

Apprenticeship Program

2024

FOR FUTURE MACHINISTS,
MACHINE REBUILDERS, &
APPLICATION ENGINEERS



ALL WORLD
MACHINERY SUPPLY

IN ASSOCIATION WITH



**Rock
Valley
College**

WHO WE ARE

A MACHINE TOOL SOLUTIONS PROVIDER

For three decades, the All World team has helped manufacturers worldwide find top-quality, cost-effective solutions for their parts and service needs. We're a one-stop shop for machine parts, services, repairs, and custom-engineering solutions.

Our experienced team is committed to delivering solutions that meet our customers' application requirements and budget.

PARTS DISTRIBUTION | SERVICE & REPAIR | MACHINE ACCESSORIES



WHAT WE NEED

Hard work pays off.

Get on-the-job-training and education to pursue industrial manufacturing careers. Upon completion of the apprenticeship, all apprentices receive a recognized journeyman credential from the RRVMTA.

Our apprenticeship program includes paid work, off-site education, and financial reimbursement for classes leading to three career paths.

What apprenticeships are offered?

- CNC Precision Machinist
- Machine Tool Builder
- Application Engineer

What is an apprenticeship?

Apprentices get paid and benefit from incremental wages each year as they learn the skills required in high-demand careers.

- Average hourly pay increase of 8.8% a year
- Full benefits package upon first day of employment
- 401k offered after 1 year of employment



University has traditionally been a popular choice for students planning their careers. It provides an excellent study route for many professions and offers a broad base of knowledge.

However, with the rising costs of university degrees, apprenticeship programs are becoming an increasingly attractive alternative.

WHY CHOOSE AN ALL WORLD APPRENTICESHIP?



LEARNING STYLE

Apprenticeships provide hands-on experience, ideal for students who prefer practical learning over classroom environments.



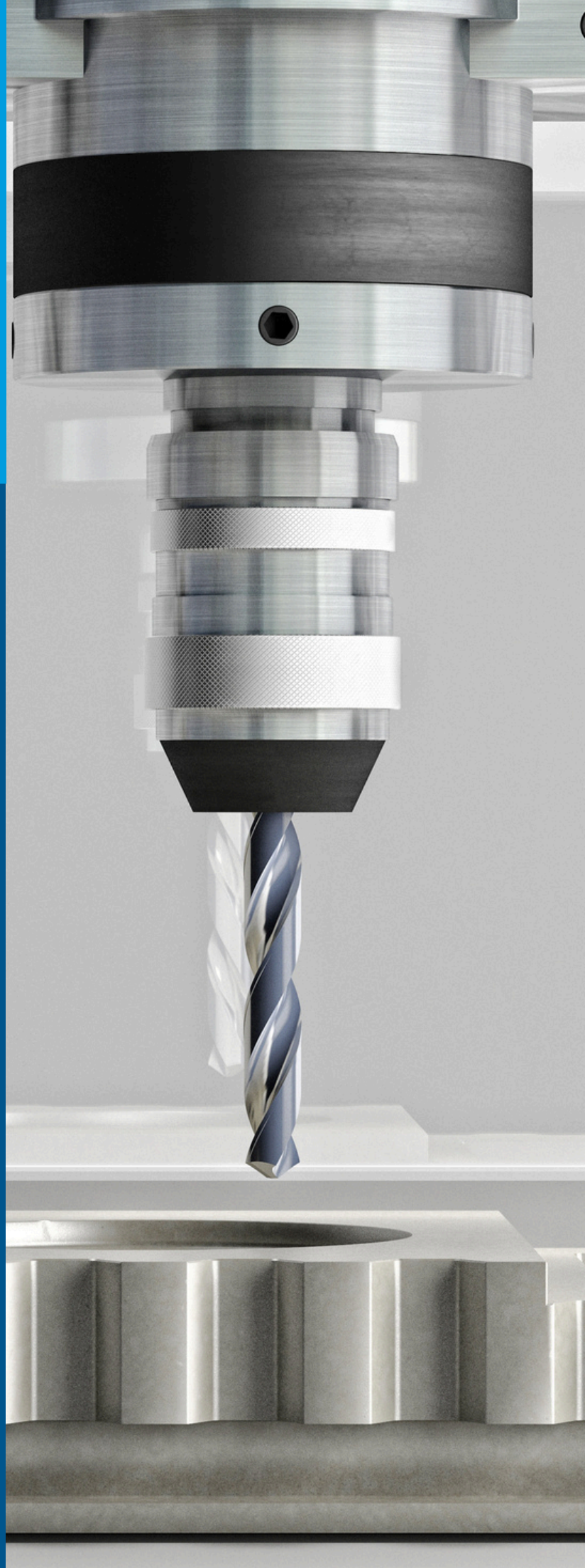
COST

Apprenticeship courses are typically full-time jobs, so you receive work entitlements like leave. Apprenticeship students do pay for their qualifications, but for many, the choice comes down to "student debt" vs. "no student debt."



