



**Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore**  
**Shri Vaishnav Institute of Textile Technology**  
**Choice Based Credit System (CBCS) in Light of NEP-2020**  
**Generic Elective for PG Courses**  
**(2021-2023)**

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
MTTX503	GE	COLOUR PHYSICS	60	20	20	-	-	3	0	0	3

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C – Credit.

\*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

**Course Educational Objectives (CEOs):**

1. Impart knowledge about colour physics
2. En-light students about chemical constitutions of colours
3. Impart knowledge about colour strength and colour difference

**Course Outcomes (COs):**

After completion of this course the students will be able to

2. Match the colours of given samples.
3. Understand colour strength and colour difference
4. Understand working principle of spectrophotometer

**Syllabus:**

**Unit-I Color Science**

**10 HRS**

Fundamentals of color science, what is colour, perception of color, color mixing laws confusion in color perception, meta-merism.

**Unit-II Color order System**

**9 HRS**

Munsell system, color atlas system, CIE system, CIE tri-stimulus values, and chromaticity co-ordinates, transform of the CIE system, Equation index for color spaces, whiteness assessment, yellowness index.

**Unit-III Optical Theory for Color Matching**

**9 HRS**

Optical theory for color matching: Reflectance curves of dyed specimens, Kubelka – Munk theory, application of K-M theory to textiles, Developments after K-M theory.

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**Unit-IV Color Measuring Instruments**

**8 HRS**

Color measuring instruments: Principles of color measuring instruments, optical sensors signal processor, features of the available color instruments, selection of instrument and its utilization.

**Unit-V Color Difference, Pass/Fail System and Shade Sorting**

**9 HRS**

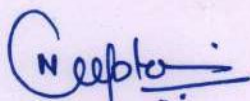
Color difference, Pass/fail system and shade sorting: Color difference and chromaticity diagram, color difference equation, CIE color difference equations, Acceptability and perceptibility, modified color difference equations based on ABLAB. Pass/fail system, setting up tolerance limit.

**Textbooks:**

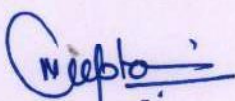
1. Instrumental Color Measurements & CA Color Matching for Textiles; H.S. Shah & S. Gandhi; Mahajan book distributors, Ahmedabad, 1990.
2. Color Physics for Industry – Roderick McDonald, Society of dyers and colourists, Bradford, England, 1987.
3. Principle of colour appearance and measurement, Asim K. Roy Choudhury, Woodhead publishing series in textiles, 2014.

**References:**

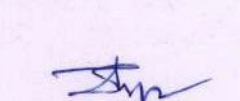
1. Colour for Textiles: A User's Handbook, W. Ingamells, Wilfred Ingamells, Hyperion Books publishers, 1993.
2. The theory of Coloration of Textiles; A. Johnson; Dyers Company Publications Trust, Bradford England, 2nd Edition, 1989.



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MTTX504	GE	THEORY OF FASHION STUDIES	60	20	20	-	-	3	0	0	3

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit.

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**Course Educational Objectives (CEOs):**

1. To introduce about the concept of fashion.
2. To understand the designing terms and elements used in garments related to fashion.
3. To demonstrate the effect and application of color psychology.
4. To give basics idea of draping, darting and designing of different parts of garment.

**Course Outcomes (COs):**

After completion of this course the students are expected to be able to demonstrate following knowledge, skills and attitudes.

The students will be able to:

1. Understand the fashion trends and forecast.
2. Make the different designs applying elements of design.
3. Apply colors according to the psychology.
4. Make different parts and dresses using draping technique.

**Syllabus:**

**Unit-I Introduction to Fashion**

**10 HRS**

Introduction to Fashion definition and origin terms & definitions, Traditional Indian garments, Ornamentation, Embroidery: General rules for Hand and Machine Embroidery – Special Attachments to Sewing Machines for Embroidery – Tools and Equipments – Needles – Threads, Ethical Garments.

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**Unit-II Different Fashion Governing Factors and Fashion Cycle** **9 HRS**

Classification of fashion style, fashion cycle and reasons for change in fashion, Latest Fashions based on age, Gender Balance, Nationality Occupation, Socio-Economic Status, Climate conditions and Technological developments.

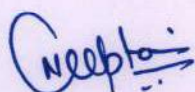
**Unit-III Introduction to different components of Dress** **8 HRS**

Introduction to neck lines, waistlines, hemlines, collars, sleeves, cuffs, plackets and pockets. Fullness applied in apparel tucks, pleats, gathers, shirring, frills or ruffles, flounces.

