

## TEng3154: WOVEN FABRIC MANUFACTURING PRACTICAL II

<b>Department of Textile Engineering</b> <b>Wollo University</b>				
<b>Course Number</b>	TEng3154			
<b>Course Title</b>	Woven Fabric Manufacturing Practical II			
<b>Degree Program</b>	B. Sc. in Textile Engineering			
<b>Module</b>	15: Weaving Technology			
<b>Module Coordinator</b>	N.N.			
<b>Lecturer</b>	N.N.			
<b>ECTS Credits</b>	4			
<b>Contact Hours (per week)</b>	Lecture	Tutorial	Laboratory or Practice	Home study
	0	0	6	2
<b>Course Objectives &amp; Competences to be Acquired</b>	<p>The course is designed to give broad based practical knowledge on the technology and operations of automatic and shuttle less weaving machines. Emphasis will be given to the mechanisms and principles of different machine parts. As the course in progress the students will be equipped with the required practical knowledge and the interactions different machine parts with woven fabric production.</p>			
<b>Course Description/ Course Contents</b>	<p>Survey of loom shed:</p> <ul style="list-style-type: none"> <li>Understanding the features of Looms</li> <li>Kinematics diagram of loom</li> </ul> <p>Loom drives:</p> <ul style="list-style-type: none"> <li>Method of loom drive</li> <li>Study the mechanisms of Clutch systems</li> <li>Study the mechanisms of Loom controls such as Starting handle, Loom brakes, Inching and reversing mechanism, Push-button control,</li> </ul>			

## Motion transmission

### Basic mechanisms of weaving:

Study the principles of Shedding Mechanisms Study the principles of Picking and Checking Mechanisms

Study the principles of Beating-up and Sley Mechanisms

Drawing the Timing diagram of primary motions

### Warp and cloth control:

Study the mechanisms of take up motion

Study the mechanisms of cloth take-up motion

Drawing the Timing diagram

### Stop motions:

Study the mechanisms of warp protectors

Study the mechanisms of warp stop motion Study

the mechanisms of weft stop motion Weft

### replenishment:

Study the mechanisms of feelers and their position: Weft fork motion, Weft feeler, Shuttle protector, Thread catcher and template cutter

Study the mechanisms of Automatic bobbin change Study the mechanisms of Weft accumulator

### Quality parameters in weaving:

Determination of efficiencies in the loom

Breakage study in the loom

Snap study techniques in the loom shed

Fabric defect analysis

### Production planning in the loom shed:

Basis of production planning

Steps to carry out production planning

Feeding calculation of fabric

---

**Pre-requisites**

TEng3151: Woven Fabric Manufacturing I & TEng3152:  
Woven Fabric Manufacturing Practical I

---

<b>Semester</b>	2 <sup>nd</sup> Semester, 3 <sup>rd</sup> year								
<b>Status of Course</b>	Compulsory								
<b>Teaching &amp; Learning Methods</b>	Explanation of the basic principles in each of the practical work followed by demonstration; actual practical work to be carried out by the students under close supervision of the instructor(s)								
<b>Assessment/ Evaluation &amp; Grading System</b>	<table> <tr> <td>Lab Records:</td> <td><b>30 %</b></td> </tr> <tr> <td>Written Lab Examination:</td> <td><b>40 %</b></td> </tr> <tr> <td>Demonstration / Defense:</td> <td><b>30 %</b></td> </tr> <tr> <td><b>Total</b></td> <td><b>100 %</b></td> </tr> </table>	Lab Records:	<b>30 %</b>	Written Lab Examination:	<b>40 %</b>	Demonstration / Defense:	<b>30 %</b>	<b>Total</b>	<b>100 %</b>
Lab Records:	<b>30 %</b>								
Written Lab Examination:	<b>40 %</b>								
Demonstration / Defense:	<b>30 %</b>								
<b>Total</b>	<b>100 %</b>								
<b>Attendance Requirements</b>	100% attendance during lab/practical class sessions								
<b>Literature</b>	<ol style="list-style-type: none"> <li>1. Allan Ormerod and Walter S. Sondhelm, <i>Weaving Technology and Operations</i>, the Textile Institute, 1998.</li> <li>2. R. Marks and A.T.C. Robinson, <i>Principle of weaving</i>, The Textile Institute, 1986.</li> <li>3. M.K. Talukdar, P. K. Sriramulu and D.B. Ajgonkar, <i>Weaving machines, Mechanisms and Management</i>, Mahajan Publishers, 1998.</li> <li>4. Machine manuals</li> </ol>								