KNOWLEDGE

Apprenticeships get you working right away, so you need to learn the necessary skills quickly. Being immersed in the work environment every day helps you acquire the knowledge required for the job.

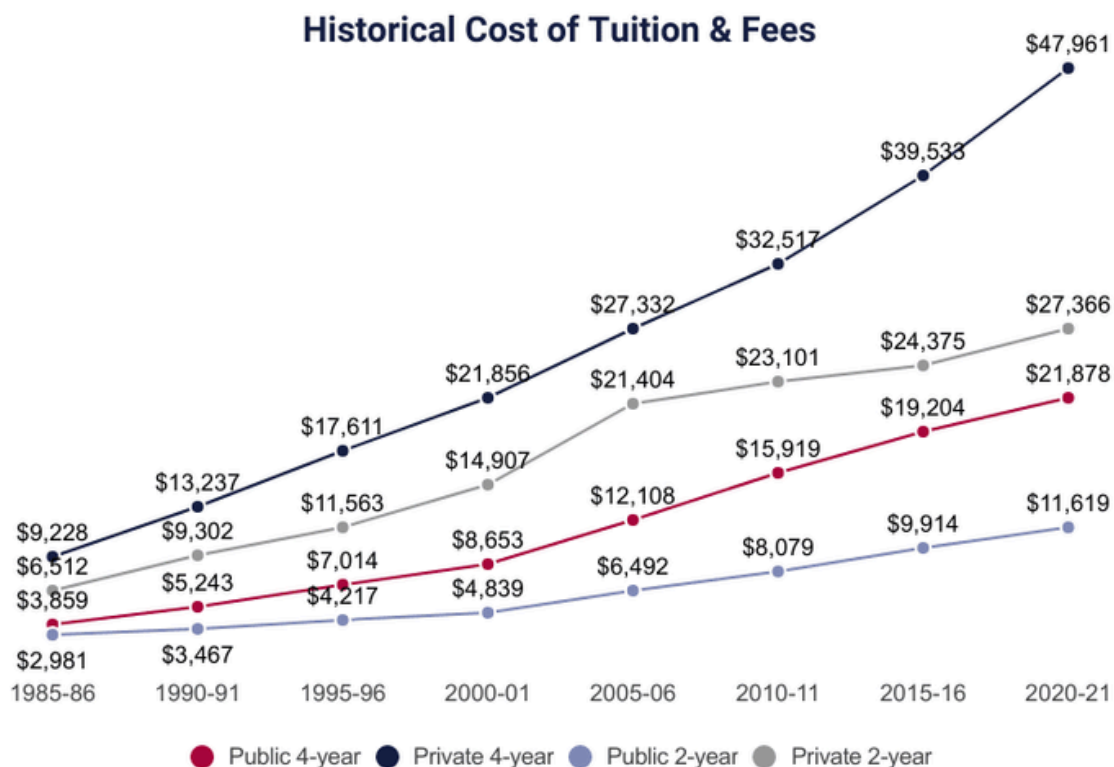


The Cost of Higher Ed



The average cost of college has more than doubled in the 2000s.

- While 4 years is the traditional period to earn a bachelor's degree, just 40.4% of bachelor's degree-seeking students graduate within that time.
- 96% of confirmed bachelor's degree earners graduate within 6 years; the 6-year average cost of attendance is \$156,162.
- Students unable to work full-time stand to lose a median annual income of \$44,356 (per year).
- The average student borrower spends roughly 20 years paying off their loans.
- Considering lost income and loan interest, the ultimate price of a bachelor's degree may be as high as \$509,434.



Education Data Initiative sources: National Center for Education Statistics

Hanson, Melanie. "Average Cost of College & Tuition" EducationData.org, September 6, 2023, <https://educationdata.org/average-cost-of-college>

CNC MACHINIST

Job Description

- Program, run, and monitor computer-numeric-controlled machines, which are used to make metal tools and parts.
- Ensure that the machines are operating correctly and that pieces are cut to perfection.
- Perform maintenance on the machines and replace dull or aged parts as necessary.

8,000 on-the-job hours



640 classroom hours



5 years completion time



\$9,150 investment
(\$0 with payback plan)



Education Program

**Rock
Valley
College**

First Year

- Mathematics for Technology
- Blueprint Interpretation/GDT

Second Year

- Metal Cutting Applications
- Metrology
- Materials & Processes

Third Year

- CNC Machine Setup/Org/Prep
- CNC/CAM Operations I

Fourth Year

- Computer Drafting Using AutoCAD
- Introduction to Welding
- Graphics/Solidworks CAD I

On-the-Job Training



First Year

- General Shop Work
- General Machining Process

Second Year

- Horizontal Turning Machines
- Vertical Turning Machines

Third Year

- Milling Machines
- Grinding Machines

Fourth Year

- Inspection
- Welding

Completion of program earns Journeyman's certification.

