government and proclamation of Independence
- c. The spontaneous early resistance and subsequent organized resistance (MuktiFouz, MuktiBahini, guerillas and the frontal warfare)
- d. Publicity Campaign in the war of Liberation (Shadhin Bangla Betar Kendra, the Campaigns abroad and formation of public opinion)
- e. Contribution of students, women and the masses (Peoples war)
- f. The role of super powers and the Muslim states in the Liberation war.
- g. The Anti-liberation activities of the occupation army, the Peace Committee, Al-Badar, Al-Shams, Rajakars, pro Pakistan political parties and Pakistani Collaborators , killing of the intellectuals.

- h. Trial of Bangabondhu and reaction of the World Community.
- i. The contribution of India in the Liberation War
- j. Formation of joint command and the Victory
- k. The overall contribution of Bangabondhu in the Independence struggle.

10. The Bangabondhu Regime 1972-1975

- a. Homecoming
- b. Making of the constitution
- c. Reconstruction of the war ravaged country
- d. The murder of Bangabondhu and his family and the ideological turn-around.
- e.

Reference Books: 1) History of the Emergence of Independent Bangladesh, Professor Dr. Muntasir Mamun

2) History of the Emergence of Independent Bangladesh, Professor Md. Mozammel Haque

3) History of the Emergence of Independent Bangladesh, Md. A Salam, S M Nasir, Md. Nazrul Islam.

Course Code : 511101	Credits : 3	Class Hours: -----hrs.
Course Title :	English Foundation Course: Part-1	

This is a foundation course designed to enable students to develop their competence in reading, writing, speaking and learning the rules of grammar. The course encourages students to acquire skills and strategies for using language appropriately and effectively in various situations.

▪ **Reading and understanding:**

Students are expected to read passages so that they might come across in their everyday life to understand different uses of language, guess word meaning in context, realize long sentences, recognize main ideas and supporting ideas, answer comprehension questions and write summaries.

Prescribed texts (Extracts may be taken from contemporary Journals, Editorial of newspapers, literary essays and online resources).

- **Extensive reading:** “Bacon’s essays”- written by Fransis Bacon.
- **Grammatical Items:** Parts of speech; Prefix and suffix: changing words and using them in sentences; Different kinds of phrases: Modals; Modifiers; Articles; Tenses; Verbals: Gerund, Infinitive, participle; Question types; Subject-verb agreement and Right Forms

of verb; Sentence and its classifications; Conditionals; Transformation of sentences; Punctuation & Capitalization and Degrees of comparison.

Reference Books:

1. Raymond Murphy, Intermediate English Grammar
2. A Practical English Grammar –By AJ.Thoms on A.V.Martnet
3. Learning English the easy way By, M.A. PHD Sadruddn Ahmed.
4. High School English Grammar and composition by Wren & Martin,
5. Friends’ Language (Grammar Reading Comprehension: writing composition.)
By Prof. Md. Ataul Haque
Prof.Jahurul Islam
Dr. Binoy Barman.
6. A Text Book of Higher English grammar Composition & Translation.
By, P.K.De Sarkar, M.A

Course Code : 510703	Credits : 2	Class Hours: -----hrs.
Course Title :	History of Fashion	

- Short history of different Civilizations, History of European Civilization.
- **Classic Period:** Regency Style, Victorian Style, Edwardian Style, Georgian Style.
- **Fashion Period:** Early Twentieth Century (1900s-1910s), Golden age of French Fashion (1920s-1930s), Mid-twentiethCentury (1940s-1970s), Late Twentieth Century (1980s-1990s).
- **History of the Handloom Industry of Bangladesh:** History of Muslin, Dhakai Jamdani,Tangail Taant, Mirpur Benarashi & Katan, Rajsahi Silk, Khaddi of Comilla.
- Festival & Traditional Clothing of Bangladesh.
- Crafts & jewelries of Bangladesh, Nakshi Kantha.
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Book Reference:

- 20th Century Fashion
- By- James Laver. COSTUME & FASHION. Revised expended and updated Edition. Thames and Hudson Ltd. London 1995.
- What people wore when.
(A complete Illustrated history of costume from ancient times to the nineteenth century)

Consultant editor Melissa Leventon

- By- Georgia O’Hara Callan. The Thames & Hudson Dictionary of Fashion and Fashion Designers. Thames and Hudson World of Art. London 1996
- By- Phyllis Torloria& Keith Eubank. Survey of Historic Costume. Second Edition. 1994. Fairchild Publications. New York.

