

Scientific Management Techniques

Prior Learning Assessments and Skill Gap
Analysis using Hands-On Competency
Based Assessment Tools

NCCET Manufacturing Skills Workshop

- Review SMT's Programs/Capabilities
- Quantifying the Changing Skill Level of the Manufacturing Workforce over the Last Four Decades
- Delivering Targeted, Data-Driven Skills Training based on Assessment Outcomes
- Measuring the Effectiveness of Mechatronics Training Programs
- Awarding Credit for Prior Learning based on Validated, Competency-Based, Hands-On Assessments

Scientific Management Techniques

Validated, “Competency-Based”

Manufacturing Skill Programs Deployed by
Fortune 500 Manufacturers Globally

Solving the Manufacturing Skills Shortage

Available in Formal Education since 2011

Hands-On, Manufacturing Skill Assessment Programs That Identify and Measure the Skills Required to Operate, Maintain and Troubleshoot a Manufacturing Facility

Competency-Based Mechatronics Curriculum Training the “Hard Skills” Required to Optimize Performance / Profitability in Industry

Programs Deployed Globally by Fortune 500 Manufacturers

 **Actavis**

 **ALCOA**

 **BD**

 **BIGELOW®**

 **BROWN-FORMAN**

 **BUNGE**

 **BWAY**

 **Campbell's**

 **Coca-Cola**

 **COLGATE-PALMOLIVE**

 **COVIDIEN**

 **CROWN CORK & SEAL**

 **Cummins**

 **DENSO**

 **DENTSPLY**
INTERNATIONAL

 **DIAGEO**

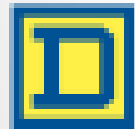
Programs Deployed Globally by Fortune 500 Manufacturers



