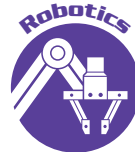
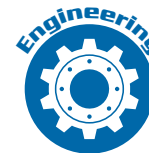
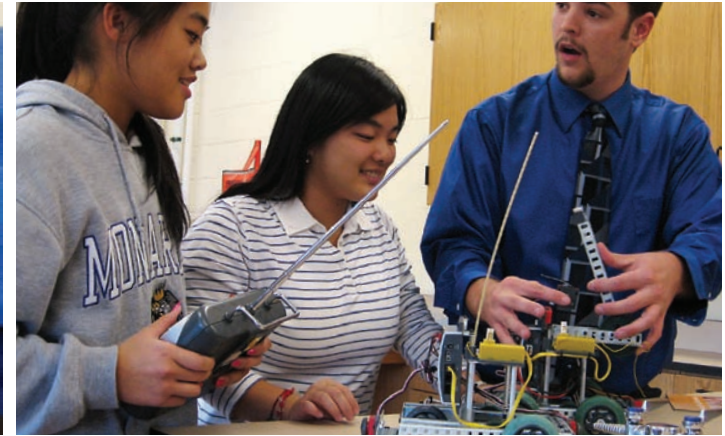


# STEM PROGRAMS



## Hybrid Learning Solutions



POWERED BY



*"America's leadership tomorrow depends on how we educate our students today, especially in math, science, technology, and engineering."*

US President Barack Obama  
January 6, 2010



## Delivering the skills for tomorrow's workforce - through STEM Education.

Built on the power of the LearnMate™ E-Learning platform, intelitek's blended-learning programs deliver comprehensive, standards-based instruction via hands-on activities and compelling online curriculum.

Blended-learning programs deliver thorough and engaging STEM (Science, Technology, Engineering and Mathematics) education, preparing students for careers in areas identified as critical for technological and economic innovation.

The matrix below displays how the extensive topics in intelitek's Content Library combine into robust STEM programs. Programs can also be custom tailored to your organization's needs and budget.



# STEM PROGRAMS



*"America needs a world-class STEM workforce to address the grand challenges of the 21st century"*

**John Holdren**

Director of the White House Office of Science and Technology Policy

Topic	Applied Science	Technology	Engineering	Applied Math	Foundations	Robotics	Precision Machining	Advanced Manufacturing	Mechatronics	Computer Integrated Manufacturing (CIM)	Industrial Maintenance	Rapid Prototyping	Civil Engineering	Environmental Engineering	Agricultural Engineering
<b>Agriculture</b>															
Introduction to Irrigation	○														○
Soil in Agriculture	○														○
Introduction to Greenhouse Agriculture	○														○
Advanced Irrigation	○														○
The Theory of AutoAgronom	○														○
Using the AutoAgronom System															○
Applications of AutoAgronom															○
<b>CAD/CAM/Design</b>															
CAD with spectraCAD Engraver		○	○	○	○	○	○	○	○	○	○	○			
CAM Milling with Mastercam Mill v9		○	○			○	○	○	○			○			
CAM Milling with spectraCAM Milling		○	○	○	○	○	○	○	○	○	○	○			
CAM Turning with Mastercam Lathe v9		○	○			○	○	○	○			○			
CAM Turning with spectraCAM Turning		○	○	○	○	○	○	○	○	○	○	○			
Industrial Design using Pro/Engineer		○	○				○	○				○			
<b>CIM and FMS</b>															
Computer Integrated Manufacturing with MicroCIM 1		○	○			○		○	○	○					
Computer Integrated Manufacturing with MicroCIM 2		○	○			○		○	○	○					

