



MASTER COURSE OUTLINE

Prepared By: Erik Borg

Date: February 2013

COURSE TITLE

Composite Fabrication

GENERAL COURSE INFORMATION

Dept.: CPT

Course Num: 120

(Formerly:)

CIP Code: 47.0687

Intent Code: 21

Program Code: 718

Credits: 4

Total Contact Hrs Per Qtr.: 44

Lecture Hrs:

Lab Hrs: 44

Other Hrs:

Distribution Designation:

COURSE DESCRIPTION (as it will appear in the catalog)

Students will develop skills in print reading, project planning, layout, distortion control, fixturing and other fabrication techniques. Students will have the opportunity to apply knowledge to projects of personal interest and/or as assigned.

PREREQUISITES

Completion of AMT111, AMT 121, AMT 161, and AMT 201

TEXTBOOK GUIDELINES

Textbook as chosen by AMT/CPT Faculty (Example: *Essentials of Advanced Composite Fabrication & Repair* Dorworth, Gardiner, & Mellema)

COURSE LEARNING OUTCOMES

Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills:

1. Understand the benefits and limitations of composite materials. Be familiar with the common manufacturing processes for composite
2. Identify and utilize the materials to construct a composite laminate
3. Identify and utilize all the ancillary materials needed to construct a composite laminate
4. Understand basic tooling techniques as in molds and trim fixtures
5. Understand and demonstrate proper material handling protocols
6. Understand and demonstrate safe use of materials and chemicals

INSTITUTIONAL OUTCOMES

COURSE CONTENT OUTLINE

1. Composite materials, common manufacturing processes for composite
2. Construct a composite laminate
3. Ancillary materials needed
4. Basic tooling techniques
5. Material handling protocols
6. Safe use of materials and chemicals

DEPARTMENTAL GUIDELINES (optional)

Student grades are based on the following items:

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| 1. Classroom/lecture assignments | 50% |
| a. Written assignments/quizzes | 30% |
| b. Tests | 40% |
| c. Final exam | 30% |

Examinations will be given to ensure the understanding and/or retention of the subject material. An appropriate exam will be given to each student who completes each subject area. A quarter final review exam will be given during the last three days of each quarter. Any other testing or quizzes may be given at the instructor's discretion. Each student is given only Three attempts at passing an exam. The First exam attempt must be passed with a 70% or better, 75% or better for the Second and 80% on the Third attempt. If the student fails to pass any exam with an acceptable score after three attempts the student will be required to surrender all credits, hours, lab projects, and classroom theory for the subject or subjects failed. The final recorded score will be that of the first attempted exam. Missed or failed exams will be given only with prior arrangements with the instructor.

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| 2. Performance completing lab/shop assignments | 50% |
| a. Quality of work | 50% |
| b. Work habits | 50% |
| • Follows instructions. | |
| • Follow safety rules | |
| • Completes assignments in a timely manner. | |
| • Stays productive. | |

Laboratory performance will be graded at the completion of each practical assignment by observation, oral examination, or written examination. Practical projects must be completed in a timely manner.

Letter Grade	Percentage	BBCC Numeric Grade
A	97 - 100	3.8 - 4.0
A-	93 - 96	3.5 - 3.7
B+	89 - 92	3.2 - 3.4
B	85 - 88	2.9 - 3.1
B-	81 - 84	2.5 - 2.8
C+	77 - 80	2.2 - 2.4
C	73 - 76	1.9 - 2.1
C-	69 - 72	1.5 - 1.8
D+	65 - 68	1.2 - 1.4
D	61 - 64	0.9 - 1.1
D-	58 - 60	0.7 - 0.8
F	0 - 57	0.0

A minimum passing grade of 80% must be obtained by each student in order to receive a final Letter of Completion from this course.

DIVISION CHAIR APPROVAL

DATE