Programs Deployed Globally by Fortune 500 Manufacturers



REGENERON



SQUARE D
Schneider Electric

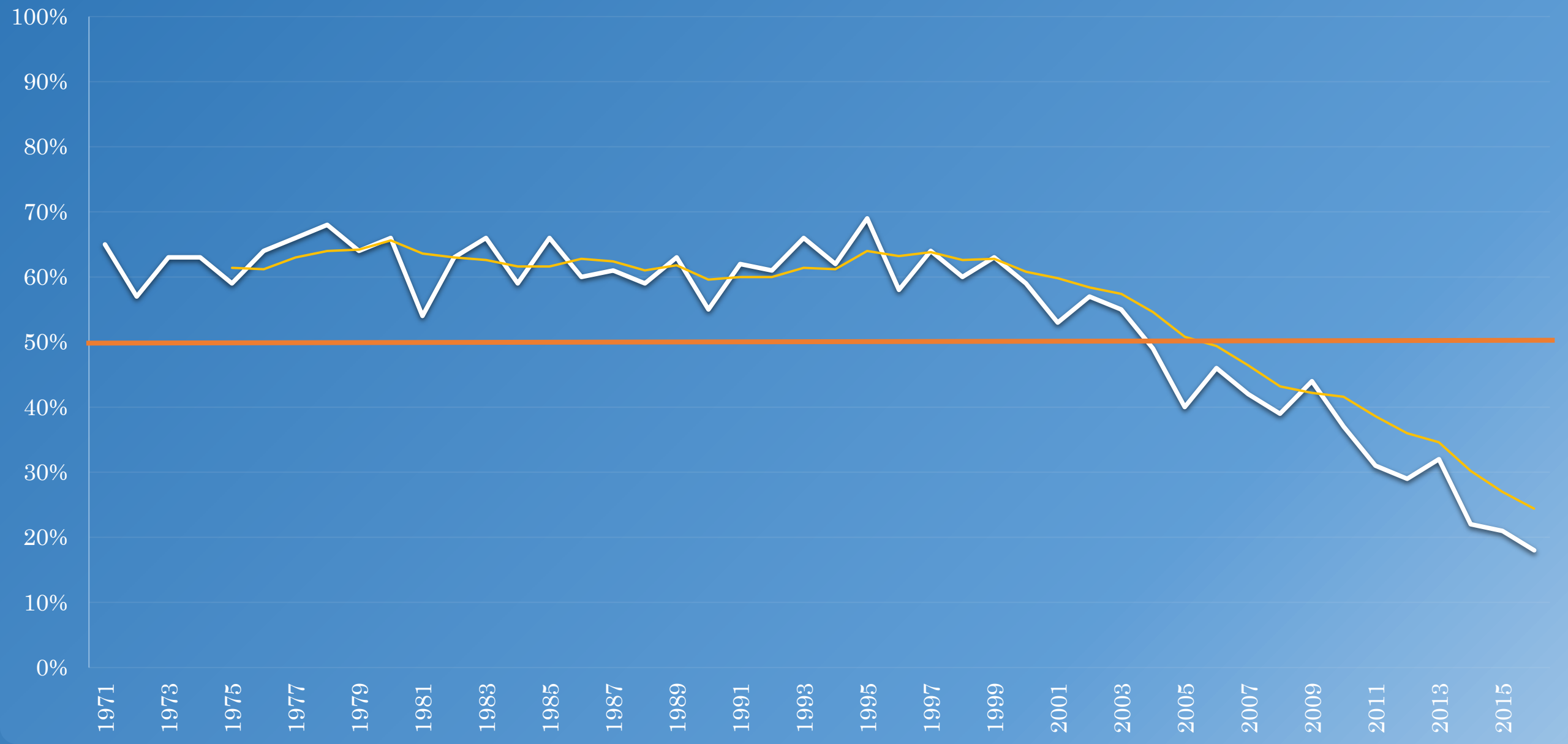


tyco

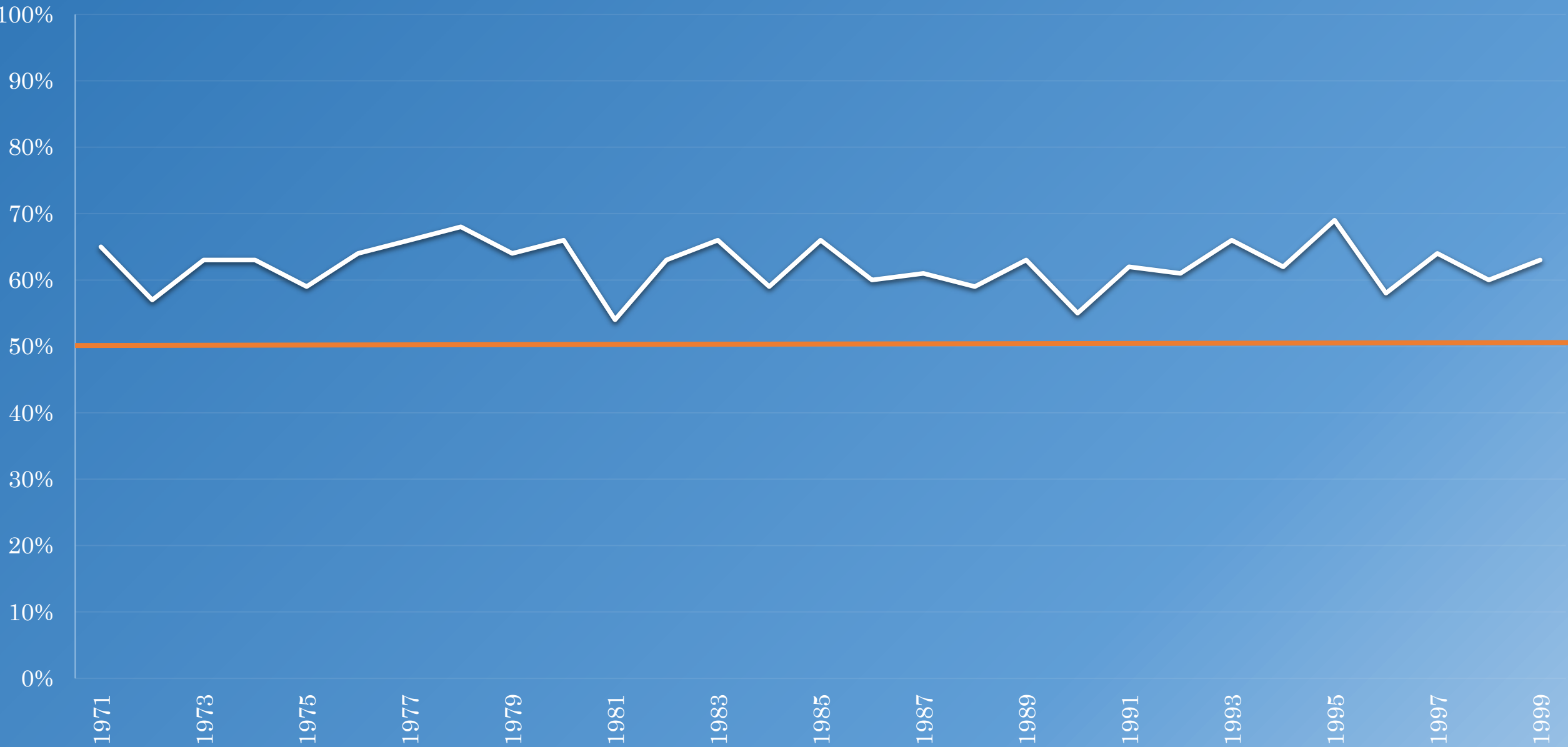
NCCET Manufacturing Skills Workshop

Quantifying the Changing Skill Level of the Manufacturing Workforce over the Last Four Decades

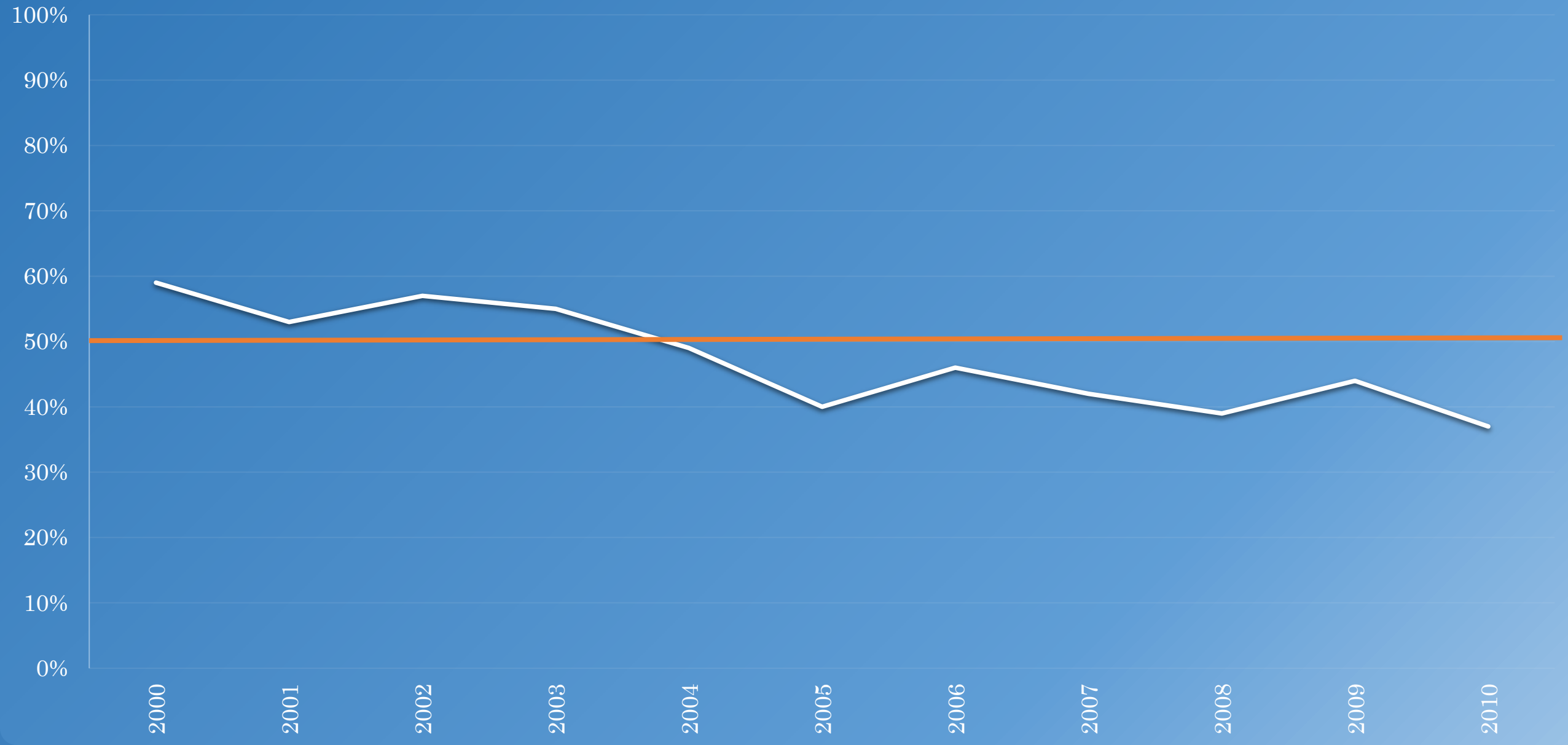
Average Annual Maintenance Level Mechanical Skills Measured by the Standard Timing Model Assessment Program 1971 - 2016