Computer Integrated Manufacturing with MicroCIM 3		○	○			○		○	○	○							
Computer Integrated Manufacturing with eXpertMill & ER 4u		○	○			○		○	○	○							
Flexible Manufacturing System with spectralLIGHT Mill & ER 4u		○	○			○	○	○	○	○							
Flexible Manufacturing System with SCORBOT-ER 9		○	○			○	○	○	○	○							
<b>Civil Engineering</b>																	
Introduction to Construction Technology		○	○	○	○									○			
Construction Technology: Bridge Engineering		○	○	○	○									○			
Construction Technology: Fluids and Hydraulics		○	○	○										○			
Introduction to Transportation Engineering		○	○	○										○			
Introduction to Highway Engineering		○	○	○										○			
<b>Environmental Engineering</b>																	
Introduction to Environmental Engineering		○	○	○										○	○	○	
Introduction to Wastewater Management		○	○	○										○	○	○	
Introduction to Water Supply Engineering		○	○	○										○	○		
Introduction to Environmental Pollution Control		○	○	○										○	○	○	
<b>CNC</b>																	
CNC Milling Technology with eXpertMill VMC-0600			○	○	○	○	○	○	○	○	○	○	○				
CNC Milling Technology with spectralLIGHT 0200			○	○	○			○	○	○				○			
CNC Milling Technology with Super proLIGHT 1000			○	○	○	○	○	○	○	○	○	○	○				
CNC Programming: G&M Codes with Personal Tutor			○	○	○			○	○					○	○	○	
CNC Turning Technology with proLIGHT 3000			○	○	○	○	○	○	○	○	○	○	○				
CNC Turning Technology with spectralLIGHT 0400			○	○	○			○	○	○	○			○			
<b>Electrical Control and Electronics</b>																	
Fundamentals of Electronics		○	○	○	○	○	○		○	○	○	○					
Advanced Electronics		○	○	○				○	○	○	○	○					
Electrical Systems		○	○	○	○	○	○	○	○	○	○	○				○	
Automatic Identification Systems		○						○		○	○	○					
Fiber Optics		○								○		○					
Sensor Technology		○	○	○		○	○	○	○	○	○	○				○	
<b>Employability</b>																	
Employability			○	○		○	○	○	○	○	○	○	○	○	○	○	○
Working With the Employability Workbook			○	○		○	○	○	○	○	○	○	○	○	○	○	○
<b>Engineering</b>																	
Materials Testing with Buster II		○	○	○	○								○	○			
Mechanisms		○	○	○	○	○	○	○	○	○							
<b>Fluid Power</b>																	
Hydraulics 1: Fundamentals of Hydraulics with HydraFlex		○	○	○	○	○	○	○	○	○	○	○					
Hydraulics 2: Fundamentals of Electro-hydraulics			○	○					○	○	○	○					
Pneumatics 1: Fundamentals of Pneumatics with PneuFlex		○	○	○	○	○	○	○	○	○	○	○					
Pneumatics 2: Advanced Pneumatics with PneuFlex			○	○					○	○	○	○					
Pneumatics 3: Electro-pneumatics						○			○	○	○	○					



**Topic**

Applied Science	Technology	Engineering	Applied Math	Foundations	Robotics	Precision Machining	Advanced Manufacturing	Mechatronics	Computer Integrated Manufacturing (CIM)	Industrial Maintenance	Rapid Prototyping	Civil Engineering	Environmental Engineering	Agricultural Engineering
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**JobMaster Industrial Maintenance**

