HANDONG UNITWIN FELLOWSHIP

SYLLABUS

Lecturer's Information	
Name	Abdujabborov Obidjon
University	Andijan Machine Building Institute

Course Information			
Course Name	Basis of Overall equipment effectiveness	Prerequisite Course	Statistical methods of quality control
Course Date	2023-02-06 ~ 2023-05-30	Course Language	Uzbek
Keyword	OEE, TEEP, Availability, Analysis, Reliability, MSA, SPC, HACCP		

Course Description (100 ~200 words)	The Overall Equipment Effectiveness (OEE) course provides a comprehensive approach to the manufacturing processes. This course will help to students to understand the basic principles of OEE and how it can be used to improve machine efficiency. Students will learn the underlying concepts of OEE, as well as the formula and methods used to calculate it. Additionally, Students will get a chance to practice using OEE in real-world scenarios. The course will cover topics such as yield, downtime, speed, and capacity. Finally, the course will provide students with tips and strategies for improving OEE.
Course Goals and Objectives (Approximately 100 words)	The main goal of OEE course is to teach students how to reduce waste, increase production efficiency, and optimize resources in the manufacturing process. This in turn provides the student with a holistic approach to understanding and improving the efficiency of manufacturing and production operations. The OEE course will help students to understand followings: The process of identifying and improving non-productive activities How to measure, analyze, and improve the performance of equipment How to design and implement an OEE program The importance of communication, collaboration, and problem-solving The consequences of poor overall equipment effectiveness How to develop an effective continuous improvement program
Textbook	**(The format : Title, Author/Editor, Publisher, Year of Publication)** "OEE Primer", D.H.Stamatis, Taylor and Francis group LLC, 2010 "Juran's Quality Handbook", Joseph M. Juran, A. Blanton Godfrey,McDraw-Hill, 2015 "OEE Guide to Smart Manufacturing", Dr. Jill A O'Sullivan, Dr. Theresa Nick, Sandy Abraham, DMMSI, Associates Inc, 2016 "Understanding, Measuring, and Improving Overall Equipment Effectiveness: How to Use OEE to Drive Significant Process Improvement", Ross Kenneth Kennedy, Productivity Press, 2017 Overall Equipment Effectiveness, Robert C. Hansen, Industrial Press, 2011
References	https://www.oee.com/ https://www.leanproduction.com/oee/ https://sixsigmadsi.com/what-is-oee/
Course Requirements and Grades	Grading System: Homework 15% Design Project 15% Mid-term Exams 35% Final Comprehensive Examination 35% Total 100% 5=86-100 4=71-85 3=55-70 X=0-54

Weekly Schedule		
Week	Main Topics	Keywords
1	Total Preventive Maintenance	Product, Machine, Service
2	OEE: Understanding Loss of Effectiveness	OEE, TEEP, Availability
3	Measuring OEE: A Traditional Simple Approach	Collect Data, Histogram
4	Measuring OEE: The Reliability Approach	Mean Time between Event, Mean Time between Failures
5	Improving OEE on Existing Machinery	Mistake Proofing, Human Errors
6	Improving OEE on New Machinery: An Overview of Mechanical Reliability	Operator Attention, Visual Factory
7	Improving OEE on New Machinery: An Overview of Electrical Reliability	Analysis, Reliability,
8	Improving OEE on New Machinery: Selected Methodologies	MSA, SPC, HACCP
9	Reliability Growth	MTBF, Testing, Fixed-Sample
10	Maintenance Issues and Concerns	Life-Cycle Costs, Wearout Period
11	Requirements of Phase 1 of Implementing Equipment R&M: The Concept	Available Production Time, Scheduled Downtime
12	Requirements of Phase 2 of Implementing Equipment R&M: Development and Design	Failure Mode and Effect Analysis
13	Requirements of Phase 3 of Implementing Equipment R&M: Build and Install	Reliability Qualification Testing
14		
15		
16		