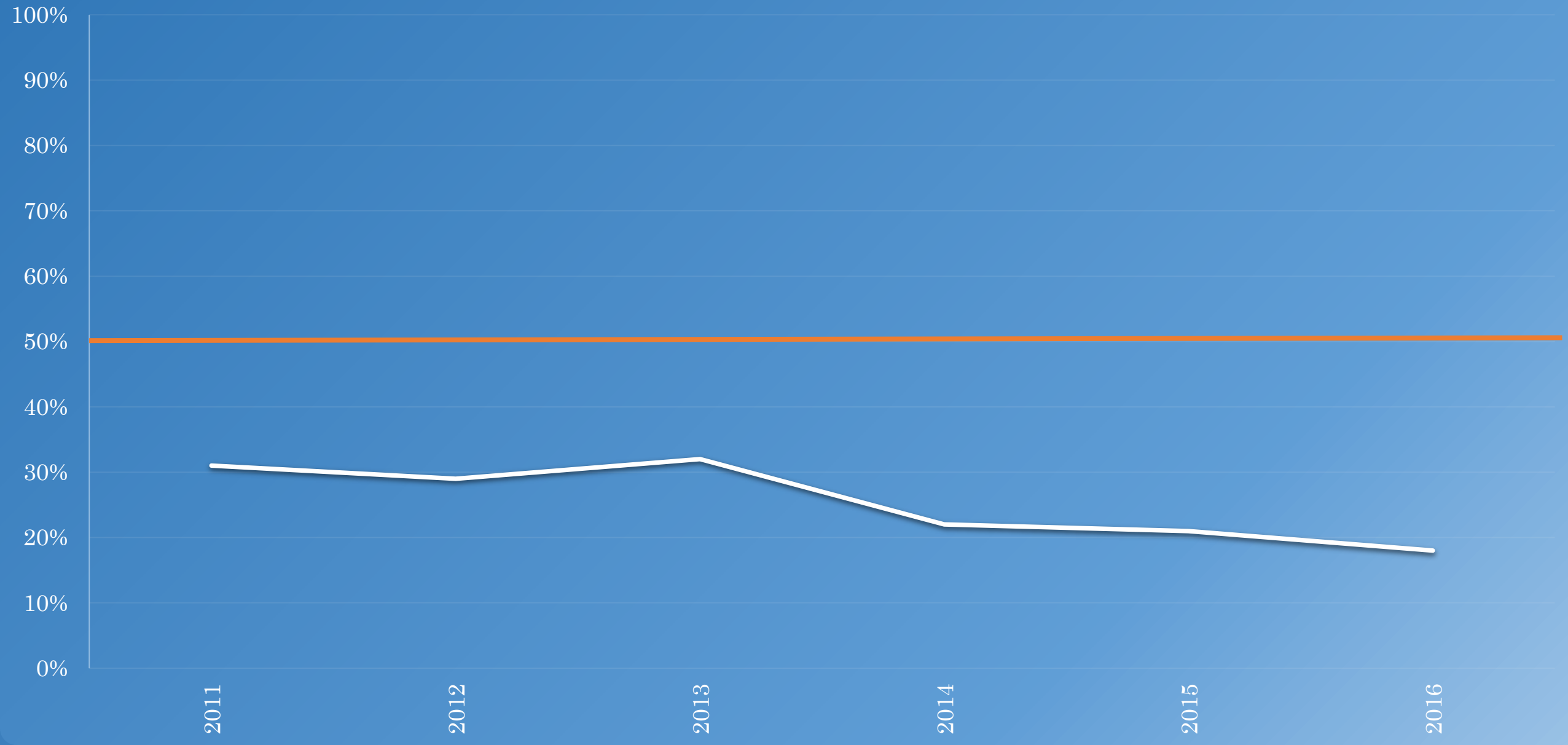
Average Annual Maintenance Level Mechanical Skills Measured by the
Standard Timing Model Assessment Program
1971 - 1999



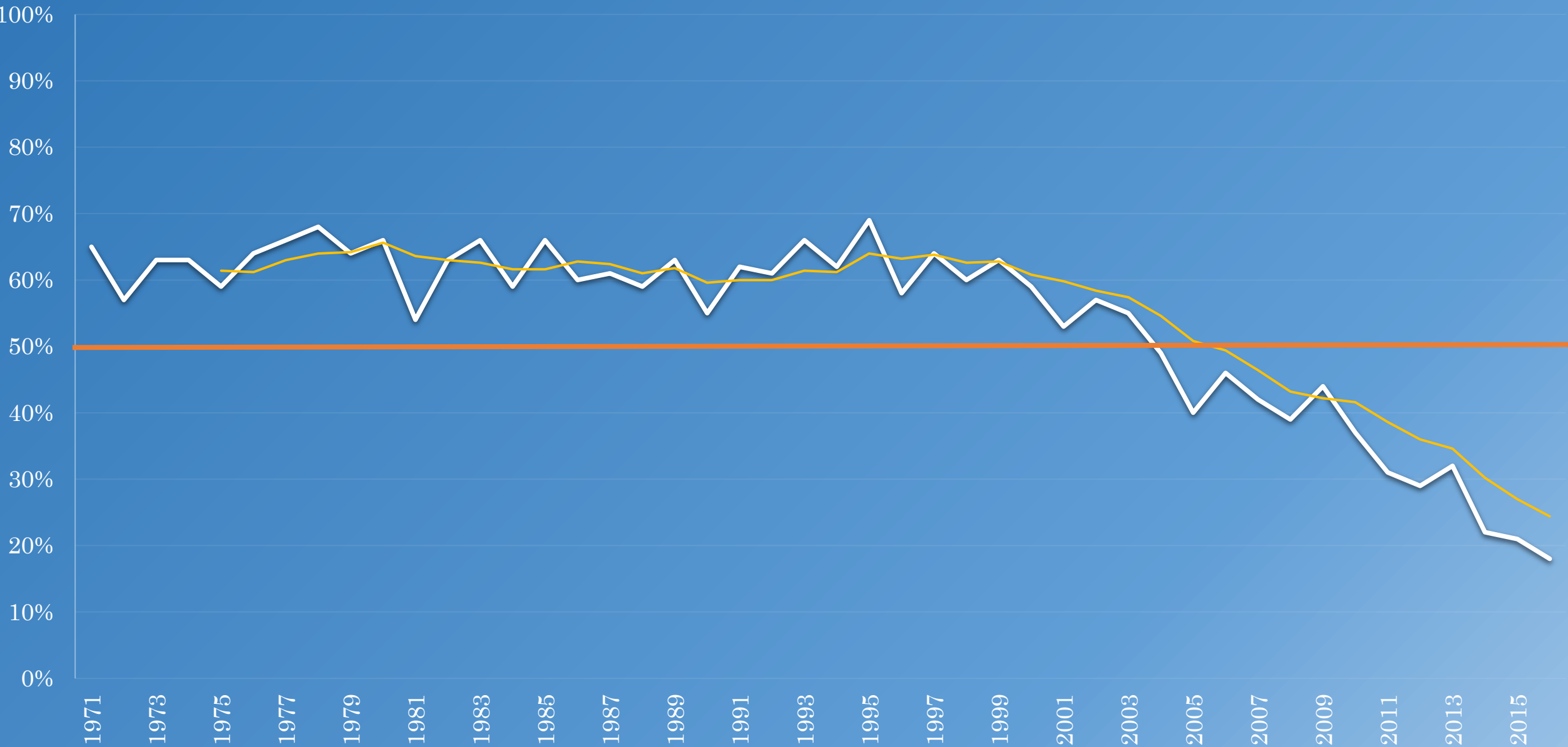
Average Annual Maintenance Level Mechanical Skills Measured by the Standard Timing Model Assessment Program 2000-2010



Average Annual Maintenance Level Mechanical Skills Measured by the Standard Timing Model Assessment Program 2011 - 2016



Average Annual Maintenance Level Mechanical Skills Measured by the
Standard Timing Model Assessment Program
1971 - 2016



Scientific Management Techniques, INC.


