



### Areas of study:

- 17 Associate's Degrees in fields such as Business Administration, Business Management, Accounting, Administrative Support Technology, Information Systems Technology, Engineering, Technical Studies, Registered Nurse, Respiratory Therapy, Dental Hygiene, Health Science.
- 24 Degree Specializations, including Advanced Manufacturing Engineering Technology, Industrial Maintenance Technician, Polymer Manufacturing Technology, Wood Science Technology, Motorsports Management, Computer Programming, Microcomputer, Networks, Warehousing/Distribution, Graphic Imaging, Electronic Commerce, Medical Office.
- 19 Certificates and 44 Career Studies Certificates in fields such as Workplace Readiness, Advanced Manufacturing Concepts, Industrial Electrical/Electronics, Factory Automation & Robotics, Logistics Management, Manufacturing Technician, Manufacturing Leadership, Maintenance Mechanics, Polymer Processing, Welding, Network Technology, Networking with CISCO, PC Upgrade/Repair, Air Conditioning & Refrigeration, Building Trades, Metal Processing, Medical Coding, Medical Terminology, and Medical Transcription.
- 8 Diplomas in Industrial Maintenance Technology, Electrical-Electronic Equip. Servicing, Electrical/Electronics Technology, Precision Machining Technology, Graphic Imaging Technology, Computer Aided Drafting & Design, and Automotive Analysis & Repair.
- In addition, DCC offers various *Apprenticeship* programs to meet business and industry needs.

### Current industry training programs:

DCC's Workforce Services division (<http://www.dcc.vccs.edu/workforce/index.htm>) serves the needs of both industry and workforce. Services range from individual courses, to one-time training needs, to complete degree programs, to custom-developed courses for specialty needs, to various other types of business and workforce training from basic to advanced levels.

An example of a specific degree program is the **Manufacturing Engineering Technology (MET)** Associate of Applied Science (AAS) degree, developed under a grant from the National Science Foundation. The curriculum features pertinent topics to ensure success in today's high-tech manufacturing environment. Examples of MET courses include Computer-Aided Manufacturing, Business Ethics, Machine Blueprint Reading, Teamwork & Problem Solving, Statistical Quality Control, and Plant Layout & Materials Handling.

An example of a custom-developed program is the **Industrial Maintenance Technology (IMT)** program. Originally created in partnership with Goodyear Tire & Rubber Company, IMT has since served nearly 50 other companies. Students may take single courses to meet one-time training needs or follow the curriculum to earn an AAS degree. A key feature of the program is that it cuts the traditional training time for earning a journeyman's license nearly in half. Course examples include Technical Writing, Programmable Logic Controllers, Continuous Quality Improvement, Heating Systems, Principles of Industrial Safety, and Hydraulic/Pneumatic Systems.



The **Wood Science Technology** degree program is helping workers transition from traditionally lower-skill manufacturing foundations to the comprehensive set of high-tech skills that now dominate the newly emerging second wave of U.S. wood and furniture manufacturing companies.

DCC's **Manufacturing Technician Certification** program provides students rapid learning to meet urgent industry skill needs. Simulating real-world rigors, the program requires mandatory 40-hours-per-week class attendance throughout the 11-week program.

Under funding from the National Science Foundation, DCC began work in 2008 to develop a **Nanotechnology Technician** AAS degree program.

**Facility resources:**

DCC's 24,500-square-foot **Regional Center for Advanced Technology & Training (RCATT)** features polymers, electronics, and industrial maintenance laboratories in three high bays; classrooms; a computer lab; faculty office space; and an auditorium equipped for distance learning.

The RCATT facility is home to DCC's **Advanced Digital Manufacturing (ADM) Lab**, designed to train students in polymers manufacturing technology and to provide cutting edge product development and marketing support for Virginia businesses.

Danville Community College, along with Virginia Tech and Averett University, is a partner in the **Institute for Advanced Learning & Research (IALR)**. To date, the institute is focusing on the fields of polymers, unmanned systems, high-value horticulture and forestry, and motorsports engineering. While the institute's mission is to support the high-tech R&D needs of businesses, RCATT supports the institute's mission by helping create a workforce capable of supporting the day-to-day industrial production resulting from this research.



**Equipment resources:**

DCC's RCATT laboratories feature state-of-the-art, high-end training equipment not commonly found at the community college level. The college's Advanced Digital Manufacturing (ADM) Lab is home to a Vanguard Selective Laser Sintering system built by 3D Systems, with capabilities of building durable machine or product testing parts out of various choices of plastics and metals. The ADM Lab also features a 1.25-inch single-screw extruder (for polymer extrusion with materials/product testing); an injection molder; a CIM (computer-integrated manufacturing) simulation system; and additional polymer training equipment. Robotics trainers include a Festo Mechatronics system used to teach automation principles, as well as a 3-kilogram robot known as "Little Max." A Fanuc robot is scheduled for acquisition in early 2009. The college's *Industrial Maintenance Lab* features a large collection of



Amatrol Programmable Control Trainers capable of training with Allen Bradley PLC 5 systems. This lab also houses Allen Bradley SLC 500 systems; Allen Bradley Control Logix; Allen Bradley DeviceNet; and Siemens Step 7 systems. Amatrol simulators include Motor Control Trainers; Hydraulic/Pneumatic Trainers; a Hydraulic Troubleshooting Trainer; an Advanced Pneumatics Troubleshooting Trainer; a Steam Systems Trainer; Pump Systems Trainers; a Pump Test Station; Process Control Trainers; Mechanical Systems Trainers; and Electrical Systems Trainers capable of training in both AC and DC. Equipment in the *Wood Products Advanced Manufacturing Lab* includes a CNC Machining Center used for advanced panel processing; an Edge Bander; and a production model Panel Saw. DCC's main campus hosts one of the most comprehensive machining shops in Virginia, featuring manual lathes; manual vertical mills with two-axis CNC controllers; Haas simulators to teach programming; a horizontal mill; hybrid manual/CNC lathes; a CNC Haas lathe; three-axis CNC mills; heat-treat furnaces; an electrical discharge machine die sinker; surface grinders; a coordinate measuring machine; a visual coordinate measuring machine; and various automatic saws, drill presses, belt sanders, cutter grinders, and other sanders and grinders. In addition, the shop is supported by a machining computer lab that features AutoCAD and FeatureCAM software.

**Current industries served:**

In the past year (2007-2008), DCC has provided industry training and business services to various civic/public sector clients and over 50 industry clients such as Goodyear Tire & Rubber Company, Presto Products, Intertape Polymer Group, J.M. Huber, EIT, Corning, Columbia Forest Products, Yorktowne Cabinetry, Swedwood, E-Toys Direct, and CP Films, to name a few.