BY THE NUMBERS

CNC MACHINIST

	Hourly Wage	Work Hours	PTO Hours	School Hours	School Cost	Total Hours	Annual Wage	Payback By Year
Year 1	\$18.00	1,760	160	128	\$1,812	2,048	\$34,560	\$0
Year 2	\$20.00	1,760	160	192	\$2,718	2,112	\$38,400	\$550
Year 3	\$22.00	1,760	160	128	\$1,812	2,048	\$42,240	\$550
Year 4	\$24.00	1,760	160	192	\$2,804	2,112	\$46,080	\$550
Year 5*	\$26.00	1,760	160	0	\$0	1,920	\$49,920	\$2,500
Year 6	\$28.00	1,760	160	0	\$0	1,920	\$53,760	\$2,500
Year 7	\$30.00	1,760	160	0	\$0	1,920	\$57,600	\$2,500
Totals		12,320	1,120	640	\$9,146	14,080	\$322,560	\$9,150

* denotes year of graduation and journeyman's certification

Total value of apprenticeship = \$444,115 over seven years.

- Average hourly pay increase of 8.8% per year, \$23,000 between year one and year seven.
- Full benefits offered upon first day of employment. Includes medical, dental, vision, basic life, and other ancillary health benefits. Benefits are equal to an average value of \$103,768 over a seven-year period.
- 401k with 3% safe harbor company contribution offered after one year of employment. Company contribution is equal to \$8,640 over a seven-year period plus profit sharing.

CNC MACHINIST PROGRAM DETAILS

MATHEMATICS FOR TECHNOLOGY

APT-190

Covers whole numbers, fractions, decimals, powers and roots, and percentages. English and metric units of measure are used with precision measuring equipment, and formulas and equations, with metal working related subjects. (64 hours)

BLUEPRINT INTERPRETATIONS/GDT

APT-164

Teaches student to interpret various types of three view drawings, how to read tolerance information, and how to interpret dual system dimensioning and tolerances. Includes the metric system of dimensioning and ISO symbols which includes a comprehensive study of the application of geometric dimensioning and tolerancing techniques. (64 hours)

METAL CUTTING APPLICATIONS

APT-289

Teaches students metal cutting applications with various types of cutting tools. Topics covered will be materials, machinability of materials, tool materials, turning, boring, milling, grooving, threading, and drilling. Students will learn how to select proper tooling based on material specifications and blueprint specifications. (64 hours)

METROLOGY

MET-106

Introduces the science of measurement for engineering technicians, machinists, and technical personnel through basic measurement principles, selection, operation, and application of English and Metric measuring instruments. Lecture and lab exercises cover basic dimensional gauging and instruments, high-amplification comparators, surface plate, angular instruments, sine bar, pneumatic gauging, and advanced systems. Related topics introduce data analysis, variable versus attribute, MSA, calibration systems, and modern standards for quality systems and metrology. (64 hours)

MATERIALS & PROCESSES

MET-106

Introduces material properties and attributes of metals, plastics, ceramics, composites, and other materials. Survey of processes includes heat treatment, surface processing, particulate processing, casting, molding, forming, joining, material removal and other processing technologies. Theory is illustrated by laboratory experiments and demonstrations along with company visits to view the latest techniques. (64 hours)

CNC SETUP/OPERATION/PROGRAMMING

MET-111

Studies the setup and operation of computer numerical control (CNC) machine tools. The course is designed to provide knowledge on the latest CNC machines using an online training environment and lab session including turning centers and machining. Exercise and laboratory projects emphasize practical problems, demonstrations, and student operation of CNC equipment. (64 hours)

CNC/CAM OPERATIONS

MET-226

Teaches the concepts of Computer Numerical Control for machine tools, tooling, software and operating principles of CNC systems. Students develop part programs using current, industrial CAM software for program generation, editing and tool path verification. Post-processing and G-M code verification is presented for specific machine tools. (64 hours)

COMPUTER DRAFTING USING AUTOCAD

MET-108

Introduces computer graphic concepts, hardware, software, and operating principles of a comprehensive PC based computer graphics system. The student will use AutoCAD software for all course projects. The latest ANSI/ASME standards will be incorporated throughout the course. Lecture and laboratory projects emphasize drafting principles and techniques necessary to produce multi-view, auxiliary, and section drawings with appropriate dimensioning practices. (64 hours)

CNC MACHINIST PROGRAM DETAILS

INTRODUCTION TO WELDING

WLD-100

Designed for beginning welders. It covers the basic theory and provides hands-on lab practice of Shielded Metal Arc Welding (Stick), Gas Metal Arc Welding (MIG), Gas Tungsten Arc Welding (TIG), Oxyfuel (Gas) welding and cutting, plasma arc cutting, and brazing and soldering processes. Special emphasis is placed on welding shop practices and process safety. (64 hours)