[Tests](#)
[Reports](#)
[Administration](#)
[Log Off](#)

Thursday, September 29, 2016

 Machines Total score - %

 Date Best of N - %

Records: 453 Page 1/1 << First < Previous Next > Last >>

	Date ▼	N	Type	U	City	State	C	C	Machine	Test	N	Total Score Percentile	Best Of N Percent...	Total Score Time	Best Of N Time	
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	STM Maintenance Task Series #1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	09/27/2016	M	Candidate	M	Flowery Branch	GA	V		Standard Timing Model	STM Maintenance Task Series #1	M	61%	46%	14.23	9.52	
	09/27/2016	C	Incumbent	S	Flowery Branch	GA	V		Standard Timing Model	STM Maintenance Task Series #1	C		33%		10.80	
	09/26/2016	H	Candidate	M	Flowery Branch	GA	V		Standard Timing Model	STM Maintenance Task Series #1	H		91%		4.95	
	09/26/2016	R	Candidate	M	Flowery Branch	GA	V		Standard Timing Model	STM Maintenance Task Series #1	R	22%	24%	22.56	12.29	
	09/26/2016	Ji	Incumbent	S	Flowery Branch	GA	V		Standard Timing Model	STM Maintenance Task Series #1	Ji					
	09/23/2016	R	Incumbent	S	Flowery Branch	GA	V		Standard Timing Model	STM Maintenance Task Series #1	R	57%	45%	15.00	9.65	
	09/22/2016	S	Incumbent	S	Flowery Branch	GA	V		Standard Timing Model	STM Maintenance Task Series #1	S	12%	21%	26.60	13.00	
	09/20/2016	T	Candidate	Ji	Flowery Branch	GA	V		Standard Timing Model	STM Maintenance Task Series #1	T	1%	1%	37.47	24.47	
	09/20/2016	C	Candidate	Ji	Flowery Branch	GA	V		Standard Timing Model	STM Maintenance Task Series #1	C		0%		36.29	
	09/20/2016	C	Candidate	Ji	Flowery Branch	GA	V		Standard Timing Model	STM Maintenance Task Series #1	C	22%	35%	22.53	10.53	
	09/20/2016	L	Candidate	Ji	Flowery Branch	GA	V		Standard Timing Model	STM Maintenance Task Series #1	L	10%	9%	27.99	15.99	
	09/16/2016	S	Candidate	B	Yorkville	IL	V		Standard Timing Model	STM Maintenance Task Series #1	S	40%	61%	18.08	8.05	
	09/15/2016	M	Candidate	A	Yorkville	IL	V		Standard Timing Model	STM Maintenance Task Series #1	M	60%	50%	14.48	9.01	
	09/14/2016	P	Candidate	B	Yorkville	IL	V		Standard Timing Model	STM Maintenance Task Series #1	P	57%	77%	15.07	6.40	
	09/13/2016	S	Candidate	A	Yorkville	IL	V		Standard Timing Model	STM Maintenance Task Series #1	S	18%	11%	23.57	15.63	
	09/09/2016	S	Candidate	B	Yorkville	IL	V		Standard Timing Model	STM Maintenance Task Series #1	S	14%	40%	25.07	10.07	
	09/02/2016	K	Candidate	K	Yorkville	IL	V		Standard Timing Model	STM Maintenance Task Series #1	K	49%	46%	16.33	9.49	
	09/02/2016	R	Candidate	S	Flowery Branch	GA	V		Standard Timing Model	STM Maintenance Task Series #1	R	12%	5%	26.40	17.90	
	08/31/2016	M	Incumbent	S	Flowery Branch	GA	V		Standard Timing Model	STM Maintenance Task Series #1	M	75%	83%	11.85	5.95	
	08/31/2016	A	Incumbent	S	Flowery Branch	GA	V		Standard Timing Model	STM Maintenance Task Series #1	A	60%	58%	14.45	8.30	
	08/31/2016	M	Incumbent	B	Yorkville	IL	V		Standard Timing Model	STM Maintenance Task Series #1	M	49%	55%	16.35	8.49	
	08/30/2016	T	Incumbent	S	Flowery Branch	GA	V		Standard Timing Model	STM Maintenance Task Series #1	T	85%	85%	10.35	5.70	
	08/29/2016	G	Candidate	S	Flowery Branch	GA	V		Standard Timing Model	STM Maintenance Task Series #1	G	65%	77%	13.55	6.40	

Date	Type	City	State	Machine	Test	Total Score Percentile	Best Of N Percentile	Total Score Time	Best Of N Time
11-Aug-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	99%	97%	5.35	3.81
23-Aug-16	Candidate	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	93%	87%	8.75	5.4
2-Jun-16	Candidate	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	87%	77%	9.92	6.4
30-Aug-16	Incumbent	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	85%	85%	10.35	5.7
29-Jul-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	79%	81%	11.38	6.18
23-Aug-16	Incumbent	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	75%	77%	11.9	6.4
31-Aug-16	Incumbent	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	75%	83%	11.85	5.95
16-Jun-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	68%	73%	12.97	6.76
27-Sep-16	Candidate	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	61%	46%	14.23	9.52
15-Sep-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	60%	50%	14.48	9.01
14-Sep-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	57%	77%	15.07	6.4
31-Aug-16	Incumbent	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	49%	55%	16.35	8.49
16-Sep-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	40%	61%	18.08	8.05
24-Aug-16	Candidate	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	39%	23%	18.45	12.4
26-Aug-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	38%	28%	18.73	11.65
7-Jun-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	29%	26%	20.85	11.96
6-Jun-16	Candidate	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	22%	67%	22.42	7.42
26-Sep-16	Candidate	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	22%	24%	22.56	12.29
27-Jul-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	18%	22%	23.62	14.17
2-Sep-16	Candidate	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	12%	5%	26.4	17.9
22-Sep-16	Incumbent	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	12%	21%	26.6	13
20-Sep-16	Candidate	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	10%	9%	27.99	15.99
24-Aug-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	5%	6%	32.56	17.56
10-Aug-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	4%	5%	33.16	18.16
13-Jul-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	3%	1%	33.82	24.27
5-Aug-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	2%	1%	34.66	22.88
22-Jul-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	1%	1%	39.32	24.32
20-Sep-16	Candidate	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	1%	1%	37.47	24.47
19-Aug-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	0%	0%	49.5	34.5
25-Aug-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	0%	0%		
16-Aug-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	0%	0%		
3-Aug-16	Candidate	Yorkville	IL	Standard Timing Model	STM Maintenance Task Series #1	0%	4%		19.48
16-Aug-16	Candidate	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	0%	49%		9.1
13-Jun-16	Candidate	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	0%	2%		22.14
10-Jun-16	Candidate	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	0%	0%		
1-Jun-16	Candidate	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	0%	0%		
1-Jun-16	Candidate	Flowery Branch	GA	Standard Timing Model	STM Maintenance Task Series #1	0%	0%		

NCCET Manufacturing Skills Workshop

Delivering Targeted, Data-Driven
Skills Training based on
Assessment Outcomes



CONFIDENTIAL TEST REPORT

SCIENTIFIC MANAGEMENT TECHNIQUES, INC.