Year -1, Semester-2

Course Code : 510503	Credits : 2	Class Hours: -----hrs.
Course Title :	Sewing Technology	

History of Sewing Machines: History and Development of the Sewing Machines, Organogram of sewing Department of a Garments Industry.

Different Types of Sewing Machines as per Stitch Classes: Overview of stitch Classes, Overview of sewing machines types, Different types of sewing machine name under stitch classes (100, 200, 300, 400, 500, 600).

The Basic Parts of Sewing Machines: Introduce of basic parts of a sewing machine; Details description with pictorial representation.

Stitch and Stitch Classifications as per ISO Standard: Definition: Stitch, interlooping, intralooping, interlacing, passing through. Classifications of stitch, differences between chain stitch & lock stitch.

Stitch Formation: Recognize all types of stitches: needle threads and looper / bobbin threads in a stitch, stitch formation types, uses of different stitches in a garment, SPI (stitch per inch), Multimedia and pictorial representation of all types of Principle of stitch formations

Different Types of Sewing Machine Beds: Definitions & classifications, Features of machine beds, Applications/uses for different types of sewing Machine Beds

Work Aids of Sewing Machines: Definition, Objectives; Types of work aids; Applications with examples.

Different types of Sewing Machine Needles: Definition & Functions; Needle movement; Basic parts; Uses of shank, should, short groove, long groove, butt etc; Needle eye & Bulged eye, Needle size & selection.

Seam & Classification of Seam: Definition of seam, Classifications/types of seam, criteria of seam formation with figure and Uses/applications of various seams.

Different Feed Mechanism of Industrial Sewing Machine: Different Parts of Feed Mechanism; Types of Feed Mechanism.

Sewing Problems: Problems of Stitch Formation: slipped stitch, Staggered stitch, Unbalanced stitch etc.; Seam Puckers; Remedies of all sewing problems.

Alternative Techniques of Joining Materials: Definition, Limitations, types; Welding and Adhesives as alternative methods, difference between these types; Principle of ultrasonic welding.

Reference Books:

1. The Technology of Clothing Manufacturing, Harold Carr & Barbara Laham
2. Introduction to Clothing Manufacturing, Gerry Cookline& Blackwell Science
3. Stitch & Seams, R. Laing & J. Webster
4. Garments & Technology, M. A. Kashem

Course Code : 510504	Credits : 1	Class Hours: -----hrs.
Course Title :	Sewing Technology - Practical	

Experiment – 1: Basic exercise- Sewing practice on paper.

Experiment – 2: Identification of all types of stitch samples : Identify needle threads, looper threads / bobbin threads of all stitches, counting & setting SPI ,

Project-1: Students must have to complete their task as per class schedule & take necessary notes & required to submit a report on “Basic exercise- Sewing practice on paper”. Report will be submitted in a file.

Project-2: Students have to collect all types of stitch samples with details. The students will be required to submit a presentation based on individual assignment on various types of stitch samples. Assignment will be submitted in a file. Students will face a viva in the submission date.

Course Code : 510505	Credits : 3	Class Hours: -----hrs.
Course Title :	Dyeing, Printing & Finishing for Apparel	

Introduction: Water for textile operations (dye house standard); Water Hardness; Problems associated with the use of hard water in textile operations; Process flow chart of textile dyeing operation. Water, soap, detergent, salt, alkali , acid, oxidizing and reducing agents

Pretreatment: Singeing, Singeing Machine, Detail on gas singeing machine. De-sizing, Desizing agent, Enzymatic de-sizing process Scouring of textile materials, process of scouring operation & souring Bleaching of textile materials, Bleaching agents, method of bleaching operation. Mercerizing of textile materials, Mercerizing process parameters, and yarn and fabric mercerization process.

