The Haematite University
Faculty of Engineering
Course Syllabus
Department of Applied Engineering Science

Course Title:	Engineering Workshop	**Course Number:**	110400101
Designation:	Compulsory	**Prerequisite(s):**	-
Instructor:		**Instructor's e-mail:**	
Office Hours:			

Course Description (catalog):

This course is designed to provide engineering students with fundamentals of engineering materials and their properties, manufacturing processes and industrial safety. It also exposes the student to practical training in different workshops in order to gain basic skills

Textbook(s) and/or Other Supplementary Materials:

Lecturer note and lab manual

References:

James H. Earle, " Engineering Design Graphics, with AutoCAD 2000", Addison Wesley

Major Topics Covered:

Topic	# Weeks	# Contact hours*
Industrial Safety	2	6
Measuring and Marking-out	3	9
Engineering Materials and their Properties	3	6
Casting Processes	1	6
Metal Forming Processes	2	9
Metal Machining Processes	4	9
Total	**15**	**45**

*Contact hours include lectures, quizzes and exams

Specific Outcomes of Instruction (Course Learning Outcomes):

After completing the course, the student will:

- **CLO1**: Understand the basic safety instructions which should be followed in the engineering workshops (1)
- **CLO2**: Realize the basic measuring devices and tools and learn how to use them (2).
- **CLO3**: Understand the engineering materials basic structure and the formation of grains and grain boundaries (2,6).
- **CLO4**: Understand the stress-strain behavior of metals and the principle mechanical properties related to it.(2,6)

Student Outcomes (SO) Addressed by the Course:

#	Outcome Description	Contribution
	General Engineering Student Outcomes	
(1)	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	M
(2)	an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and	H

	welfare, as well as global, cultural, social, environmental, and economic factors	
(3)	an ability to communicate effectively with a range of audiences	
(4)	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts	
(5)	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives	L
(6)	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	M
(7)	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	
H=High, **M**= Medium, **L**=Low		

Grading Plan:

Course work	60 Points
Final exam	40 Points