Tom Brady - Practice

Standard Timing Model Test Results: STM Maintenance Task Series #1

Task No. 1	Task No. 2	Task No. 3	Task No. 4	Total Score	Total Best 3
Over	3.27	8.24	7.66	N/A	19.17
			Percentile Rank	N/A	4%

POTENTIAL TRAINABILITY RANGE / MECHANICAL

PERCENTILE RANGE	4 TASK RANGE POTENTIAL	3 TASK RANGE POTENTIAL
90th percentile and above	Outstanding	Very High
75th percentile and above	Very High	High
50th percentile to 74th	High	Very Good to High
40th percentile to 49th	Very Good to High	Good
25th percentile to 39th	Good	Fair at Best
15th percentile to 24th	Fair at Best	Low
1st percentile to 14th	Low	Poor

Recommendations / Comments:

- No. 1 For a candidate to qualify at the **Mechanical "A" level**, we are recommending the candidate place in the **60th** percentile or better for four tasks.
- No. 2 For a candidate to qualify at the **Mechanical "B" level**, the candidate must complete all four tasks and place in the **40th** percentile or higher.
- No. 3 **Comment:** Tom completed three of the four assigned mechanical tasks placing in the **4th** percentile for Total Best 3 Score.
Tom displayed poor mechanical troubleshooting skills.
Tom made several innapropriate adjustments. He displayed poor understanding of turnbuckles(position) and cams(timing).Suggest Volumes 5, 7, 8 and 21 from SMT's Mechatronics Curriculum.

Scientific Management Techniques - Suggested Training Units

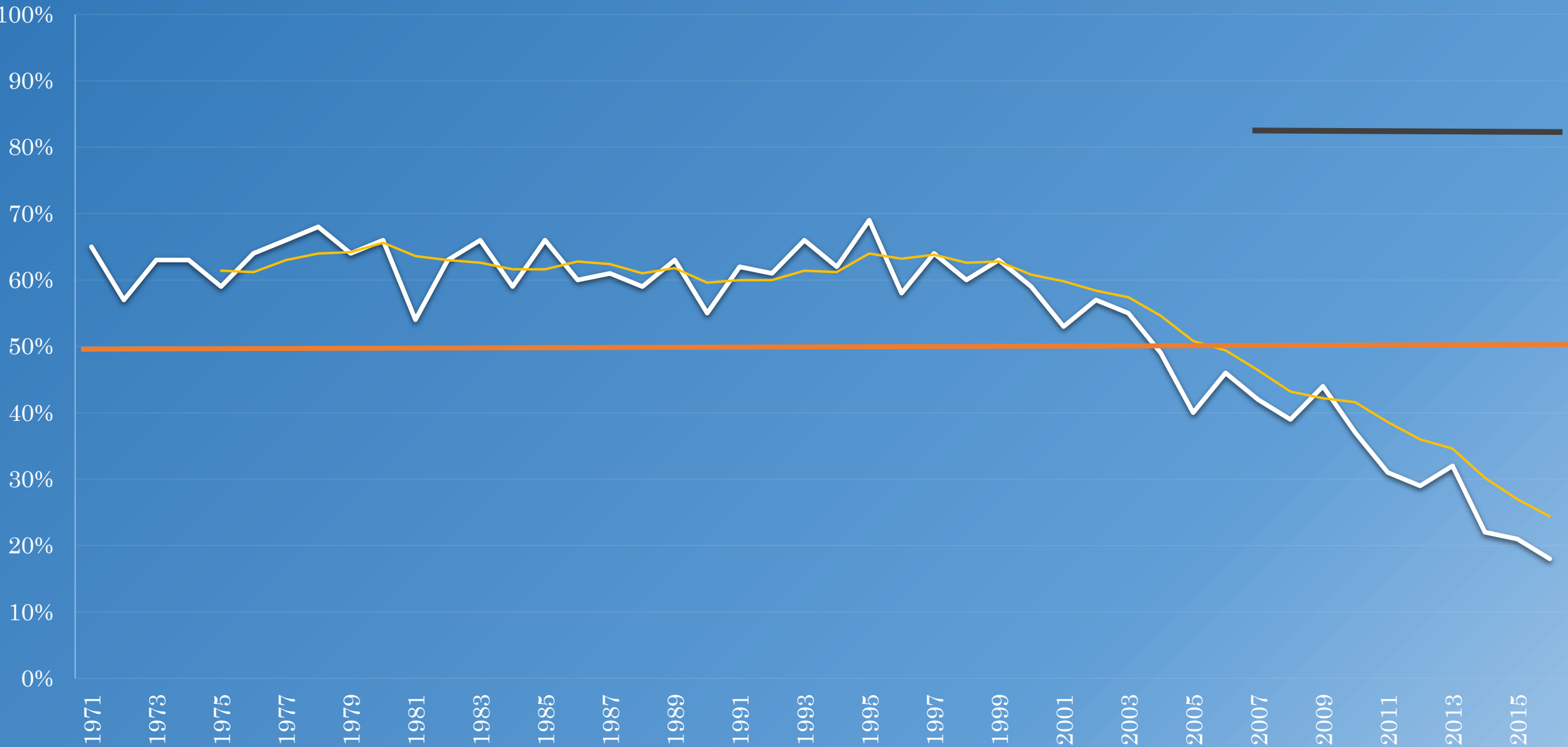
	Assessment Scores				Recommend Training Units				
	Mechanical		ESTD		V7, V8 M	V5, V7, V8 M	V9 (unit 4-8), V17 E	V9, V17 E	V22, V23 PLC
Name	Total Score %	Best Three %	Total Score %	Best Four %	15 HRS	25 HRS	25 HRS	30 HRS	40 HRS
CM	72%	64%						X	X
SL	64%	60%						X	
RD	69%	50%						X	
MG	67%	49%		50%					
MT	58%	48%	38%	43%			X		X
BG		48%		37%	X		X		X
MS	62%	44%	91%	93%					X
DD	50%	37%						X	X
JB	50%	31%						X	
MT	16%	27%			X			X	X
SM	40%	24%	76%	87%					X
LJ	31%	23%		30%			X		
DW		23%		27%	X			X	X
PT	28%	19%			X			X	
JC	28%	17%		30%	X		X		
SL	17%	15%	14%	17%	X		X		
DH	17%	14%		30%	X		X		
JM	24%	14%	76%	77%	X				
RW	7%	11%				X		X	X
JR	18%	9%			X			X	
JP	12%	9%			X			X	X
GS	15%	7%			X			X	
VG		3%				X		X	
MM	2%	1%		7%		X		X	
DS	0%	0%				X		X	
VT	1%	0%				X		X	X
ES				30%		X	X		
MS						X		X	
SB				33%		X	X		X
Total Employees - 29					19 Employees		25 Employees		12 Employees