GRAPHICS/SOLIDWORKS CAD I

MET-133

Introduces computer graphics concepts, hardware, software, and operating principles of a computer graphics system. The student will use SolidWorks software for all course projects. The latest ANSI/ASME standards will be incorporated throughout the course. Lecture and laboratory projects emphasize design principles and techniques necessary to produce solid models, assemblies, and multi-view drawings. (64 hours)

GENERAL SHOP WORK (500 hours)

- Safety
- Print reading
- Bench work
- Cleaning
- Stock & tool care
- Material handling
- Preventative & daily maintenance

GENERAL MACHINING PROCESS (500 hours)

- Hand tools
- Drill press
- Sawing
- Sanders
- Deburring
- Jig Boring

TURNING MACHINES (2,500 hours)

- Speeds, feeds, & turning operations
- Selection & care of tooling
- In-process inspection
- Manual lathes
- CNC turning: setup & programming
- Use of 3rd axis
- Live tooling

MILLING MACHINES (2,500 hours)

- Speeds, feeds, & milling operations
- Selection & care of tooling
- In-process inspection
- Manual mills
- CNC milling - set-up & programming
- Use of 4th & 5th axes
- Specialty fixtures

GRINDING MACHINES (750 hours)

- Processes - ID, OD, centerless, & surface
- Selection, care, & dressing wheels
- Manual grinders
- CNC grinders

INSPECTION (500 hours)

- Plate inspection
- Comparator
- CMM - coordinate measuring machine
- SPC - statistical process control
- Customer quality control specifications

MACHINE BUILDER

Job Description

- Responsible for fitting and assembling components according to assembly drawings, manuals, engineering memos, sketches and/or knowledge of machine construction.
- Requires a strong technical ability and is for a motivated individual who enjoys a variety of responsibility.

8,000 on-the-job hours



609 classroom hours



5 years completion time



\$10,950 investment
(\$0 with payback plan)



Education Program



First Year

- Mathematics for Technology
- Blueprint Interpretation/GDT

Second Year

- Mechanical Systems I, II, & III
- Metrology
- Materials & Processes

Third Year

- Electrical Systems I, II, & III
- Pneumatics & Hydraulics I, II, & III
- CNC Machine Setup/Op/Prog

Fourth Year

- Fundamentals of PLC I, II, & III
- Application of PLC I, II, & III
- Introduction to Welding

On-the-Job Training



First Year

- General Machining Process

Second Year

- Mechanical Assembly

Third Year

- Electrical Assembly
- Hydraulic & Pneumatic Assembly

Fourth Year

- Other System Assembly
- Troubleshooting

Completion of program earns Journeyman's certification.

BY THE NUMBERS

MACHINE BUILDER

	Hourly Wage	Work Hours	PTO Hours	School Hours	School Cost	Total Hours	Annual Wage	Payback By Year
Year 1	\$18.00	1,760	160	128	\$1,812	2,048	\$34,560	\$0
Year 2	\$20.00	1,760	160	173	\$2,718	2,112	\$38,400	\$650
Year 3	\$22.00	1,760	160	154	\$2,718	2,048	\$42,240	\$650
Year 4	\$24.00	1,760	160	154	\$3,710	2,112	\$46,080	\$650
Year 5*	\$26.00	1,760	160	0	\$0	1,920	\$49,920	\$3,000
Year 6	\$28.00	1,760	160	0	\$0	1,920	\$53,760	\$3,000
Year 7	\$30.00	1,760	160	0	\$0	1,920	\$57,600	\$3,000
Totals		12,320	1,120	609	\$10,958	14,080	\$322,560	\$10,950

* denotes year of graduation and journeyman's certification

Total value of apprenticeship = \$445,927 over seven years.

- Average hourly pay increase of 8.8% per year, \$23,000 between year one and year seven.
- Full benefits offered upon first day of employment. Includes medical, dental, vision, basic life, and other ancillary health benefits. Benefits are equal to an average value of \$103,768 over a seven-year period.
- 401k with 3% safe harbor company contribution offered after one year of employment. Company contribution is equal to \$8,640 over a seven-year period plus profit sharing.

MACHINE BUILDER EDUCATIONAL PROGRAM

MATHEMATICS FOR TECHNOLOGY

APT-190

Covers whole numbers, fractions, decimals, powers and roots, and percentages. English and metric units of measure are used with precision measuring equipment, and formulas and equations, with metal working related subjects. (64 hours)

BLUEPRINT INTERPRETATIONS/GDT

APT-164

Teaches student to interpret various types of three view drawings, how to read tolerance information, and how to interpret dual system dimensioning and tolerances. Includes the metric system of dimensioning and ISO symbols which includes a comprehensive study of the application of geometric dimensioning and tolerancing techniques. (64 hours)

MECHANICAL SYSTEMS I, II, & III

MEC-100, MEC-101, MEC-102

Covers basic safety practices, types of hand tools and fasteners, foundational mechanical principles, lubrication, and troubleshooting associated with introductory mechatronics. Also covers basic mechanical components and their function within a complex mechatronics system. This course introduces basic mechanical transmission systems. Covers fundamental mechanical systems. Introduces the basics of bearings, bearing maintenance and troubleshooting, bearing installation; coupling types, coupling installation, coupling/shaft alignment; and seals and gaskets. (15 hours each)