Dyeing: Dyes, pigments and chemicals used in dyeing operation, Short description of all types dyes. Reactive dyes and their application, Stripping process Disperse dyes and their application. Removal of excess water and drying of textile materials.

Printing: Introduction & process flow chart of textile printing operation, printing ingredients & their functions. Printing styles & different methods of textile printing. Block Screen, Roller, pigment, Flock, Burn-out printing on textiles. Fixation and after treatment processes for printed goods. Pigment printing and their application

Finishing: Introduction to finishing , types, machines and objects; Calendaring ; Compacting; Stentering, Slitting, Sanforising, Raising, Embossing, Mercerising etc.

Reference Books: 1.Textile preparation and dyeing By A. K. Roy Choudhury.

2.Technology of textile processing, Volume IV (Printing) By V. A. Shenai.

3.Chemistry and technology of fabric preparation and finishing By Charles Tomasino

Course Code : 510506	Credits : 1	Class Hours: -----hrs.
Course Title :	Dyeing, Printing & Finishing for Apparel - Practical	

Experiment – 1: Introduction to Dyeing, Printing & finishing (lab).

Experiment – 2: Recipe calculation for dyeing lab.

Experiment – 3: Desizing of cotton woven fabric.

Experiment – 4: Scouring of cotton knit fabric.

Experiment – 5: Bleaching cotton knit fabric.

Experiment – 6: Scouring & bleaching of grey mélangé fabric at single stage.

Experiment – 7: Whitening of grey mélangé fabric with optical brightening agent. Experiment –

8: Dyeing of cotton fabric with direct dye (self shade).

Experiment – 9: Dyeing of cotton fabric with reactive dye (self shade).

Experiment – 10: Dyeing of polyester/ blended fabric with disperse dye (combined shade).

Experiment – 11: Block printing with pigment.

Experiment – 12: Screen printing with reactive dye.

Reference Books 1.Practice of textile coloration. By Md. ForhadHossain

Course Code : 515312	Credits : 3	Class Hours: -----hrs.
Course Title :	Basic Applications of Computer- Practical	

Introduction : Basic Studying of Computers, History and development of Computers, Generation of Computers, Types of Computers.

Identification of Computer Hardware and Peripherals: Basic Units of Computer Hardware, Keyboard, Mouse, Internal structure of CPU, Functions of RAM, ROM and Cache memory, Basic functional mechanism of HDD and CD-ROM, Different types of Monitors, Impact and Non-impact Printers, Scanner, Plotter, Typical Computer specifications.

Demonstrate Software: Classifications, System software, Operating system concepts and importance, Windows operating system, **Application software:** Microsoft Word; Microsoft Excel; Microsoft Powerpoint.

Text books:

1. Peter Norton's-Introduction to Computers Fifth Edition, Computing Fundamentals, Student Edition by Peter Norton
2. Pradeep k. Sinha-Computer fundamentals - 6th Edition

Course Code : 512711	Credits : 3	Class Hours: -----hrs.
Course Title :	Basic Science: Physics	

Physics-Introduction: Definition of Physics, Concepts, Laws and Theories of Physics, Important laws of Physics, Branches of Physics, Physical quantities.

Measurement and Units: Measurement, Units, Measurement of physical quantities, Measurement systems, The SI units, Unit notations, Mathematical problems.

Scalars & Vectors: Definition of scalar and vector quantities, Difference between scalar and vector quantities, Addition, subtraction and multiplication of scalar and vector quantities systems, Related examples and mathematical problems.

Force & Motion: Definition of Force, Some particular forces, Gravitational force and weight. Definition and difference between distance and displacement, Definition and difference between speed and velocity, Acceleration and retardation, Equation of motion, Newton's laws of motion, Related mathematical problems.

Heat & Temperature: Difference between heat and temperature, Measuring temperature in different scales and the relation between them, Conversion of temperature from one scale to another, The SI unit of temperature, Absolute scale of temperature, Heats of transformation: Boiling and melting point of different materials, Heat transfer, Conduction, convection and

radiation mechanisms in heat transfer, Good and bad conductor of heat, Examples of heat transfer and conductors in our daily life, Related mathematical problems.