33%/26% 25%/22% 59%/10% 42%/21%

NCCET Manufacturing Skills Workshop

Measuring the Effectiveness of Mechatronics Training Programs

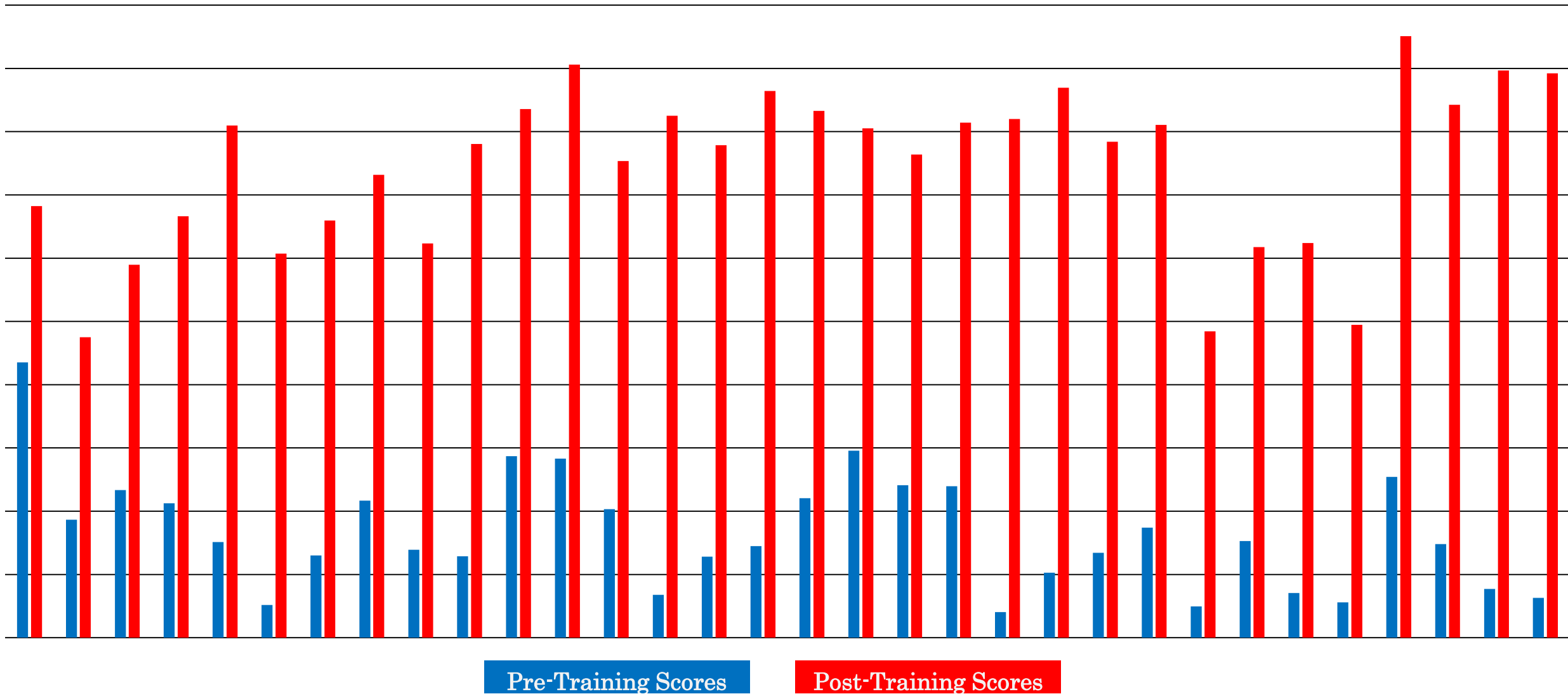
Average Annual Maintenance Level Mechanical Skills Measured by the
Standard Timing Model Assessment Program
1971 - 2016



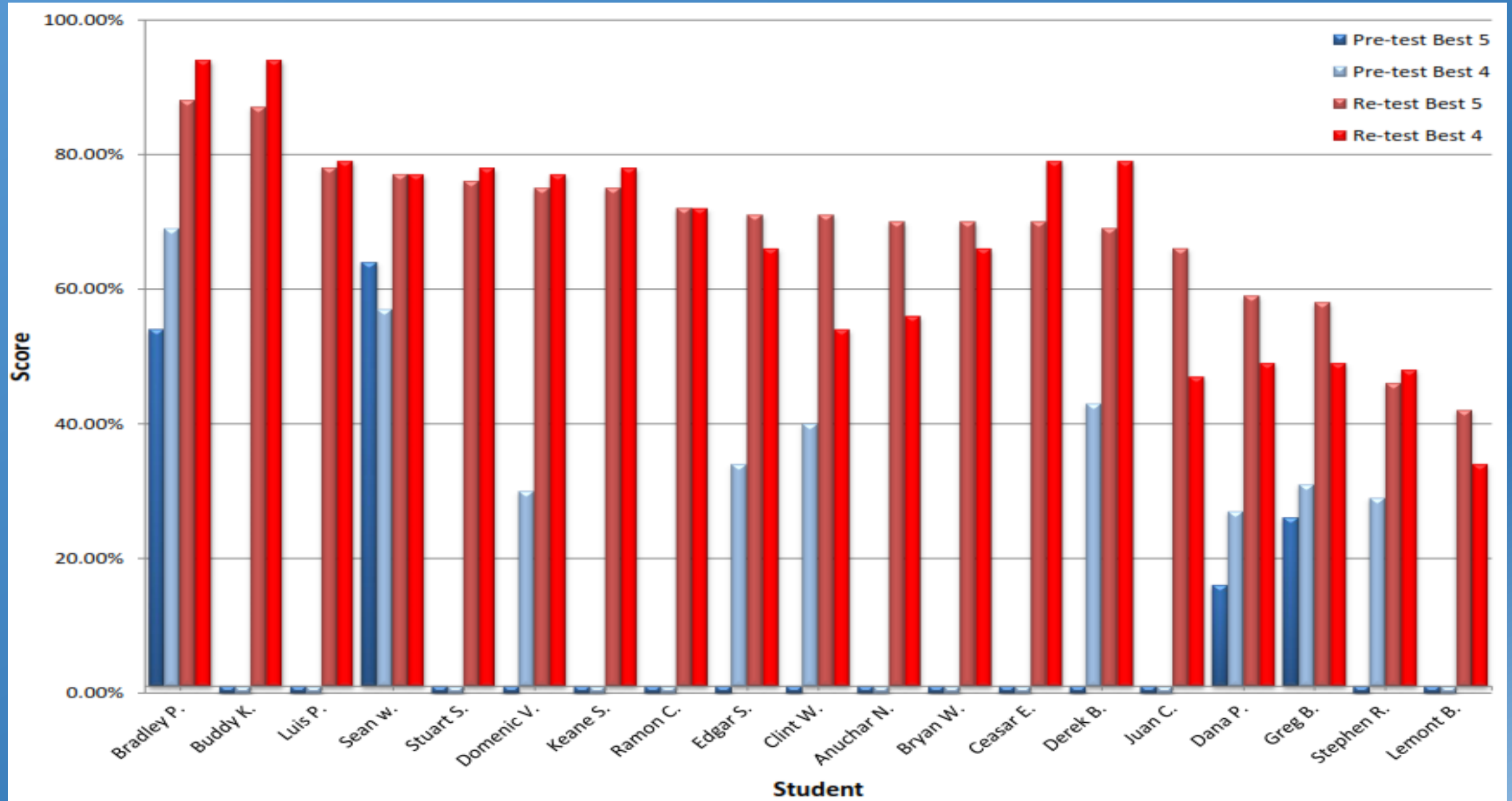
Pre Training & Post Training Mechanical Skill Assessment Scores