LOTO: Industrial Safety - Lockout/Tagout		○	○		○	○	○	○	○	○	○			
BA01A: Mathematics for Technicians I	○	○	○	○	○	○	○	○	○	○	○			
BA01B: Mathematics for Technicians II	○	○	○	○	○	○	○	○	○	○	○			
BA02: Mechanical Blueprint Reading	○	○	○	○	○	○	○	○	○	○	○	○		
BA03: Lubrication for Technicians	○	○		○	○	○	○	○	○	○	○			
BA04: Mechanical Fasteners	○	○		○	○	○	○	○	○	○	○			
BA05: Hand Tools	○	○		○	○	○	○	○	○	○	○			
BA06: Power Tools	○	○		○	○	○	○	○	○	○	○			
EA01A: Electrical Circuits							○	○		○				
EA01B: Resistors and Conductors							○	○		○				
EA01C: LCR Circuits							○	○		○				
EA01D: Motors and Generators							○	○		○				
EA02: Electric Circuit Protection & Monitoring							○	○		○				
EA03: Three-phase Transformers							○	○		○				
EA04: Electric Motors							○	○		○				
EA06: Manual Electric Motor Control							○	○		○				
EA07: Electromagnetic Motor Starters							○	○		○				
EA08: Timers and Timer-Delay Relays							○	○		○				
EA09: Electronic Sensors							○	○		○				
EA11: Solid-state Reduced-voltage Starters							○	○		○				
EA12: Variable Frequency Drive							○	○		○				
EA16: Solid-state Drive and DC Motor							○	○		○				
EA18: PLC - Allen Bradley SLC500							○	○		○				
EA20: PLC - MicroLogix							○	○		○				
EA24: PLCs with Plant Control Applications							○	○		○				
EB01A: Oscilloscope							○	○		○				
EB01B: Digital Multimeter							○	○		○				

EB01C: Handheld Digital Oscilloscope								○	○		○				
EB02A: DC Power Supplies								○	○		○				
EB02B: Single-Phase & 3-Phase Power Supplies								○	○		○				
EB03: Thyristor Electric Motor Drives								○	○		○				
EB04: Electronic Timers								○	○		○				
EB05: Basic Stepper Motor Drive								○	○		○				
EB06: Basic Servo Motor Drive								○	○		○				
1600 Electro-mechanical Maintenance Cell								○	○		○				
<b>Greystone Industrial Training</b>															
Greystone Mechanical Training Bench					○			○	○		○				
Greystone Bearing Service Cart								○	○		○				
Industrial Power Electricity (IMC-1)								○	○		○				
Industrial Motor Control (IMC-2)								○	○		○				
Motor Control Sensors (IMC-3)								○	○		○				
Motor Control Drives (IMC-4)								○	○		○				
Industrial Electric Machines (Motors) (IMC-8)								○	○		○				
Residential Wiring and Controls (RWAC-1)		○						○	○		○				○
Electrical Controls for HVAC (HVAC-1)		○						○	○		○				
Electrical Controls for Electric Furnace (HVAC-2)		○						○	○		○				
Electrical Controls for Gas Furnace (HVAC-3)		○						○	○		○				
<b>Introductory Engineering &amp; Manufacturing</b>															
Introduction to Advanced Manufacturing		○	○	○	○		○	○	○	○	○				
Introduction to Engineering	○	○	○	○	○	○		○	○	○		○	○	○	○
<b>Plastics</b>															
Plastics Technology (Thermoforming)	○	○	○				○	○	○			○			
<b>Process Control</b>															
Process Control: Temperature	○	○	○					○	○		○				
Process Control: Flow	○	○	○					○	○		○				
Process Control: Pressure	○	○	○					○	○		○				
Process Control: Level	○	○	○					○	○		○				
<b>Programmable Logic Controllers (PLC)</b>															
PLC Technology 1: Fundamentals of Ladder Logic		○	○		○	○		○	○	○	○				
PLC Technology 2: Advanced Ladder Logic		○	○			○		○	○	○	○				
PLC Technology 3: PLC-Controlled Pneumatic Systems		○	○			○		○	○	○	○				
PLC Technology 4: PLC-Controlled Hydraulic Systems		○	○			○		○	○	○	○				



*"Reaffirming and strengthening America's role as the world's engine of scientific discovery and technological innovation is essential to meeting the challenges of this century. That's why I am committed to making the improvement of STEM education over the next decade a national priority."*

