



Davis Applied Technology College

A UCAT Campus
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Course Descriptions - Composites Material Technology Catalog Year: 2012

BTEC 1110_ Computer Literacy (Program Based) - 90 Hours

This course provides students with a fundamental understanding of computing including knowledge and use of computer hardware, software, and operating systems. The course will cover basic use and common features of applications (word processing, spreadsheet, and database) including internet use and e-mail. This course includes information regarding setting up an ergonomic environment, maintaining healthy work habits and health risks involving eye strain and repetitive stress injuries. Recommended Prerequisite: BTEC 1010 Keyboarding I.

COMP 1000 Composite Basics - 30 Hours

The composite industry is maturing into an established and increasingly diversified business. Composite manufacturing offers the benefits of producing lightweight, strong and moldable products in a variety of shapes. The application includes several of the following industry categories: aircraft parts, aerospace assemblies, automobile components, boating industry, civil engineering applications, space travel vehicles, and sports products. This course introduces the student to the basic materials, vocabulary and safety practices utilized in the composite industry. Students be handling various composite materials and will gain an appreciation for the place they occupy in the part-development arena.

COMP 1100 Mold Preparation - 15 Hours

The first important step in composite fabricating is the care required in establishing a release coating that allows the part to separate from the mold surface. In this course, students will learn about mold release products and the use of equipment to demonstrate mold release methods.

COMP 1205 Non-Vacuum and Vacuum Bag Part Fabrication - 60 Hours

The actual lamination of the composite part is essential to the entire process. The Composite Technician not only fabricates the desired part, but additionally blends together the construction materials necessary in creating the part. During this course, students will learn the terminology as well as reinforcement fabrics common to the composite industry, how to select appropriate materials, the correct mixing of reinforcement materials, vacuum bag process, tools and use.

COMP 1300 Prepreg Material Laminations - 30 Hours

Prepreg materials combine the advantages of dry reinforcement fabrics by impregnating the fabric with adhesive resins. This unique process allows designing high-strength laminates for part fabrication primarily in the aerospace industry. Parts designed with these materials see application in aircraft, helicopter, space structures and several recreational products. Students in this course will learn terminology, process and techniques to using prepreg materials.

COMP 1400 Core Materials - 45 Hours

The use of core materials offers the designer the ability to substantially increase a structure's strength without the penalty of a dramatic increase in the overall part weight. Core materials offer this unique ability as compared to solid laminates. As an example, core materials could provide an aircraft with the ability to increase its payload or fuel capacity, without the consequences of heavy fabricated assembly parts. Students in this course will learn terminology, materials and techniques to fabricate core laminates.

COMP 1500 Composite Repair - 15 Hours

Many materials are subject to damage or abrasion in the normal course of life. Composite materials, while strong and light, are potential contenders in receiving damage reflective of the environment they are placed in. The important skill element obtained in this course is the ability to recognize the severity of the damage and the appropriate repair procedure.

COMP 1600 Part Finish Applications - 15 Hours

The completed part reflects the finished product viewed by the customer. It should be complete in the design requirements and be pleasing to look at. A finished part may require several side operations involving cutting, sanding, drilling, fastener installation and painting. This finishing process can require a good deal of time and effort from the Composite Technician. Students in this course will learn the process and skills required to complete a finished part to the requirements and intentions specified by the client. Students will also learn to identify damage that can affect structural integrity.

COMP 1700 Pattern and Mold Construction - 45 Hours

With the ability to construct almost limitless composite configurations, the knowledge in fabricating the original shaped pattern is essential to the project's success. The pattern, or designed shape, is the starting point of what the fabricated parts will look like. The composite mold is produced from a finished pattern. They go hand-in-hand in allowing the Composite Technician to manufacture additional parts. Both the pattern and mold will reflect the quality of each additional produced part. Students in this course will learn terminology, materials and process for pattern and mold construction.

COMP 1900 Composite Part Testing - 15 Hours

The central theme surrounding composites is the ability to bond materials together in the form of reinforcement fabrics and resins sufficiently to prevent the materials from separating. There are conditions that affect bonding and material strengths properties and tests that evaluate the laminates success or failure. It is important for the Composite Technician to be aware of these conditions, since it affects the strength and physical performance of the material. Students in this course will learn the terminology and process of part testing and will identify and demonstrate acceptable parts.