32 Classes, 664 Participants

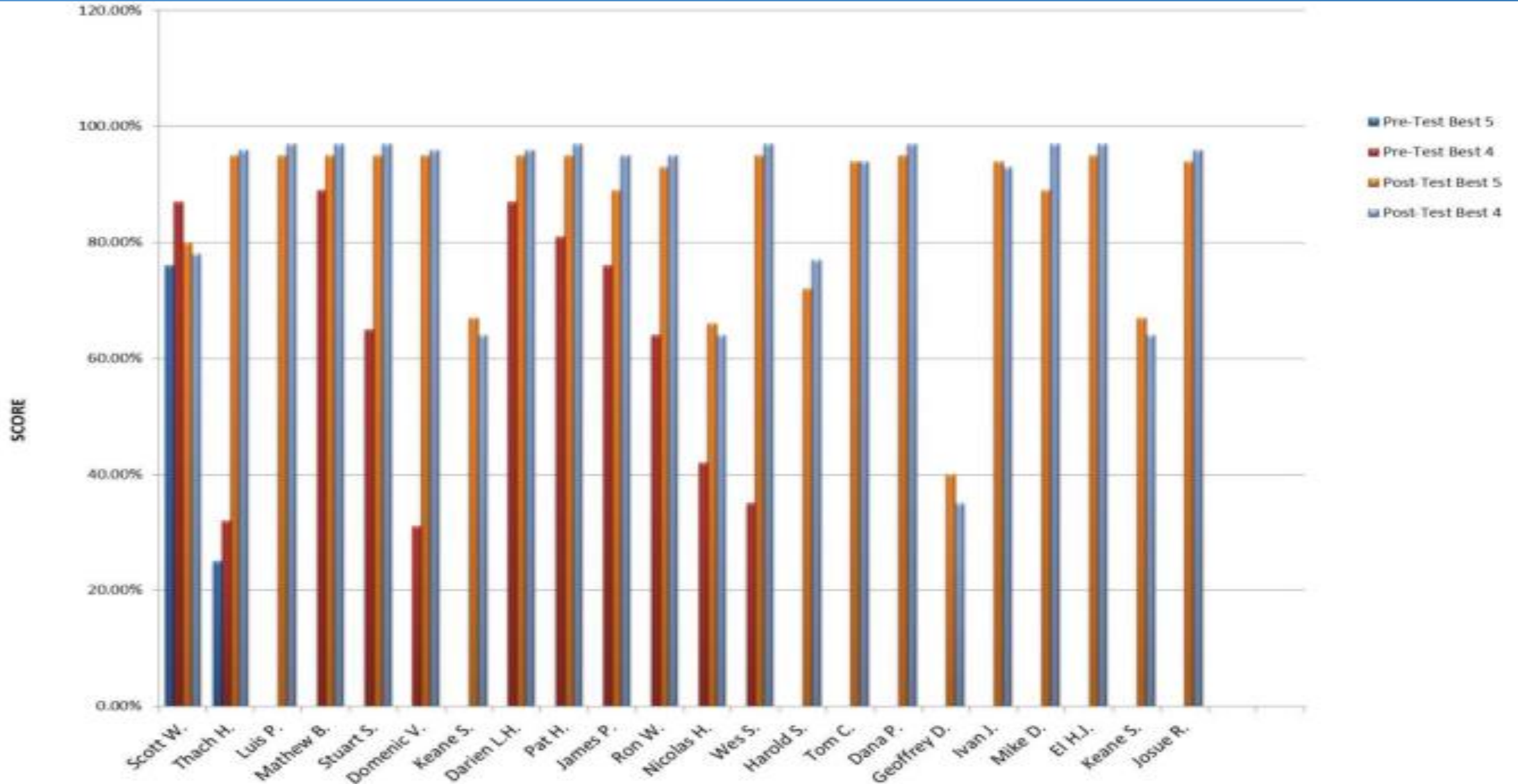
Average Pre-Test Score 16% -- Average Post-Test Score 74%





NYPRO 2013 Electrical Skills Training



NYPRO 2013 PLC Skills Training



Measuring the Impact of SMT's Skill Training Program

Output or Production <ul style="list-style-type: none">• By Employee• By Line• By Shift• By Cell Unit: Output or production by unit of measure. (Units/Shift) Direction: Maximize	Total Output by Unit of Capacity AVG Improvement 27%
	
Maintenance Overtime <ul style="list-style-type: none">• By Employee• By Line• By Shift• By Cell Unit: OT Hours Incurred Direction: Minimize	Total Number of Overtime Hours by Unit AVG Improvement (decrease in overtime) 59%
	

Measuring the Impact of SMT's Skill Training Program

Quality

- By Employee
- By Line
- By Shift
- By Cell

Unit: Percentage

Direction: Maximize

$$Quality = \frac{Good\ Pieces}{Total\ Pieces}$$

AVG Improvement 21%



Downtime

- By Employee
- By Line
- By Shift
- By Cell

Unit: Percentage

Direction: Minimize

$$Downtime = 1 - \frac{Availability}{100} * 365 * 24 * 60$$

AVG Improvement (decrease in downtime) 44%



NCCET Manufacturing Skills Workshop

Awarding Credit for Prior Learning
based on Validated, Competency-
Based, Hands-On Assessments

**American Council on
Education[®], ACE CREDIT[®]
Recommends College Credit for
SMT's Assessment Program and
Mechatronics Training Curriculum**

ACE CREDIT®

Prior Learning Assessments

Using SMT's Hands-On
Validated Assessment Machines
and Methodology

SMT's Hands-On Competency-
Based Assessment Program
has been Validated Thirty-
Eight Times by Industrial/
Organizational PhDs

Validated Competency-Based Assessment Program

- Used in the Hiring Process
- Award credit for Prior Learning
- Internal Promotions
- Identify Skill Gaps-training needs
- Deliver Targeted Training based on skill-gap analysis
- Measure the effectiveness of training delivered

ACE – Recommended Credit based on Assessment Performance

Mechanical Skills Examination, Operator Task Series #1 (MO-01)

- 60th Percentile and above = 3 credits
- 45th – 59th Percentile = 2 credits
- 30th – 44th Percentile = 1 credit

Mechanical Skills Examination, Maintenance Task Series #1 (MM-01)

- 60th Percentile and above = 3 credits
- 45th – 59th Percentile = 2 credits
- 30th – 44th Percentile = 1 credit

Electrical Skills Examination, Electrical Task Series #1 (EE-01)

- 60th Percentile and above = 3 credits
- 45th – 59th Percentile = 2 credits
- 30th – 44th Percentile = 1 credit

Programmable Logic Control Skill Examination, PLC Task Series #1 (PLC-01)

- 60th Percentile and above = 3 credits
- 45th – 59th Percentile = 2 credits
- 30th – 44th Percentile = 1 credit

ACE - Mechatronics Skills Curriculum

Mechatronics, Basic Mechanical Skills I (SMT M101-I) - 3 Credits

Volume 1: Shop Mathematics

- Unit 1: Base 10, Decimals, Decimal Equivalents, Percentages
- Unit 2: Fractions
- Unit 3: Algebraic Expressions, Simple Equations, Ratio, Proportion
- Unit 4: Graphs, Charts, Data Handling
- Unit 5: Weights, Measures, Metric Conversion
- Unit 6: Exponents, Square Roots, Right Triangles
- Unit 7: Angles, Plane Figures, Area
- Unit 8: Measurement of Solid Figures, Volume, Intro. To Trig.
- Unit 9: Trigonometric Tables