METROLOGY

MET-106

Introduces the science of measurement for engineering technicians, machinists, and technical personnel through basic measurement principles, selection, operation, and application of English and Metric measuring instruments. Lecture and lab exercises cover basic dimensional gauging and instruments, high-amplification comparators, surface plate, angular instruments, sine bar, pneumatic gauging, and advanced systems. Related topics introduce data analysis, variable versus attribute, MSA, calibration systems, and modern standards for quality systems and metrology. (64 hours)

MATERIALS & PROCESSES

MET-106

Introduces material properties and attributes of metals, plastics, ceramics, composites, and other materials. Survey of processes includes heat treatment, surface processing, particulate processing, casting, molding, forming, joining, material removal and other processing technologies. Theory is illustrated by laboratory experiments and demonstrations along with company visits to view the latest techniques. (64 hours)

ELECTRICAL SYSTEMS I, II, III

MEC-110, MEC-111, MEC-112

Study of the basic electrical components in a complex mechatronics system. This course consists of 5 units along with corresponding labs and/or class activities. Topics covered include electrical safety; basic functions and physical properties of electrical components; building a fundamental understanding of electrical current and how to quantify it; working with electrical units; use of Ohm's law; and use of electrical measuring equipment. Also includes basic electrical components in a complex mechatronics system, series and parallel circuits; resistance and voltage drop within circuits; and the role of magnetism in electrical equipment operation. Covers basic electrical components in a complex mechatronics system. Topics covered include an introduction to AC power, transformers, DC and AC motors, motor controls, and electrical sensors. (15 hours each)

PNEUMATIC & HYDRAULIC SYSTEMS I, II, III

MEC-170, MEC-171, MEC-172

Topics covered in this course include safety, introduction to the systems, properties of air and fluids, standards and symbols, basic equations related to pneumatics and hydraulics, hydraulic fluid types and maintenance, fluid pumps and air compressors, fluid storage and distribution, actuators and accumulators, equipment and methods for controlling pressure, direction, and flow within pneumatic and hydraulic circuits. (15 hours each)

Note: Classes are at night, starting at 5:30 p.m. or 6:00 p.m. and/or Saturday mornings starting at 7:30 a.m. or 8:00 a.m.

MACHINE BUILDER EDUCATIONAL PROGRAM

CNC SETUP/OPERATION/PROGRAMMING MET-111

Studies the setup and operation of computer numerical control (CNC) machine tools. The course is designed to provide knowledge on the latest CNC machines using an online training environment and lab session, including turning centers and machining. Exercise and laboratory projects emphasize practical problems, demonstrations, and student operation of CNC equipment. (64 hours)

FUNDAMENTALS OF PLC I, II, & III MEC-150, MEC-151, MEC-152

Introducing the basics of PLC, Programmable Logic Control, devices for manufacturing control systems. Covers safety, an overview of PLC devices and their programming, logic used with PLC devices and their programming, and PLC programming to control electric motor applications. (15 hours each)

APPLICATIONS OF PLC I, II, & III MEC-160, MEC-161, MEC-162

Introduces intermediate skills of PLC, Programmable Logic Control, devices for manufacturing control systems. Covers fundamental topics of PLC device components, rules of operation, and programming instructions, mathematical and sequencer and shift register instructions within PLC programming, troubleshooting and advanced control processes and systems with PLC devices. (15 hours each)

INTRODUCTION TO WELDING WLD-100

Designed for beginning welders. It covers the basic theory and provides hands-on lab practice of Shielded Metal Arc Welding (Stick), Gas Metal Arc Welding (MIG), Gas Tungsten Arc Welding (Tig), Oxyfuel (Gas) welding and cutting, plasma arc cutting, and brazing and soldering processes. Special emphasis is placed on welding shop practices and process safety. (64 hours)

GENERAL MACHINING PROCESS (1,000 hours)

- Lathes
- Mills
- Hand tools
- Surface grinders
- Drill press
- Sanders
- Lapping

MECHANICAL ASSEMBLY (3,500 hours)

- Safety
- Print reading
- Rigging of large components
- Fitting & alignment: ways, scraping, etc.
- Bearing alignment
- Gearing and gear boxes
- Motor mounting
- Use of fasteners - size, length, torque, etc.

ELECTRICAL ASSEMBLY (1,000 hours)

- Safety - lock-out, tag-out
- Panel wiring using schematics
- Wiring and testing: sensors, actuators, etc.
- PLCs - ladder logic and basic programming
- Basic understanding of machine software

HYDRAULIC & PNEUMATIC ASSEMBLY (500 hours)

- Selection of piping types and fittings
- Pipe fitting and bending
- Mounting and testing valves
- Mounting and testing sensors

OTHER SYSTEMS (500 hours)

- Lubrication systems
- Coolant systems
- Seals
- Filtration


TROUBLESHOOTING (500 hours)


- Machine startup and testing
- Project management
- Field service work


APPLICATION ENGINEER


Job Description

- Develops customized software programs for clients and collaborates with development teams to create complex and sophisticated software applications.
- Provides technical support to customers.

