

# Lean Systems Engineering Technology

College of  
Engineering

The proposed Bachelor of Science (B.S.) in Lean Systems Engineering Technology (LST) degree offers curriculum designed to provide in-depth knowledge of lean operations along with the skills needed to improve quality output, streamline operations, and reduce waste. The proposed four year B.S. in LST is designed as a feeder-completer program in which students earn an Associate in Applied Science (A.A.S.) in Integrated Engineering Technology (IET) from the Bluegrass Community and Technical College (BCTC), and then a B.S. in LST from UK.

UK offers only junior and senior level course work. A total of 127 credit hours are required with 71 credit hours taken at BCTC and 56 at UK. Of the courses taken at UK, 53 credit hours consist of major requirements and the remaining 3 credit hours are guided electives.

## Degree Requirements

In addition to fulfilling UK Core and College of Engineering requirements, students must complete the computer engineering curriculum. The following curriculum meets the requirements for the B.S. degree.

### Freshman Year

First Semester	Hours
ENG 101 Writing I.....	3
MAT 126 Technical Algebra and Trigonometry.....	3
IET 111 Lean Safety Culture.....	1
IET 207 Electro-Hydraulics/Pneumatics.....	4
IET 121 Basic Electricity.....	4

### Second Semester

IET 202 Motor Controls and Sensing Devices.....	4
PHY 151 Introduction to Physics.....	3
IET 208 Mechanical Drive Systems.....	4
IET 112 Lean Manufacturing Concepts.....	1
ENG 102 Writing II.....	3
MAT 170 Elementary Calculus and Its Applications.....	3

### Summer Session

IET 104 Blueprint Reading/Schematics.....	2
IET 128 Machine Tool Operations.....	3
IET 113 Lean 5S Methodology.....	1

### Sophomore Year

First Semester	Hours
IET 204 Automated Motor Controls.....	6
IET 114 Lean Problem Solving Methodology.....	1
CAD 100 Introduction to CAD.....	3
UK Core – Oral Communications.....	3
UK Core – Social and Behavioral Science.....	3

### Second Semester

IET 110 Welding and Fabrication.....	4
IET 205 Robot Maintenance.....	5
IET 115 Lean Machine Reliability.....	1
UK Core – Heritage.....	3
UK Core – Social and Behavioral.....	3

### Junior Year

First Semester	Hours
ME 205 Computer Aided Engineering Graphics.....	3
WRD 204 Technical Writing.....	3
UK Core – Arts and Creativity.....	3
LST 301 Introduction to Just-In-Time.....	3
LST 302 Manufacturing Simulation and Material & Information Flow Charts.....	4

### Second Semester

LST 303 Introduction to Abnormality Management.....	4
LST 304 Introduction to Productivity Improvement.....	4
LST 305 System of Quality Assurance & Built-in-Quality.....	4
LST 306 Kaizen of Standardized Work.....	4

### Senior Year

First Semester	Hours
LST 409 Capstone I.....	3
LST 406 Problem Solving II.....	4
LST 403 Production Instruction, Small Lot Production & Change Over Processes.....	4

### Second Semester

LST 410 Capstone II.....	3
LST 404 Logistics.....	3
LST 405 Managing the Shop Floor and Leading Kaizen.....	4
Technical Elective.....	3

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