Composites Training for Manufacturing Professionals

Hands-on Composites Training for Manufacturing Professionals

Are you working or would you like to work in design and manufacturing of advanced composite structures? This program is intended for both newcomers and experienced engineers and other manufacturing professionals who want to increase their knowledge and skills in advanced composite materials, processes, methods and techniques.

Each course includes theory with plenty of hands-on experience that promotes learning, doing and retention.

Classes are offered around your daily work schedule - early Tuesday mornings and late Thursday afternoons.

Program Courses:

**NCAM 310G**: Fundamental Composites for Manufacturing Professionals

**ACM 253G**: Bonding and Finishing Operator

**ACM 257G**: Performance Composites Fabrication

Classes are at the Great Bay Community College Advanced Technology & Academic Center (ATAC) in Rochester. The labs are equipped with the high level technology, equipment and tools you will find in advanced manufacturing facilities.

Clean room for work with prepregs
ASC Autoclave
Debulking Table
And much more…

For more information contact Debra Mattson
dmattson@ccsnh.edu 603-427-7732

Small class sizes! Register early to reserve your space – www.greatbay.edu/btc-reg or call 603-427-7610
**Course Curriculum**

**NCAM310G  Fundamental Composites for Manufacturing Professionals**
An accelerated course designed for engineers and other manufacturing personnel to increase their knowledge of advanced composites materials, processes, and techniques. Instruction incorporates hands-on lab work, discussion, demonstration, lecture, and assigned readings. Focus is on applying knowledge of polymer chemistry and the physics of strength of materials and thermodynamics through hands-on projects in the lab to demonstrate the concepts of composites manufacturing. Activities include infusion and pre-preg; curing using ovens and autoclaves; and finishing using a variety of hand tools. Quality assurance processes are emphasized. Additional topics are introduced to assure a broad awareness of advanced composites manufacturing.

Pre-requisites: This is an accelerated program, and participants are required to have college level math, physics, and chemistry.

<table>
<thead>
<tr>
<th>CRN</th>
<th>Course#</th>
<th>Title</th>
<th>Dates</th>
<th>Days</th>
<th>Time</th>
<th>Tuition</th>
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<tbody>
<tr>
<td>16636</td>
<td>NCAM310G</td>
<td>Fundamental Composites for Manufacturing Professionals</td>
<td>9/1 – 12/10 2015</td>
<td>Tues Thurs</td>
<td>6-8am 4-8pm</td>
<td>$1,995</td>
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Register Now: www.greatbay.edu/btc-reg

**ACM253G  Bonding and Finishing Operator**
Operate equipment within the finishing processes for composites manufacturing. Perform operations of bonding and vacuum bagging in a clean room environment, run an autoclave and record parameters, and perform preventive maintenance on equipment. Students will be responsible for maintaining work area and equipment in clean and orderly condition. Tools include measurement tools such as micrometers and calipers. Focus will be on safety, attention to detail, and ability to follow operating procedures. Inspection of parts and quality assurance will be included. Participant must be able to be fit tested and perform with a respirator, and be capable of working with epoxy and adhesive materials.

Offered 3 times a year, schedule to be determined

**ACM257G  High Performance Composites Fabrication**
Learn to use all the customary materials, tools and equipment for the manufacturing of high performance composites. The course covers composites processes, materials, equipment and supplies. Fundamentals of mechanical behavior of composites are taught. Processes covered in the classroom and hands-on setting will include vacuum bagging, resin infusion, wet prepping and prepreg lay-ups with ambient, oven and/or autoclave cures and post cures as well as concepts of filament winding and compression molding. Students will be introduced to the importance of fiber orientation, compaction, flow behavior, accessory materials and supplies for different processes. Basics of composite tool making, lost mold and bladder techniques will be reviewed.

Offered 3 times a year, schedule to be determined

Ask about **Job Training funds** to help pay for this training