8,000 on-the-job hours 

750 classroom hours 

5 years completion time 

\$11,250 investment (\$0 with payback plan) 



Education Program

<h4>First Year</h4> <ul style="list-style-type: none"> • Mathematics for Technology • Materials & Processes • Metrology • Manufacturing Processes <h4>Third Year</h4> <ul style="list-style-type: none"> • CNC/CAM Operations • Graphics I, II, & III • Fundamentals of PLC I, II, & III • Robotics and Automation I, II, & III 	<h4>Second Year</h4> <ul style="list-style-type: none"> • Mechanical Systems I, II, & III • Electrical Systems I, II, & III • Pneumatics & Hydraulics I, II, & III • CNC Machine Setup/Op/Prog <h4>Fourth Year</h4> <ul style="list-style-type: none"> • Application of PLC I, II, & III • Industrial Robots I, II, & III • Advanced Manufacturing I, II, & III • Applied Physics
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On-the Job Training



<h4>First Year</h4> <ul style="list-style-type: none"> • General Machining Process • Mechanical Assembly <h4>Third Year</h4> <ul style="list-style-type: none"> • To Be Determined 	<h4>Second Year</h4> <ul style="list-style-type: none"> • Electrical Assembly • Hydraulic & Pneumatic Assembly <h4>Fourth Year</h4> <ul style="list-style-type: none"> • To Be Determined
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Completion of program earns Journeyman's certification.

BY THE NUMBERS

APPLICATION ENGINEER

	Hourly Wage	Work Hours	PTO Hours	School Hours	School Cost	Total Hours	Annual Wage	Payback By Year
Year 1	\$30.00	1,760	160	256	\$3,624	2,048	\$57,600	\$0
Year 2	\$34.00	1,760	160	199	\$3,624	2,112	\$65,280	\$1,325
Year 3	\$38.00	1,760	160	199	\$3,624	2,048	\$72,960	\$1,325
Year 4	\$42.00	1,760	160	199	\$3,624	2,112	\$80,640	\$1,325
Year 5*	\$46.00	1,760	160	0	\$0	1,920	\$88,320	\$3,500
Year 6	\$50.00	1,760	160	0	\$0	1,920	\$96,000	\$3,500
Year 7	\$54.00	1,760	160	0	\$0	1,920	\$103,680	\$3,500
Totals		12,320	1,120	853	\$14,496	14,080	\$564,480	\$14,475

* denotes year of graduation and journeyman's certification

Total value of apprenticeship = \$775,776 over seven years.

- Average hourly pay increase of 10.3% per year, \$46,080 between year one and year seven.
- Full benefits offered upon first day of employment. Includes medical, dental, vision, basic life, and other ancillary health benefits. Benefits are equal to an average value of \$103,768 over a seven-year period.
- 401k with 3% safe harbor company contribution offered after one year of employment. Company contribution is equal to \$15,206 over a seven-year period plus profit sharing.

APPLICATION ENGINEER PROGRAM DETAILS

MATHEMATICS FOR TECHNOLOGY

APT-190

Covers whole numbers, fractions, decimals, powers and roots, and percentages. English and metric units of measure are used with precision measuring equipment, and formulas and equations, with metal working related subjects. (64 hours)

MATERIALS & PROCESSES

MET-106

Introduces material properties and attributes of metals, plastics, ceramics, composites, and other materials. Survey of processes includes heat treatment, surface processing, particulate processing, casting, molding, forming, joining, material removal and other processing technologies. Theory is illustrated by laboratory experiments and demonstrations along with company visits to view the latest techniques. (64 hours)

METROLOGY

MET-106

Introduces the science of measurement for engineering technicians, machinists, and technical personnel through basic measurement principles, selection, operation, and application of English and Metric measuring instruments. Lecture and lab exercises cover basic dimensional gauging and instruments, high-amplification comparators, surface plate, angular instruments, sine bar, pneumatic gauging, and advanced systems. Related topics introduce data analysis, variable versus attribute, MSA, calibration systems, and modern standards for quality systems and metrology. (64 hours)

MANUFACTURING PROCESSES

MET-110

An introduction to machining processes including milling, turning, grinding, drilling, and cutoff operations. Laboratory activities include the fundamentals of machine setup and operations, tooling, precision measurement, process safety, care, and maintenance. (64 hours)

