MESABI RANGE COMMUNITY & TECHNICAL COLLEGE

Course Outline

Course Title:	**Composite Repair**	**Submitted By:**	**Dan Janisch**
Semester Course Prefix and Number:	**WET 2231**	**Approval Date:**	**April 2010**
Old Quarter Course Prefix and Number:		**Revision Date:**	

Number of Credits: 1
Semester(s) Offered: Fall Second Year
Class Size: 24
Number of Lecture Credits:
Number of Lab Credits:1
Number of Lab Hours:2
Number of Studio/Demonstration/Internship Credits:

Course Purpose Code:

_____ **0 –** Developmental Courses
_____ **1 –** Non-transferable
__X__ **2 –** Technical course related to career programs
_____ **3 –** College course which has the primary goal of applying certain concepts (e.g. vocal ensemble)
_____ **4 –** Other college course not considered a part of MNTC (e.g. computer science, health, physical education)
_____ **5 –** Course which is intended to fulfill the Minnesota Transfer Curriculum (MNTC) requirements or intended for transfer.
_____ **9 –** Continuing Education/Customized Training specialized credit course (not occurring in 0-5)

Catalog Description:

The course is designed to provide students with the opportunity to gain hands-on experience with tasks related to wind turbine blade inspection and repair. In addition to hands-on experience, students will first formally learn about composites used in wind turbine blades in the classroom. Students will specifically learn about the different blade materials, types of composite failures, preparation and repair techniques, and repair curing requirements.

Prerequisites and/or recommended entry skills/knowledge:

Course Prerequisite(s):	First Year of Wind Program
Reading Prerequisite:	College Level Reading
Composition Prerequisite:	College Level Writing
Mathematics Prerequisite:	First Year of Wind Program

Career Programs and Transfer Majors Accessing this Course:
Wind Energy Technology, EIAT and IT students with instructor approval.

Minnesota Transfer Curriculum Goal(s) partially met by this course if applicable:
(Notes: No more than two goals may be met by any one course. Curriculum Committee review and the Chief Academic Officer's approval are required.)

0. _____ None
1. _____ Communications
2. _____ Critical Thinking
3. _____ Natural Sciences
4. Mathematical/Logical Reasoning
6. _____ The Humanities and Fine Arts
7. _____ Human Diversity
8. _____ Global Perspectives
9. _____ Ethical and Civic Responsibility
10. _____ People and the Environment

5. ____ History and the Social and Behavioral Sciences

Learning Outcomes: (including any relevant competencies listed in the Minnesota Transfer Curriculum)

Upon completion of this course, the student will be able to:

1.) Identify the different types of wind turbine blade materials.
2.) Identify common wind turbine blade failure types.
3.) Demonstrate the ability to prepare a composite failure for repair.
4.) Demonstrate the ability to repair minor composite failures.
5.) Identify and implement proper curing techniques for various composite material failure repairs.

Student Assessment Methods:
Written tests and quizzes. Demonstration of abilities in hands-on lab. Report writing.

Use of Instructional Technology: (includes software, interactive video and other instructional technologies):

Email, Moodle, diagnostic devices and tools.

Outline or Statement of Major Course Content:

Inspection, preparation, and repair of wind turbine composites. Familiarization with repair requirements.

Additional Special Information: (special fees, directives on hazardous materials, etc.)

Student will be expected to work hands-on with tools and composite materials in order to maintain a passing grade in this class.

Transfer Information: (Please list colleges/majors that accept this course in transfer.)

Approvals:

Body	Representative Signatures	Date
Academic Affairs Standards Committee		
Chief Academic Officer		

Distribution: Original – Administrative Office
Copies: Curriculum Committee Chair, AASC Chair, Transfer Specialist, Originating Faculty Member, Scheduler, Records
Revised: May 2009