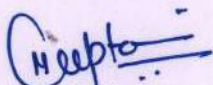
**Unit-IV Introduction to Pattern Making and Different Body and Face Variations** **10 HRS**

Pattern making - methods, Types of paper patterns, principles of pattern Drafting - Drafting basic bodice front, back & Sleeve, Draping: Introduction to draping, equipment and dress forms, Preparation of muslin for draping, fabric behavior, Principles and techniques of draping.

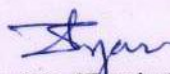
Figure irregularities - stout figure, thin figures, Slender figure, broad shoulders, Narrow shoulders, round shoulders, flat bust, Large bust, large Abdomen, large hips. Faces - round, Large, small, broad, chin - Prominent and Jaw, prominent forehead



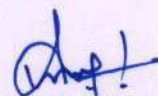
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**Unit-V Introduction to Wardrobe Planning and Different Types of Dresses 8 HRS**

Silhouettes – Types and their application in everyday use. Skirts - Basic concepts in designing the variety of skirts. Trousers – Basic concepts in designing the variety of trousers. Wardrobe planning - design development for formal, casual, party and sports wears for men, women and kids based on their location.

**Text Books:**

1. Elements of Fashion and Apparel Design, Sumathi, G.J., New Age International Publishers, New Delhi.
2. Draping for Apparel Industry, Armstrong, H. J., Bloomsbury Publishing, 2013.
3. Introduction to clothing production management, Chuter, A. J., Wiely, 2011.
4. The technology of clothing manufacture, Carr, H., Iatham, B., Om Book Service, 1994.

**References:**

1. Fashion Source Book, McKelvey, K., Balckwell Publishing, New Delhi.
2. Apparel manufacturing hand book: Analysis, Principles and Practice, Solinger, J., 1988.

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**Course Educational Objectives (CEOs):**

1. To provide the knowledge about the technical textiles along with technical fibers, technical yarns, and technical fabrics.
2. To provide the knowledge about the application of technical textiles in the filtration, geo textiles, medical textiles, protective textiles, etc.

**Course Outcomes (COs):**

After completion of this course the students are expected to be able to demonstrate following knowledge, skills, and attitudes. The students will be able

1. To explain the requirements of technical textiles products.
2. To explain the different types of technical textile product and their applications in different domains.

**Syllabus:**

**Unit-I Technical Textiles Overview**

**10 HRS**

Technical Textiles Overview: Definition, Market overview, Classification, Application, Future scope to textile industry. High Performance Fiber in Technical Textiles: Requirement and application of high performance fibers such as carbon, Aramid, Basalt, HDPE, Glass, PTFE, Ceramics etc.

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**Unit-II Yarns for Technical textiles**

**9 HRS**

Requirements and applications of technical yarns, Types of technical yarns, Modification of textile yarn structures for functional applications, Different formation methods, Hybrid yarns, technical sewing threads.

**Unit-III Fabric for Technical Textiles**

**10 HRS**

Technical Fabric Structure: Triaxial Weaves, Warp Knitting, Nonwoven Manufacturing: Overview of nonwovens, Definitions of nonwovens, Basic nonwoven processes and their sequences., Web formation techniques, types of web bonding, application of non-woven fabric in different applications.

**Unit-IV Composites**

**7 HRS**

Composites: Composite materials, Textile reinforcement, Basic mechanics of composite reinforcement, Application of textile reinforced composites.

**Unit-V Application of Technical Textiles**

**9 HRS**

Filtration: Dry filtration, wet filtration, characterization method of filter media, Application of different filter media, Geo-textiles: Application of geo textiles for drainage application, separation application, soil reinforcement and filtration and erosion control. Medical Textiles: Surgical Textiles, Dialysis Textiles, Hospital Textiles, Protection Textiles: Fire protection, thermal and electrical insulation, Waterproof breathable materials, Industrial Textiles: Conveyor belts, power transmission belts, hose, etc.

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2. Technical Textile Yarns, Edited by R. Alagirusamy and A. Das, Woodhead Publishing Limited, 2010.
3. Handbook of Nonwovens, Edited by S. J. Russell, Woodhead Publishing Limited, 2007.

**References:**

1. Technical Textiles, P. A. Khatwani and S. S. Yardi, NCUTE Programme Report, 2002.
2. High Performance Fibers, Edited by JWS Hearle, Woodhead Publishing Limited, 2001.
3. Handbook of Medical Textiles, Edited by V. T. Bartels, Woodhead Publishing Limited, 2011.
4. Progress in Textiles: Science & Technology (Vol: 3), Edited by V. K. Kothari, IAFL Publications, 2009.

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