US President Barack Obama  
January 6, 2010

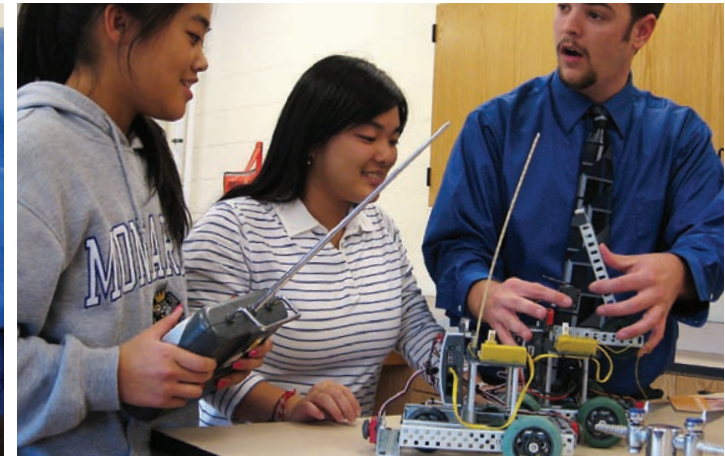
**Topic**

	Applied Science	Technology	Engineering	Applied Math	Foundations	Robotics	Precision Machining	Advanced Manufacturing	Mechatronics	Computer Integrated Manufacturing (CIM)	Industrial Maintenance	Rapid Prototyping	Civil Engineering	Environmental Engineering	Agricultural Engineering
<b>Projects</b>															
Automated Manufacturing Technology (AMT) Planetary Gear		○	○				○	○		○		○			
Automated Manufacturing Technology (AMT) 4-cavity Mold		○	○				○	○		○		○			
Robotics and Automation Project		○	○			○		○	○	○					
Project: Can Crusher		○	○			○		○	○						
Project: Car Elevator		○	○			○		○	○						
Project: CO2 Car		○	○				○								
Project: Golf Putter		○	○				○			○	○	○			
Project: Pneumatic Feeder		○	○					○	○						
Project: Precision Measuring Device		○	○		○	○	○			○	○	○			
Project: Shape Sorter		○	○			○		○	○						
Project: Yo-yo		○	○				○					○			
Project: Chess Set		○	○		○	○	○			○	○	○			
<b>Quality Control</b>															
Exploring Machine Vision and Quality Control		○	○			○		○	○	○					
Machine Vision and Image Processing		○	○	○		○		○	○	○					
Machine Vision and Quality Control		○	○			○		○	○	○					
Mechanical Measurement and Quality Control	○	○	○	○	○	○	○	○	○	○	○	○			
<b>Rapid Prototyping/3D Printing</b>															
Getting Started with the Solido SD300 Pro 3D Printer		○	○			○	○	○	○	○		○			
Rapid Prototyping and Concurrent Engineering		○	○			○	○	○	○	○		○			
<b>REC - Robotics Engineering Curriculum</b>															
REC Unit 1: Introduction to Robotics		○	○	○		○		○	○						
REC Unit 2: Introduction to Vex Programming		○	○	○		○		○	○						
REC Unit 3: Physics and Robotics		○	○	○		○		○	○						
REC Unit 4: Sensors		○	○	○		○		○	○						
REC Unit 5: Arms and End Effectors		○	○	○		○		○	○						
REC Unit 6: First Semester Project		○	○	○		○		○	○						

REC Unit 7: Introduction to Electronics	○	○	○	○	○	○	○	○										
REC Unit 8: Mechanical Properties	○	○	○	○	○	○	○	○										
REC Unit 9: Advanced C Programming	○	○	○	○	○	○	○	○										
REC Unit 10: Industrial Robotic Arms	○	○	○	○	○	○	○	○										
REC Unit 11: Advanced Mechanics	○	○	○	○	○	○	○	○										
REC Unit 12: Second Semester Project	○	○	○	○	○	○	○	○										
Robot Boot Camp	○	○	○	○	○	○	○	○										
<b>Robotics</b>																		
Robotics and Materials Handling 1 with SCORBOT-ER4u	○	○		○	○		○	○	○									
Robotics and Materials Handling 2 with RoboCell (ER4u)	○	○		○	○		○	○	○									
Fundamentals of Robotics for SCORBOT-ER4u	○	○		○	○	○	○	○	○									
Advanced Robotic Programming with the SCORBOT-ER4u	○	○		○	○		○	○	○									
Automated Welding with SCORBOT-ER4u							○	○	○									



# Just add students!



POWERED BY

**LearnMate**<sup>TM</sup>

**intelitek** <sup>®</sup>

# POWERED BY LEARNMATE

## Beyond Content: Sustainable Program Delivery

### What determines success of an educational program?

### What strategies are most likely to deliver consistent improvement in student outcomes?

While rigorous curriculum and quality lab equipment are important elements of success, it takes more for a program to continue to thrive in our rapidly changing educational environment.

