

# Faculty of Design

## Bachelor of Design (Fashion Design)

(Semester-II)

With Effect from-2026-27

|                              |                          |
|------------------------------|--------------------------|
| <b>Branch Name:</b>          | <b>Faculty of Design</b> |
| <b>Program Code:</b>         | <b>FD102</b>             |
| <b>Course Name:</b>          | Fabric Study             |
| <b>Course Code:</b>          | 2FD1020207               |
| <b>Pre-requisite Course:</b> |                          |

### Course Objectives:

- Understand the fundamentals of fabric formation and construction.
- Analyze woven, knitted, and nonwoven fabric structures.
- Evaluate fabric properties and performance characteristics.
- Identify various fabric types and their applications in fashion.
- Understand fabric defects, finishes, and quality assessment methods.

### Teaching and Examination Scheme:

| Teaching Scheme (Hours per week) |                 |                  |        | Evaluation Scheme (Marks) |      |                          |      |                          |      |                          |      | Total<br>(Marks) |
|----------------------------------|-----------------|------------------|--------|---------------------------|------|--------------------------|------|--------------------------|------|--------------------------|------|------------------|
| Lecture<br>(L)                   | Tutorial<br>(T) | Practical<br>(P) | Credit | Theory (Marks)            |      |                          |      | Practical (Marks)        |      |                          |      |                  |
|                                  |                 |                  |        | University<br>Assessment  |      | Continuous<br>Assessment |      | University<br>Assessment |      | Continuous<br>Assessment |      |                  |
|                                  |                 |                  |        | Min.                      | Max. | Min.                     | Max. | Min.                     | Max. | Min.                     | Max. |                  |
| 4                                | -               | -                | 4      | 18                        | 50   | 18                       | 50   | -                        | -    | -                        | -    | 100              |

### Subject Contents:

| Sr No. | Topic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Total Hours | Weightage (%) |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------|
| 1      | <b>Introduction to Fabric Formation</b> <ul style="list-style-type: none"> <li>• Definition and importance of fabric formation</li> <li>• Relationship between fiber, yarn, and fabric</li> <li>• Fabric manufacturing sequence</li> <li>• Classification of fabrics</li> </ul> <b>Yarns for Fabric Formation</b> <ul style="list-style-type: none"> <li>• Types of yarns <ul style="list-style-type: none"> <li>◦ Spun yarns</li> <li>◦ Filament yarns</li> <li>◦ Textured yarns</li> <li>◦ Fancy yarns</li> </ul> </li> <li>• Yarn count systems</li> <li>• Yarn twist and its influence on fabrics</li> </ul> | 12          | 25%           |
| 2      | <b>Methods of Fabric Formation</b> <ul style="list-style-type: none"> <li>• Weaving</li> <li>• Knitting</li> <li>• Nonwoven fabric production</li> <li>• Braiding and lace construction</li> </ul> <b>Fabric Terminology</b> <ul style="list-style-type: none"> <li>• Warp and weft</li> <li>• Wale and course</li> <li>• Fabric count</li> <li>• GSM (grams per square meter)</li> <li>• Fabric width and selvage</li> </ul>                                                                                                                                                                                    | 12          | 25%           |

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|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| <b>3</b> | <b>Woven Textiles</b><br><b>Principles of Weaving</b> <ul style="list-style-type: none"> <li>• Weaving process</li> <li>• Looms and weaving mechanisms</li> <li>• Basic weaving terminology</li> </ul> <b>Basic Weaves</b> <ul style="list-style-type: none"> <li>• Plain weave</li> <li>• Twill weave</li> <li>• Satin weave</li> </ul> <b>Decorative Weaves</b> <ul style="list-style-type: none"> <li>• Dobby weave</li> <li>• Jacquard weave</li> <li>• Pile fabrics</li> </ul> <b>Non-Woven Textiles</b><br><b>Knitted Textiles</b><br><b>Principles of Knitting</b> <ul style="list-style-type: none"> <li>• Knitting process</li> <li>• Weft knitting</li> <li>• Warp knitting</li> </ul> <b>Knitted Fabric Structures</b> <ul style="list-style-type: none"> <li>• Single jersey</li> <li>• Rib knit</li> <li>• Interlock knit</li> <li>• Purl knit</li> <li>• Tricot knit</li> </ul> <b>Comparison of Woven and Knitted Fabrics</b> <ul style="list-style-type: none"> <li>• Construction differences</li> <li>• Performance characteristics</li> <li>• Fashion applications</li> </ul> | <b>12</b> | <b>25%</b> |
| <b>4</b> | <b>Other Non-woven Fabrics</b> <ul style="list-style-type: none"> <li>• Mechanical bonding (needle punching, stitch bonding, hydroentanglement)</li> <li>• Thermal bonding</li> <li>• Chemical bonding</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>12</b> | <b>25%</b> |

**Reference Books:**

| <b>Sr. No.</b> | <b>Books</b>                                                                                      |
|----------------|---------------------------------------------------------------------------------------------------|
| 1              | <b>Fundamentals of Textiles and Their Care</b> – G. K. Ghosh, PHI Learning Pvt. Ltd., 2005.       |
| 2              | <b>Introduction to Textile Fibres</b> – H. V. Sreenivasa Murthy, Woodhead Publishing India, 2008. |
| 3              | <b>Fabric Structure and Design</b> – M. P. Grover & D. S. Tyagi, Walia Book House, 2015.          |
| 4              | <b>Textile Science</b> – Vilensky Gohl & L. D. Vilensky, CBS Publishers & Distributors, 2017.     |

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**Course Learning Outcomes (CLO):** On completion of this course, the students will be able to:

| CLO  | Description                                                                                                                 | Bloom's Taxonomy Level |
|------|-----------------------------------------------------------------------------------------------------------------------------|------------------------|
| CLO1 | Classify textile fibers and yarns based on their characteristics, properties, and applications.                             | 1 Remembering          |
| CLO2 | Differentiate between woven, knitted, and non-woven fabrics and explain their construction methods.                         | 2 Understanding        |
| CLO3 | Analyze the physical and aesthetic properties of fabrics for various apparel and textile end uses.                          | 3 Applying             |
| CLO4 | Identify and evaluate different fabrics using appropriate testing and fabric analysis techniques.                           | 4,5 Evaluate, Analyse  |
| CLO5 | Select suitable fabrics for fashion products considering performance, care requirements, sustainability, and consumer needs | 3 Applying             |
| CLO6 | Classify textile fibers and yarns based on their characteristics, properties, and applications.                             | 1 Remembering          |

**Mapping of CLOs with Pos & PSOs**

| Course            | Program Outcomes(POs) |     |     |     |     |     |    |     |     |      | Program Specific Outcomes (PSOs) |      |
|-------------------|-----------------------|-----|-----|-----|-----|-----|----|-----|-----|------|----------------------------------|------|
| Learning Outcomes | PO1                   | PO2 | PO3 | PO4 | PO5 | PO6 | PO | PO8 | PO9 | PO10 | PSO1                             | PSO2 |
| CLO1              |                       | M   |     |     | L   |     |    |     |     |      | M                                |      |
| CLO2              | M                     |     |     | H   |     | H   |    |     |     |      |                                  | M    |
| CLO3              | M                     |     | M   |     |     |     | L  |     |     |      | H                                |      |
| CLO4              |                       | H   |     |     |     | H   |    | M   |     |      |                                  | M    |
| CLO5              |                       |     | H   |     | M   |     |    | H   |     | M    | M                                |      |
| CLO6              | M                     |     |     | H   |     | H   | M  |     |     |      |                                  | M    |

**H:High, M:Medium, L:Low**