

<b>Department of Mechanical Engineering</b>			
<b>Engineering Workshop II (67200)</b>			
<b>Total Credits</b>	<b>1</b>		
<b>major compulsory</b>			
<b>Prerequisites</b>	P1 : Engineering Workshop I (67100) OR Eng'g Workshop I (61102)		
<b>Course Contents</b>			
Theoretical and practical development of basic skills in fields of sheet metal fabrication, metal machining, measurements, metal forming, sand casting, and welding, and household electric circuits.			
<b>Intended Learning Outcomes (ILO's)</b>		<b>Student Outcomes (SO's)</b>	<b>Contribution</b>
1	Ability for using machining process such as cutting tools, tool geometry and cutting fluids.	K	55 %
2	The ability to process the metal processing and forming such as Rolling Drawing and Casting processes.	C	20 %
3	Application of material joints and material assembly in real life.	H	25 %
<b>Textbook and/ or References</b>			
Workshop II manual and several handouts through out the semester. Project, e.g. Qualification Project Pick &Place Device. South Westphalia Chamber of Commerce and Industry SIHK, Hagen 1993. Workshop technology -1, by PK Spara &RK Kapur, 1996. Workshop technology, volume 2, HS Bawa,1998.			
<b>Assessment Criteria</b>		<b>Percent (%)</b>	
First Exam		15 %	
Laboratory Work		50 %	
Final Exam		35 %	
<b>Course Plan</b>			
<b>Week</b>	<b>Topic</b>		
1	Introduction and terminology		
2, 3, &4	Cutting tools, geometry and cutting fluids		
5 &6	Metal processing (Rolling Mills)		
7 &8	Metal Processing (Drawing)		
8 &9	Metal Processing (Casting)		
10 &11	Exam		
12,13, &14	Material Assembly		
15 &16	Final Exam		