MECHANICAL SYSTEMS I, II, & III

MEC-100, MEC-101, MEC-102

Covers basic safety practices types of hand tools and fasteners, foundational mechanical principles, lubrication, and troubleshooting associated with introductory mechatronics. Also covers basic mechanical components and their function within a complex mechatronics system. This course introduces basic mechanical transmission systems. Covers fundamental mechanical systems. Introduces the basics of bearings, bearing maintenance and troubleshooting, bearing installation; coupling types, coupling installation, coupling/shaft alignment; and seals and gaskets. (15 hours each)

ELECTRICAL SYSTEMS I, II, III

MEC-110, MEC-111, MEC-112

Study of the basic electrical components in a complex mechatronics system. This course consists of 5 units along with corresponding labs and/or class activities. Topics covered include electrical safety; basic functions and physical properties of electrical components; building a fundamental understanding of electrical current and how to quantify it; working with electrical units; use of Ohm's law; use of electrical measuring equipment. Also includes basic electrical components in a complex mechatronics system, series and parallel circuits; resistance and voltage drop within circuits; and the role of magnetism in electrical equipment operation. Covers basic electrical components in a complex mechatronics system. Topics covered include an introduction to AC power, transformers, DC and AC motors, motor controls, and electrical sensors. (15 hours each)

APPLICATION ENGINEER PROGRAM DETAILS

PNEUMATIC & HYDRAULIC SYSTEMS I, II, III MEC-170, MEC-171, MEC-172

Topics covered in this course include safety, introduction to the systems, properties of air and fluids, standards and symbols, basic equations related to pneumatics and hydraulics, hydraulic fluid types and maintenance, fluid pumps and air compressors, fluid storage and distribution, actuators and accumulators, equipment and methods for controlling pressure, direction, and flow within pneumatic and hydraulic circuits. (15 hours each)

CNC SETUP/OPERATION/PROGRAMMING MET-111

Studies the setup and operation of computer numerical control (CNC) machine tools. The course is designed to provide knowledge on the latest CNC machines using an online training environment and lab session including turning centers and machining. Exercise and laboratory projects emphasize practical problems, demonstrations, and student operation of CNC equipment. (64 hours)

CNC/CAM OPERATIONS MET-226

Teaches the concepts of Computer Numerical Control for machine tools, tooling, software and operating principles of CNC systems. Students develop part programs using current, industrial CAM software for program generation, editing and tool path verification. Post-processing and G-M code verification is presented for specific machine tools. (64 hours)

GRAPHICS I, II, & III MEC-120, MEC-121, MEC-122

Introduces manual drafting techniques and interpreting multiple object views. Topics covered include sketching and mechanical drafting techniques, multi-view drawings, scaling, and dimensioning. SolidWorks topics covered include foundational drawing commands and beginning 3-D modeling, creating drawing views and templates, dimensioning, drawing standards, file management, working with views, dimensioning, and assemblies. (15 hours each)

FUNDAMENTALS OF PLC I, II, & III MEC-150, MEC-151, MEC-152

Introducing the basics of PLC, Programmable Logic Control, devices for manufacturing control systems. Covers safety, an overview of PLC devices and their programming, logic used with PLC devices and their programming, and PLC programming to control electric motor applications. (15 hours each)

ROBOTICS & AUTOMATION I, II, & III MEC-130, MEC-131, MEC-132

Covers the history and development of robots, types of robots, basic mechanics and motors of robots, robot micro-controllers, sensors, robot programming, industrial robots, robot construction and programming skill development. (15 hours each)

APPLICATIONS OF PLC I, II, & III MEC-160, MEC-161, MEC-162

Introduces intermediate skills of PLC, Programmable Logic Control, devices for manufacturing control systems. Covers fundamental topics of PLC device components, rules of operation, and programming instructions, mathematical and sequencer and shift register instructions within PLC programming, troubleshooting and advanced control processes and systems with PLC devices. (15 hours each)

INDUSTRIAL ROBOTS I, II, & III MEC-180, MEC-181, MEC-182

Studies the working of mechanical manipulators in a safe manner and the uses of industrial robots in manufacturing. Topics cover computer systems and digital electronics, interfacing and vision systems, maintenance, the current and future uses of industrial robots in manufacturing, power supplies and movement systems, fluid power supplies, sensors, end effector movement and changeable end effector movement, components, programming languages and programming methods, power supplies and movement systems, and industrial applications. (15 hours each)

APPLICATION ENGINEER PROGRAM DETAILS

ADVANCED MANUFACTURING I, II, & III MEC-140, MEC-141, MEC-142

Introduces the basics of process control and automated manufacturing processes. Courses cover fundamental topics in safety in manufacturing, the manufacturing process, manufacturing efficiency techniques, industrial supply chain systems, and total productive maintenance and quality improvement systems, simple machines and mechanical systems, electrical, motor, and fluid power systems, troubleshooting and preventative maintenance. (15 hours each)

APPLIED PHYSICS MET-162

A survey class that uses fundamentals of mathematics, measurements, and problem solving to explore various topics in physics. Areas of study include mechanics, matter and heat, wave motion and sound, electricity and magnetism, and light. (64 hours)

GENERAL SHOP WORK (500 hours)

- Safety
- Print reading
- Bench work
- Cleaning
- Stock & tool care
- Material handling
- Preventative & daily maintenance

GENERAL MACHINING PROCESS (500 hours)

- Hand tools
- Drill press
- Sawing
- Sanders
- Deburring
- Jig Boring

??? (2500 hours)

How to Sign Up

STEP ONE

FILL OUT AN APPRENTICESHIP APPLICATION & APPLY.