Changes can cause excellent programs to fail or simply fade away. Standards change, administration changes, funding changes, faculty changes. The learning needs of students change. What can you do to ensure the excellence you invest in today will have the sustainability to remain excellent tomorrow?

*"We want you to expand and improve your science, technology, mathematics, and engineering programs so that all students are succeeding in them. Our future economic security depends on all of our students succeeding in these fields."*

**Arne Duncan**

**Secretary, U.S. Department of Education**

At intelitek, we have continued to deliver rigorous curriculum and quality lab equipment over the past three decades of change. Our experience has taught us what it takes to deliver sustainable programs that remain effective. We have successfully embedded what we have learned into our STEM solutions which are thriving in thousands of schools. Two keys to this success are our innovative Learning Management System (LMS) and our solution-oriented support for our programs.



### Powered by LearnMate: An LMS that Manages Change

The LearnMate LMS is the backbone of intelitek's STEM offerings, delivering hybrid curriculum in the native format of today's digital age students, while simultaneously enabling seamless classroom management for teachers and administrators. The LearnMate LMS has proven itself in hundreds of classrooms as the strongest tool available for classroom management and data tracking, including the implementation of college- and career-ready standards and high-quality aligned assessments.

As the administrative office of the virtual classroom, student enrollment, scheduling, grading are all handled seamlessly from the LMS, with automatic data collection and reporting of student activity. This allows teachers more time in the classroom focused on students instead of administrative tasks.

The LMS provides embedded assessment of student skills and competencies. Intelitek's curriculum is currently mapped to existing National STEM Standards including Atlas of Science, ITEA and NCTM.

LearnMate also provides the essential capability to custom-map any content to any set of standards. Whatever standard your district employs, you can easily import it into the system. If your state adopts a new set of standards, LearnMate LMS enables you to embrace and implement the change as smoothly as possible.

You can also create, deliver and track computer-based assessments. LearnMate is a valid assessment instrument capable of measuring students' level of understanding and skill, whether through authentic or asynchronous assessments. LearnMate LMS is the chosen delivery system for the SkillsUSA "Work Force Ready System", which provides over forty aligned assessments for career and technical education that are supported by industry, education and policy leaders. Every question can be linked to a specific skill standard and responses are recorded in student grade books for full reporting, from skill exposure to skill mastery.

*"Students related to it better than any other assessment they have taken. This seems like the way to go with assessments in the future."*

**Dave Owens**  
**Barry Tech, NY**

All of this valuable data is easily accessible. Detailed reports on grades, transcripts, enrollment and more are all available in one click. Customized reporting capabilities ensure your classroom management can grow with changing demands.

### Sustainable Support for Our Programs

Intelitek's commitment to support for our programs after implementation is second to none. We provide installation service along with comprehensive on-site training in the use and function of the LMS and curriculum delivery. Once your program has been up and running for six to twelve months, our Professional Development program is available to help your faculty fully understand and put to use the capabilities of the LMS. This "Train the Trainer" program includes annual training at intelitek's training facilities in various levels of program implementation. Customized and individualized training can be initiated to ensure the success and sustainability of your program.



### Addressing Diverse Learning Styles

LearnMate LMS conveys instruction in the lingua franca of digital-native students: Hybrid Blended Media. A mix of online delivery and team-based hands-on activities engages students and reinforces concepts. This multimodal approach is the strength of Blended Learning.

In addition to our Professional Development program, our customer service is ready to assist you. From simple questions to unexpected problems, help is a toll-free call away. Our experienced service technicians and factory-trained dealers in the field are available to help ensure the continuous effectiveness of your program, including on-site support visits.