States of Matter: Four states of matter: solid, liquid, gas and Plasma, Reasons behind the state of matter, Calculation of length, area and volume of a substance, Density of a matter, Comparison of density among solid, liquid and gas, Related mathematical problems.

Optics: Nature of light, Speed of light, Different types of light sources, Theories of light, Reflection and refraction of light, Laws of reflection and refraction, Total internal reflection (TIR), Application of TIR in medical technology, fiber optics communications and in jewelries. Interference of Light, Dispersion of light, Demonstration of dispersion of light by glass prism, Colors of the rainbow in the sky, reasons for the usual blue sky and red sky during sun setting.

Electricity: Static electricity, Electric charge, Properties of Electric charges (positive and negative charges), Charging different materials like silk, wool, glass rod etc, Coulomb's law, Electric field, Potential difference, Ohm's Law, Current, A.C. and D.C. Current, Uses of electricity in our everyday life.

Magnetism: Magnetism, Origin of magnetism, Magnetic materials, Classification of Magnetic materials & their properties, Magnetic Field intensity, Permeability, Susceptibility, Magnetization Curve.

Mechanical Properties of matter: Elastic and Plastic bodies, Stress, Strain, Elastic Limit, Hooke's Law, Elastic constants, Experimental determinations of Young's Modulus, Twisting of a cylinder, Torsion pendulum, Poisson's Ratio, Limits of Poisson's Ratio, Compressibility, Relation between elastic constants, Energy in a strained body, Variation of elasticity with temperature, Related mathematical problems.

Reference Books:

1. Elements of Properties of Matter: D. S. Mathur
2. Properties of Matter: BrijlalSubrahmanyam
3. A text book of Optics: BrijlalSubrahmanyam
4. Physics-I: David Halliday & Robert Resnick

Course Code : 512211	Credits : 3	Class Hours: -----hrs.
Course Title :	Introduction to Economics	

Chapter 1: General Discussion: Economics, Efficiency and PPF; and Economy

Chapter 2: Demand, Supply, and Equilibrium, Elasticity and Application

Chapter 3: Production and Cost

Chapter 4: Concept of Profit Maximization

Chapter 5: Idea of different types of Market: Perfect Market, Monopoly, Oligopoly and Monopolistic; Demand for Inputs and Input Market.

Chapter 6: Basic Macroeconomic Concepts: GDP, GNP, CPI, Inflation, Unemployment

Chapter 7: Aggregate Expenditure, Money, Banking, and Prices

Chapter 8: Monetary Policy and Fiscal policy

Reference Books:

1. Managerial Economics in Global Economy; (7th edition) by Dominick Salvatore

2. Macroeconomics; by Michael Parkin. Addison-Wesley Publishing

3. Managerial Economics: Theory, Applications, and Cases; by W. Bruce Allen, Neil Doherty, Keith Weigelt, Edwin Mansfield

Course Code : 511111	Credits : 3	Class Hours: -----hrs.
Course Title :	English Foundation Course: Part-2	

This course aims at developing students' verbal communication skills at an advanced level. It can fathom their ability to speak or listen. It focuses on exercises on listening to native speakers, strategies of public speaking and practice of public speaking with emphasis on correct pronunciation. Students will participate in discussions, give oral presentations, learn pronunciation skills. Participatory and activity based approach would be followed in acquiring the basic skills using different teaching aids, such as video, audio cassettes and CD. This course also deals with grammatical structures, stylistic strategies, vocabulary and speaking through cue-cards.

- **Advanced Grammatical Items:** Basic sentence structures; Clauses; Completing sentences; Combination of sentences, Notions and Functions; Corrections and Translation from Bangali to English.
- **Speaking skill:** Speaking skill practice through cue-cards; Conversation on a wide variety of topics; Delivering extempore speech: Public Speaking or presentation.
- **Listening Skill:** listening to meetings, speeches, presentation, video, audio cassettes and CD.
- **Phonetics :** Learning correct pronunciation of words.
- **Extensive Reading:** “ Riders to the Sea” (one Act Play)
Written by J. M. Synge,

Reference Books:

1. P. Strevens. Spoken Language
2. G.A. Miller Language and Communication
3. Conversational English for Every day Situations.

