

OPERATIONS EXCELLENCE TECHNOLOGY (OET)

OET 1100 – Operations Management

3 Credit hours

Introduces the principals involved in the organization and management of a manufacturing plant. Discussion includes industrial organization, work measurement, factory cost, production planning, and personnel management.

OET 1110 – Introduction to Operations Excellence

3 Credit hours

Introduces the principles, systems, and tools involved with operational and personal excellence. Discussion includes the habits of effectiveness, personal improvement plans, and roles in leadership, operations excellence model and organization assessment.

OET 1120 – Tools of Operations Excellence

4 Credit hours

Provides a detailed study of the tools involved with operational excellence. Discussion includes value stream analysis, rapid improvement, problem solving, corrective action, and flow control. Other specialized topics of study include total productive maintenance, quick changeover, production preparation process (3P), process preparation (2P) and A3 Thinking.

OET 2015 – Statistics for SPC

3 Credit hours

Covers foundational statistics which are necessary for advanced tools of operational excellence such as statistical process control and design of experiments. Discussion includes collecting and summarizing data, quantitative concepts, probability distributions, statistical decision making, and relationships between variables.

OET 2021 – Advanced Tools of Operations Excellence

3 Credit hours

Provides an in depth review of the quality concepts, statistical methods, and tools used today for continual improvement in processes and products in all human endeavors. Students will be introduced to the basics of the Lean Enterprise and Six Sigma. A detailed study will be undertaken in the qualitative aspects of statistical process control, fundamentals of statistics and probability, acceptance sampling, reliability, and management and planning tools.

Prerequisites: OET 2015.

OET 2120 – Quality Management Systems

3 Credit hours

Introduces the components of a modern quality management system which encompasses the entire organization and all activities required to ensure customer satisfaction in quality cost and delivery of a product or service. The detailed requirements of ISO/QS9000, TS 16949 quality systems are explored. Technique such as Failure Mode, Effects Analysis, Measurement Systems, Quality System Assessments, Production Part Approval Process, Advanced Product Quality Planning and Control Plan are reviewed.

Prerequisites: OET 1110.

OET 2210 – Logistics and Supply Chain

3 Credit hours

Presents an overview of logistics including: effects on information, financial, and management activities. Supply chain management concepts including: procurement, demand management, order management, and customer service. Inventory management will be explored to understand the concepts in distribution and warehouse management and materials management. Additionally, transportation and transportation management will be introduced along with international logistics.

OET 2510 – Lean Systems

3 Credit hours

Encompasses a detailed study of the lean systems involved with driving the behaviors of operational excellence. Discussion includes daily improvement, visual management, standard follow up, and strategy deployment. There is also a special emphasis on the four disciplines of execution, which sustains the operational excellence for the long term.

Prerequisites: OET 1120.

OET 2970 – Cost Analysis and Estimating

4 Credit hours

Covers the latest principles and techniques for the evaluation of engineering design. Chapters 1 through 4 reviews cost analysis and its importance in engineering, labor break down, elemental calculations, material component calculations, and financial documents used to manage a budget. Chapters 7 through 11 review methods for estimating labor and material, and looks at key elements in engineering economy and the enterprise.

OET 2980 – OET Capstone

3 Credit hours

Incorporates all operational excellence tools, systems, and principles applied in a project situation. Discussion includes business assessment, analysis, strategic implementation, and creating long term sustaining results in behavior and performance.

Prerequisites: OET 1110, OET 1120, OET 2510.