

# Mechanical Measurement and Quality Control

## FOUNDATION SKILLS



### LAB COURSE

Lab versions include relevant activities with the precision measurement tool kit hardware shown above.

### VIRTUAL COURSE

Virtual versions include interactive online simulations and animations that correlate directly to the hardware in the Lab version! Deliver virtual courses alone or in combination with Lab courses for the ultimate blended learning solution!



Available as a virtual course or with lab hardware, Mechanical Measurement and Quality Control delivers a solid foundation in the principles and practices of precision measurements and statistical analysis.

Students learn to use precision measurement tools, such as steel rule, tape measure, protractor, micrometer, height gauge, various calipers and dial indicators. Activities also involve reading mechanical drawings, selecting proper tools for inspecting parts, collecting data on a sample and preparing quality/inspection reports

Students learn how to collect data on a sample and calculate the mean, median and standard deviation. They also learn how these concepts relate to statistical sampling, tolerance and quality control. The training package includes statistical process control (SPC) software that allows students to collect, display and analyze measurement data graphically.

POWERED BY

# LearnMate®

Foundation Skills courses are powered by LearnMate®- intelitek's innovative e-learning platform. Self-paced interactive LearnMate® content may be deployed stand-alone or through the robust learning management system (LMS). The LearnMate® e-learning suite provides everything needed for the ultimate blended learning experience.

- SCORM-compliant interactive content
- Anytime, anywhere accessibility
- Student and class management
- Grade tracking
- Skill/competency reporting mapped to national skill standards

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# Mechanical Measurement and Quality Control Specifications



## LAB COURSE

Order # 14-8014

- LearnMate® E-Learning Content: Mechanical Measurement and Quality Control (Lab Format)
- Precision Measurement Tools Kit:
  - 12" Wooden Ruler
  - 16" Tape Measure
  - 6" Rule
  - 300mm Steel Rule
  - 6" Dial Caliper
  - 6" Electronic Digital Caliper
  - 1" Micrometer
  - Feeler Gage Set (6 leaves)
  - 4" Inside Caliper
  - 4" Outside Caliper
  - Dial Indicator with Attachments
  - 6" Height Gauge
  - Steel Protractor
  - 5 Piece Gauge Block Set
  - 12" x 8" x 2" Granite Surface Plate
  - 12 Plug Gauge Pins
  - 6" Vernier Caliper
  - Ground-slotted Angle Plate
  - Cable and Adapter
  - Carrying Case
- "Tools and Rules for Precision Measurement" Booklet
- Tool Usage Educational Charts
- Inch/Metric Tap Drill Sizes and Decimal Equivalents Wall Chart
- Inch/Metric Tap Drill Sizes and Decimal Equivalents Card
- Millimeter/Inch Equivalents Card
- Spread Sheet Software

## VIRTUAL COURSE

Order # 14-3030

- LearnMate® E-Learning Content: Mechanical Measurement and Quality Control (Virtual Format)

## Course Outline (Lab and Virtual)

- Activity 1: Getting Started
- Activity 2: Accuracy, Precision and Measurement Tools
- Activity 3: Units of Measurement and Conversion
- Activity 4: Fractions, Decimals, and Rounding
- Activity 5: Scaled Measurement Tools
- Activity 6: Vernier, Dial, and Digital Calipers
- Activity 7: Micrometers
- Activity 8: Height Gauges and Dial Indicators
- Activity 9: Fixed Gauges
- Activity 10: Transfer Measurement Tools
- Activity 11: Statistical Analysis
- Activity 12: Statistical Process Control
- Activity 13: Nominal Dimensions and Tolerance
- Activity 14: Parts Inspection and Inspection Reports
- Activity 15: Conclusion

Affiliated with:



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## FOUNDATIONS PROGRAM

Success in today's workforce requires more than just technical skills. intelitek's Foundation Skills courses provide **job-ready skills for lifelong success.**

Employers in all sectors, from traditional manufacturing to emerging industries, need qualified workers to meet the increasing demands of a changing world. The shortage of qualified workers with basic skills is felt whether searching for highly-skilled candidates or entry-level candidates. The Foundation Skills Program provides an effective solution to this critical need.

The Foundation Skills Program is the ideal solution for career and technical education (CTE) programs in high school and community colleges, 2 plus 2 programs, post-secondary institutions and workforce training programs.

Foundation Skills courses deliver essential skills for technical careers, along with 21st Century skills like critical thinking, problem solving and collaboration skills. By including 21st Century skills education, learners obtain communication skills, work ethics and career focus that lead to personal growth and success in the work environment.

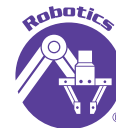
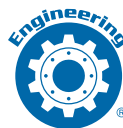
This unique combination addresses the need for employees to possess essential personal, social and leadership skills in addition to technical and academic training. Employers value workers with these vital skills. The Foundation Skills Program equips learners with workforce-ready skills - the foundation for success in tomorrow's careers!

### Foundations Program courses include:

- Employability
- Industrial Safety: Lockout/Tagout
- Introduction to Advanced Manufacturing
- Introduction to Lean Manufacturing
- Mathematics for Technicians 1 & 2
- Blueprint Reading
- Lubrication for Technicians
- Mechanical Measurement and Quality Control
- Mechanical Fasteners
- Hand Tools & Power Tools

## Make Mechanical Measurement and Quality Control part of a comprehensive STEM program!

Foundations Program courses are an excellent launching point for more in-depth programs in engineering, mechatronics, automation, advanced manufacturing and more!



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