COMP 2000 Alternative Composite Processes - 30 Hours

The composite industry is frequently changing and introducing new manufacturing processes. Materials and equipment are being developed that will enhance the physical properties of finished products and require additional skills from the Composite Technician in producing those items. Additionally, the same materials can be applied using alternative methods and produce different results. This course will explore various methods used in fabricating composite parts. Students will learn about processing equipment.

COMP 2800 Composite Materials Technology Special Project - 60 Hours

This assignment can be completed at the DATC campus in conjunction with a personal or industry project to reflect on-the-job experience. The same work-related expectations would apply to the Special Project Time activity.

DRFT 1045_ Blueprint Reading - 30 Hours

This course is designed to teach the basic blueprint reading skills. Standard industrial practices will be applied on one or more industrial drawings. Principles and applications of the following will be used--lettering, orthographic, oblique, isometric, dimensioning, sectioning, and auxiliary views.

DRFT 1805_ Blueprint Reading for Composite Materials Technology - 15 Hours

Blueprints are used to convey the shape and material composition of an object from one person to another and it is the universal language in modern manufacturing. Students in this course will gain a basic understanding of the principles and techniques used in the drawing, interpretation and manufacturing of blueprints.

FUND 0050 Keyboarding Skills - 90 Hours

This course covers an introduction to the QWERTY keyboard, correct finger placement, and keyboarding techniques. Students will learn to touch type as they complete drills and timed writings. Through practicepractice, students will increase their typing speed and accuracy on a computer keyboard.

FUND 0065 Computer Skills - 30 Hours

Students will learn beginner computer skills in a Windows XP environment. Topics include starting a computer, using a mouse, launching programs, creating, saving and printing documents, surfing the World Wide Web and sending email.

FUND 0070 Spelling Skills - 30 Hours

Students will improve their spelling skills by learning and using phonics and common spelling rules.

FUND 0075 Language Skills - 90 Hours

In this course students will practice and improve their language and writing skills and will gain an understanding of the English language and its correct use in written communication. Topics include sentence structure, parts of speech, grammar and punctuation rules in addition to extending these rules to sentences and paragraphs.

FUND 0080 Reading Skills - 90 Hours

This course will provide students with a foundation in reading skills, build vocabulary, and will provide practice recalling and interpreting information.

FUND 0085 Math Skills - 60 Hours

In this course students will learn to perform all four basic math operations accurately with whole numbers, fractions and decimals. Students will also be introduced to percentage and converting between fractions, decimals and percents.

FUND 0090 Study Skills - 30 Hours

Students will learn to use effective study habits and strategies for remembering information found in their textbooks and heard in class lectures. Students will also learn to use a strategy for reading and taking notes from textbooks, in class, and learn effective strategies for taking the five types of tests most frequently given by teachers.

FUND 0091 Davis School District Technical Tutoring - 250 Hours

Technical tutoring provides designated high school students with individual tracking to improve student success in Davis Applied Technology College courses. Students are provided assistance in study skills, test preparation as well as review of student progress and attendance.

IAMT 1005 Renewable Energy - 60 Hours

This course is designed to teach students the techniques for building and maintaining a wind generator and solar power system. Student will learn how to determine the size and power demands of a home. In addition, this course will provide information that will help the student acquire the tools and components necessary for building their own wind generator or solar power system.

MATH 1000_ Math I (Program Based) - 60 Hours

This course offers an introduction to basic mathematics using mathematical concepts that can be applied to everyday life. Topics include fractions, decimals, ratios, proportions, conversions, averages and percentages. Prerequisites: TABE Computation score of 570 or higher or FUND 0085 Computational Math Skills

WKSK 1400_ Workplace Relations (Program Based) - 60 Hours

This course will help students develop essential human-relation skills needed to maintain gainful and satisfying employment. This course includes familiarization with problematic areas found in the workforce including, solving problems; understanding relationships and diversity; increasing personal ethics; and developing strong personal, interpersonal, and human relation skills. Recommended Prerequisite: BTEC 1110 Computer Literacy.

WKSK 1500_ Job Seeking Skills (Program Based) - 30 Hours

This course helps prepare students to successfully apply for a job. This course will present essential job-seeking skills needed to find gainful employment including: developing resumes, applications, networking and interview skills. Recommended Prerequisite: BTEC 1110 Computer Literacy.