You'll need to register for the program and pick your starting date using the Apprenticeship Application. This application will be sent to the RRVMTA for approval. You will also need to apply for the apprenticeship position via our website's career page, so that you can work full-time at our facility.

STEP TWO

TAKE A MECHANICAL APTITUDE TEST & PARTICIPATE IN A CULTURAL INTERVIEW.

The mechanical aptitude test measures your ability to understand and apply mechanical concepts and principles to solve problems, so that we know where you are in your journey. We'll also perform a cultural interview to ensure that you are a good fit for our organization.

STEP THREE

FILL OUT AN APPLICATION FOR RVC CREDIT COURSES AND TAKE A SAFETY CLASS.

If you are selected to join our apprenticeship program, you will be notified of your start date and further instruction, including filling out a credit course application and a link to take a safety class which is a prerequisite to starting our program. Get ready to learn!

All World takes new applicant submissions at any point of the year.



JUN

Applicants receive a cultural interview and take the NTMA Mechanical Aptitude Test.

JUL

All World chooses apprentice candidates. Selected candidates need to have their RVC paperwork and new hire paperwork completed by August 1st.

AUG

Apprentices begin their path towards journeyman certification.

APPLYING STEP BY STEP

STEP ONE

APPLY FOR THE ALL WORLD APPRENTICESHIP PROGRAM

<https://www.rrvtma.com/about-apprenticeships/> under Get More Info button

APPLY FOR ALL WORLD EMPLOYMENT

<https://allworldmachinery.isolvedhire.com/jobs/>

STEP TWO

TAKE THE NTMA MECHANICAL APTITUDE TEST

<https://www.rrvtma.com/aptitude-test-registration/>

SCHEDULE A CULTURAL INTERVIEW

Call Ken Miller at (815) 704 - 7830 or kmiller@allworldmachinery.com

STEP THREE

APPLY TO ROCK VALLEY COLLEGE

<https://rockvalleycollege.edu/admissions-and-aid/getting-started>

APPLY FOR FINANCIAL AID

<https://rockvalleycollege.edu/admissions-and-aid/paying-for-college/financial-aid/index>

REGISTER FOR CLASSES

<https://rockvalleycollege.edu/admissions-and-aid/registering-for-classes>

TAKE NTMA SAFETY CLASS

Contact Darrell Janesak at (815) 943-9111 or djanesak@allworldmachinery.com

NEED HELP?

All World Machinery Supply

Donna Fortune

HR Manager

1 (815) 704-7870

dfortune@allworldmachinery.com

RRVTMA

Dutch Hinck

Apprentice Administrator

1 (815) 985-5882

dutch@rrvtma.com

FAQ FREQUENTLY ASKED QUESTIONS

Do I need to buy textbooks before every class?

Prior to the start of each semester, All World will provide you with the textbook required for each class.

What happens if I leave the company before my payback period?

Payback reimbursement is contingent on completing seven years of full-time employment with the company. Leaving before the end of the payback period will result in the voluntary termination of your payback benefits. Apprentices that have perfect attendance receive a monetary award from the RRVMTA at the graduation ceremony.

What happens if I fail a class?

To qualify for full reimbursement, the apprentice must pass all classes with an A or B grade. If the apprentice fails to receive an A or B, they have the option to take the class again before their apprenticeship ends. All World will pay for the class that was passed (with an A or B grade), but any class score of C, D, or F will be paid for by the student. Apprentices that earn straight A's (GPA 4.0) receive a monetary award from the RRVMTA at the graduation ceremony.

How do your pay rates compare to averages?

Our apprenticeship rates are very competitive. By year four, an apprentice will match the same pay rate as an average machinist or machine builder. By year seven, the apprentice will be in the upper 25% of their pay scale compared to average, with room to increase.

What does reimbursement cover?

Payback reimbursement covers the cost of registration, tuition, labs, textbooks, and materials.

What information do I have to provide to All World?

In order for All World to provide reimbursement, apprentices must submit grades for each course, attendance records, and itemized receipts of tuition, lab, and registration costs.

Are all applicants accepted into the apprenticeship program?

No. Although we will consider all applicants, we have limited space in our program to maintain quality instruction. Applicants will be selected based on their results in the NTMA Mechanical Aptitude Test, responses and participation in our cultural interview, and on a first-come, first-serve basis.

**Want to know more?
Contact us.**

**1 (815) 943-9111
hr@allworldmachinery.com
www.allworldmachinery.com**