By Dr. Ahsanul Haque

M. Shahedul Haque.

4. Ship or Sheep (Cambridge)

By-Ann Baker, Leslie Marshall, Syed sirajul Islam

5. Practical Phonetics

By Yeasir Ahmed Milan

A.M.M Hamidur Rahman

S.M. Zakir Hossain

6. Word Treasure

By Deb Kumar Chatterjee

Course Code : 510507	Credits : 2	Class Hours: -----hrs.
Course Title :	Clothing Materials & Techniques	

Introduction to Clothing & Clothing Materials: Definition of clothing, purposes of wearing clothes, classification of clothing materials, definition of clothing materials, detailed lists of different types of clothing materials.

Fabrics: Definition of fabrics, classification & identification of fabrics, Qualities & defects of fabrics, presentation of woven & knit fabric samples.

Sewing Thread: Definition of sewing thread, importance, differences between yarn & sewing thread, related terms of sewing thread, detailed classification with description, thread finishing, sewing thread numbering, special sewing thread, thread packages.

Button: Definition of button, function & classification of buttons, button measurement, components part of snap button & shank button, rivet, quality parameters of button.

Zipper: Definition of zipper, functions & classification of zipper, component details of zipper, zipper measurement, types of sliders & pullers, testing of zipper.

Interlining & Lining: Definition of Interlining, function, details classification with description and differences, fusing methods, quality control parameters of fusing, fusing defects, lining and its functions, differences between lining & interlining.

Labels & Motifs: Definition of label, classification with detailed discussion, information that label contains, care label symbols, integrated label, labeling style, label attachment, motif and its functions, differences between label & motif.

Other Trims: Definition, function and identification: Appliqué, draw cord, draw string, piping cord, stopper, toggle, eyelet/grommet, sequin, rhinestone, bow, strap, buckle/clasp, washer, ribbon, Elastic, Velcro, hook & eye, shoulder pad, ring slider, d-ring, bead, lace.

Carton & Poly: Definition of carton, functions, classification, paper, ply, poly bag definition, functions, classification, thickness of poly.

Hang tag & Hanger: Definition of hang tag, functions, information that hangtag contains, barcode, hanging methods, sample tag, information that sample tag contains, hanger definition, functions, classification, materials for hanger.

Other Accessories: Definition, function and identification: Different types of clips lock pin, safety pin, collar insert, collar stay, neck board, back board, waist tag, attention tag, eco-safe tag, 2/3 pc tag, tissue paper, wax paper, gum tape, scotch tape, PP belt, security tape.

Reference Books 1. Technology of Clothing Manufacture revised by David J. Tyler

2. Garments Manufacturing Technology by SaifulAzam

3. Garments Technology by M.A Kashem

Course Code : 510508	Credits : 1	Class Hours: -----hrs.
Course Title :	Clothing Materials & Techniques – Practical	

Experiment : Identification of all types of Clothing Materials.

Project: Students have to collect all types of Clothing Materials with details. The students will be required to submit a presentation based on group assignment (maximum five students in a group) on various types of Clothing Materials. Assignment will be submitted in a file. Students will face a viva in the submission date.

Course Code : 510704	Credits : 2	Class Hours: -----hrs.
Course Title :	Basic draping – 1 - Practical	

- Introduction to Demonstrate Knowledge of Basic Draping.
- Demonstrate front/back, Basic skirt with Dart
- Demonstrate waistband front and back

- Demonstrate Front and Back bodice with shoulder and waist drape
- Demonstrate flare skirt, Straight grain at side seam with waist line/without waist line,
- Demonstrate how to sew from draping.
- Demonstrate transposing techniques from Muslim samples to pattern paper.
- Demonstrate neck line /yoked /peter pan collar.
- Demonstrate Basic pant: Front and Back
- Demonstrate Transposing technique from muslim sample to pattern Paper (Pant)
- Demonstrate drape original muslin garment from design sketch
- Demonstrate Evening dress/dress/Line dress.

Text Book:

1. The Art of Fashion Draping (Third edition)
 Connie Amaden_Crawford