



AAS Degree

Advanced Manufacturing

Year One (Sample schedule)

Quarter One (Fall)

- AMATH 121 Applied Mathematics5
- F A 100 Industrial First Aid1
- COMP 215 Advanced Composites Tech I.....11

Quarter Two (Winter)

- ENGL& 101 English Composition I.....5
- ADMFG 111 Introduction to Computer Aided Design.....5
- COMP 216 Advanced Composites Technology II11

Quarter Three (Spring)

- CAT 118 Excel Basics1
- ADMFG 140 Introduction to CNC3
- ADMFG 141 CNC Programming3
- COMP 217 Advanced Composites Technology III11

Year Two (Sample schedule)

Quarter Four (Summer)

- HUMDV 120 Human Relations3
- ADMFG 142 Advanced CNC Programming.....3
- ADMFG 143 Advanced Materials Machining3
- COMP 220 Composites Recycling5

Quarter Five (Fall)

- ADMFG 121 CNC Operations5
- WELD 110 Beginning Welding.....15

Total Credits Required 90

Specifics

Length of Program

Courses with prerequisites, and the placement level of the student, may extend the Length of Program listed on this page.

Which Quarter Can I begin?

The typical student schedule is based on entering the program during the fall quarter, however some programs allow students to enter in the winter or spring as well. Since not all do, please confirm with an advisor whether this program must be started during a specific quarter or not.

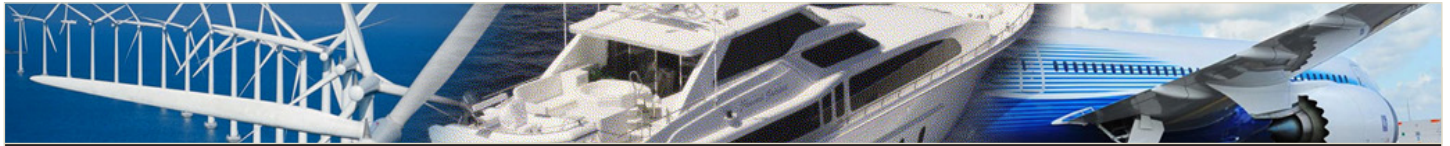
Details

Completion Award: AAS Degree
Length of Program: 5 Quarters
Program Code: 827N

Program Coordinator (contact with questions)

James Russell (360) 417-6348
 Office: CRTC jrussell@pencol.edu

Apply online: <http://pencol.edu/GetStarted>



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Advanced Manufacturing

Program Description

The Advanced Manufacturing Technology program is designed to prepare students for a variety of manufacturing jobs including composites technician, Computer Numerically Controlled (CNC) operator and programmer, and carbon fiber recycling technician. Core curriculum includes non-destructive testing, metrology, computer aided design, CNC, composites recycling, machining and welding. Students are prepared for these fields by learning the physical properties of advanced materials and becoming proficient in composite processing skills that include vacuum bagging, resin infusion, composite oven curing, material use data entry, material resource procurement, CNC programming/operating, and clean room techniques.

Special Features

- The Advanced Manufacturing Technology program classroom and lab are co-located with the Composites Recycling Technology Center.

Student Learning Outcomes

When this program is completed, the student will be able to:

- Operate tools and equipment safely
- Handle, store, and use advanced composite materials safely
- Describe physical properties of various composite materials and metals
- Use 2D and 3D drawings/models to build/modify parts and assemblies
- Produce composite structures in both production and prototype environments
- Demonstrate ability to critically assess damage and successfully repair composite structures
- Machine composites, cores, metals, and advanced materials using CNC technology
- Non-destructively test composite and metal parts
- Accurately measure and document parts and assemblies using 3D modeling and CMM
- Produce 3D part models, analyze them, generate tool paths, and cut them on CNC machines
- Apply basic computational skills to practical applications
- Communicate in writing for a variety of purposes and audiences
- Demonstrate competencies to succeed in the selected career pathway workplace

Career Opportunities

Occupational fields include advanced manufacturing assemblers and fabricators in marine construction and repair, aerospace manufacturing, sport equipment and custom part fabrication.

For current employment and wage estimates, please visit and search for the relevant occupational term:

www.bls.gov/oes

Assessment

Students are required to place into the English and math/applied math courses required for this program. Learn more about placement options by visiting the Assessment and Placement website: <http://www.pencol.edu/placement-testing>

Approximate Additional Costs

Books, supplies and miscellaneous fees (per quarter).....	\$150.00
Tools/Equipment – (most purchased first year)	\$400.00