

Course Number	IEng3131
Course Title	Methods and Value Engineering
Degree Program	B.Sc. in Industrial Engineering
Module	Operations Management
Module Coordinator	
Lecturer	Mengist.M .contact email:mengistumanaye2@gmail
ECTS Credits	5 Credit Points
Course Objectives & Competences to be Acquired	<p>After successful completion of this course , students will be able to:</p> <ul style="list-style-type: none"> • Relate the effect of Work Study on the country's economy in general and organization profit in particular • Model and improve processes using the techniques of Method Study • Set time standards using the techniques of Work Measurement • Use spreadsheets to develop time standards • Identify professional behavior and conduct required of a Work Study Engineer
Course Description/Course Contents	<p>Course Description: Methods used in determining the most effective utilization of effort in human activity systems; Work design and measurement, applied to manufacturing and service industries, so as to improve worker performance, health, safety, and maintain productivity</p> <p>Course Outline:</p> <p>1. Introduction,</p> <ul style="list-style-type: none"> ☐ IE and Work Study, Historical perspective <p>2. Productivity and work study</p> <ul style="list-style-type: none"> ☐ Productivity and the standard of living ☐ Productivity and the organization ☐ Productivity, work content and time ☐ Work Study ☐ Human factor and Work Study ☐ Working conditions and Work Study <p>3. Micro motion study</p> <ul style="list-style-type: none"> ☐ Purpose of micro motion study ☐ Fundamental hand motions ☐ The use of fundamental hand motions ☐ Motion study and micro motion study equipment ☐ Principles of motion economy

	<p>4. Method Study</p> <ul style="list-style-type: none"> ☒ Introduction to Method Study ☒ Data collection, recording, examining, and improving work ☒ Material flow and material handling study ☒ Worker flow study ☒ Worker area study <p>5. Work Measurement</p> <ul style="list-style-type: none"> ☒ Introduction to Work Measurement ☒ Work sampling study ☒ Time study and setting standards <p>6. Value Analysis</p>
Pre-requisites	None
Semester	Year 3, Semester II
Status of Course	Compulsory
Teaching & Learning Methods	The class will be a mix of lectures, case discussions and applications. A plant tour will also be arranged, subject to time availability.
Assessment/Evaluation & Grading System	Assignments 10%, Project 10 % Tests 15% Quiz 15%, Final Examination 50%.
Attendance Requirements	Minimum of 85% attendance during lecture hours and 100 % during tutorial and plant tour
Literature	<ol style="list-style-type: none"> 1. Niebel B. and Freivalds A. (1999). Methods, Standards and Design, 10th Edition, USA. 2. Ralph M. (1980). Motion and Time Study Design and Measurement of Work, 5th Edition, Wiley, NY 3. Shan. H.S (2001). Work Study and Ergonomics, J.Kapur, Delhi 4. Lee/Schn. (1997). Operations Management, Milfin, USA 5. Chasse, etal (1998). Production and Operations Management, Manufacturing and Service, 8th Edition, McGraw-hill, Boston