Volume 2: Blueprint Reading & Machine Drawing

- Unit 1: Elements of Blueprints and Machine Drawing I

Volume 3: Measurement

- Unit 1: Linear Measurement

Volume 4: Hand Tools

- Unit 1: Care and Use of Hand Tools
- Unit 2: Mechanical Fasteners

Volume 5: Basic Mechanical Components I

- Unit 1: Basic Machines
- Unit 2: Shafts, Couplings, Pulleys, Belts and Chain Drives
- Unit 3: Gears and Gear Ratios
- Unit 4: Advanced Couplings
- Unit 5: Basic Alignment

Mechatronics, Advanced Mechanical Skills I (SMT M202-I) - 1 Credit

Volume 10: Pump Basics

- Unit 1: Pumping Basics

Volume 11: Valve Operation & Types

- Unit 1: Valve Operation and Type

Volume 12: Introduction to Industrial Maintenance

- Unit 1: Failure Analysis

Volume 13: Gearbox Maintenance

- Unit 1: Gear Maintenance

Volume 14: Bearing Maintenance

- Unit 1: Bearing Maintenance

Mechatronics, Basic Mechanical Skills II (SMT M101-II) - 2 Credits

Volume 6: Bearings & Lubrication

- Unit 1: Principles of Bearing Operation, Components, Bearings
- Unit 2: Principles of Friction and Lubricants

Volume 7: Basic Mechanical Components II

- Unit 1: Levers, Cranks, Linkages, and Springs
- Unit 2: Types and Uses of Cams, Timing Adjustments
- Unit 3: Use of Elementary Timing Model in Timing Adjustments

Volume 8: Machine Adjustment Fundamentals Using the ATM

- Unit 1: Troubleshooting, Problem Solving, and Problem Identification Techniques
- Unit 2: Set Up Machine Standards Using the ATM
- Unit 3: Problem Solving on Multiple Systems Using the ATM

Volume 8-A: Basic Pneumatics & Hydraulics

- Unit 2A: Air Compression, Properties of Air
- Unit 2B: Basic Pneumatics, Compressors, and Air Pressure Gauges
- Unit 3A: Hydraulic Flow and Control

Mechatronics, Advanced Mechanical Skills II (SMT M202-II) - 3 Credits

Volume 15: Advanced Pneumatic Fundamentals

- Unit 1: Control Components, Pneumatic Drives
- Unit 2: Circuit Design

Volume 16: Advanced Hydraulic Fundamentals

- Unit 1: Control Components, Hydraulic Drives
- Unit 2: Circuit Design

Volume 17: Advanced Electrical

- Unit 1: Capacitors
- Unit 2: Inductors
- Unit 3: Power in AC Circuits
- Unit 4: Electrical Troubleshooting Using the ESTD
- Unit 5: Troubleshooting, AC Motors
- Unit 6: Troubleshooting, DC Motors

Volume 21: Advanced Machine Adjustment Fundamentals Using the PMS

- Unit 1: Troubleshooting, Problem Solving, and Problem Identification Techniques
- Unit 2: Set Up Machine Standards Using the Packaging Machine Simulator
- Unit 3: Problem Solving on Multiple Systems Using the Packaging Machine Simulator

Mechatronics, Basic Industrial Electrical Skills (SMT E101) - 3 Credits

Volume 1: Shop Mathematics

- Unit 1: Base 10, Decimals, Decimal Equivalents, Percentages
- Unit 2: Fractions
- Unit 3: Algebraic Expressions, Simple Equations, Ratio, Proportion
- Unit 4: Graphs, Charts, Data Handling
- Unit 5: Weights, Measures, Metric Conversion
- Unit 6: Exponents, Square Roots, Right Triangles
- Unit 7: Angles, Plane Figures, Area
- Unit 8: Measurement of Solid Figures, Volume, Intro. To Trig.
- Unit 9: Trigonometric Tables

Volume 2: Blueprint Reading & Machine Drawing

- Unit 1: Elements of Blueprints and Machine Drawing I

Volume 9: Electrical Components

- Unit 1: Principles of Electricity, AC & DC Circuits
- Unit 2: Basic Circuit Components, Switches, and Relays
- Unit 3: Digital Multimeter, Basic Measurements
- Unit 4: Input and Output Devices
- Unit 5: Electrical Schematics
- Unit 6: Generators & Transformers
- Unit 7: DC Machines
- Unit 8: Three-Phase AC & DC Motors

Mechatronics, Advanced Industrial Electrical Skills (SMT E202) - 3 Credits

Volume 17: Advanced Electrical

- Unit 1: Capacitors
- Unit 2: Inductors
- Unit 3: Power in AC Circuits
- Unit 4: Electrical Troubleshooting Using the ESTD
- Unit 5: Troubleshooting, AC Motors
- Unit 6: Troubleshooting, DC Motors

Mechatronics, Basic Process Control (SMT PC101) - 3 Credits

Volume 22: Ladder Logic

- Unit 1: Basic Ladder Logic
- Unit 2: Planning and I/O Symbols
- Unit 3: Numbering Systems, Codes, and Logic
- Unit 4: Symbols and Ladder Logic Basics
- Unit 5: Ladder Logic Format
- Unit 6: Program Functions
- Unit 7: Program Examples
- Unit 8: Glossary of Terms

Mechatronics, Basic Programmable Logic Control (SMT PLC101) - 3 Credits

Vol 11A: Basic Process Control

- Unit 1: Introduction to Process Control
- Unit 2: Basic Definitions
- Unit 3: Pressure
- Unit 4: Temperature
- Unit 5: Level
- Unit 6: Flow
- Unit 7: Analytical Instruments and Terminology
- Unit 8: Transmitters
- Unit 9: Controllers, hands-on training aid kit, and an Instructor guide.
- Unit 10: Process Control and Control Loops
- Unit 11: Control Schemes

Southwest Tennessee Community College

Memphis, TN

“SWCC uses SMT as the centerpiece of industrial skills training for continuing education classes and customized corporate training. We are most proud to say that more than 1500 entry level and incumbent employees have been trained using SMT’s curriculum. Those employees have worked for Unilever, Hershey, Electrolux, KTG, Blues City Brewery and many other manufacturers.”

Polytech Adult Education Dover, DE

“The growing nationwide skills gap in the manufacturing field is being clearly seen and felt in Delaware. Polytech Adult Education, has been able to help meet this need through the creation of the Delaware Manufacturing Development Center (DMDC). This would not have been possible without the partnership with Scientific Management Techniques (SMT).”

Tennessee Board of Regents Nashville, TN

“Based on the proven success to date in the locations where our schools have implemented SMT’s programs we are recommending statewide deployment. Our objective is for Tennessee to have the strongest, best trained workforce in the country and SMT’s programs will help us achieve this objective in the area of advanced manufacturing skills.”

Lakeshore Technical College has deployed SMT's Manufacturing Skill Solutions in their Mobile Training Lab



Scientific Management Techniques

Validated, “Competency-Based”

Manufacturing Skill Programs Deployed by
Fortune 500 Manufacturers Globally

Available in Formal Education since 2011