

**SYLLABUS/COURSE OUTLINE**

**DIVISION:** Business & Engineering Technologies

**CURRICULA IN WHICH COURSE IS TAUGHT:** Drafting and Design

**COURSE NUMBER/TITLE:** MEC 111-01 Materials for Industry

**CREDIT HOURS:** 3 **HRS/WK LEC:** 3 **HRS/WK LAB:** 0 **LEC/LAB COMB:** 3

**I. CATALOG DESCRIPTION:**

Studies the nature, structure, properties and typical applications of metallic, polymeric, ceramic, and composite materials. Promotes job entry understanding of basic material concepts. Focuses on applications of materials as well as the beginning of materials subjected to external stresses. Addresses as required the earth's limited material resources, energy efficient materials, dependence on foreign sources of materials, material systems, thermal processing and electronic related materials.

**II. RELATIONSHIP OF THE COURSE TO CURRICULA OBJECTIVES:**

An understanding of materials available and characteristics are necessary in order for a designer to select the material that will best suit a specific design.

**III. REQUIRED BACKGROUND**

None

• **COURSE CONTENT:**

- Origin of materials
- Atomic structure
- Phases of matter
- Wood basics – consumer and industrial uses
- Plastic polymers - consumer and industrial uses
- Metals and alloys – consumer and industrial uses
- ceramics, composites, glasses, clays, cements, stone - consumer and industrial uses
- Water, fuels, oils, paints

**V. THE FOLLOWING GENERAL EDUCATION OBJECTIVES WILL BE ADDRESSED IN THIS COURSE (Place X by all that apply)**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Communications    | <input checked="" type="checkbox"/> Cultural and Social Understanding |
| <input checked="" type="checkbox"/> Critical Thinking | <input checked="" type="checkbox"/> Quantitative Reasoning            |
| <input type="checkbox"/> Personal Development         | <input type="checkbox"/> Scientific Reasoning                         |

X  Information Literacy

## VI. LEARNER OUTCOMES

## VII. EVALUATION

<b>Learner outcome</b> <ul style="list-style-type: none"><li>• Understand the materials that surround each of us and how they are used to benefit society.</li></ul>	<b>Evaluation method</b> Online test Student presentations
<b>Learner outcome</b> <ul style="list-style-type: none"><li>• Identify the physical properties of materials and understand methods of testing the mechanical properties of materials.</li></ul>	<b>Evaluation method</b> Online test
<b>Learner outcome</b> <ul style="list-style-type: none"><li>• Identify the proper materials for a specific product.</li></ul>	<b>Evaluation method</b> Online test
<b>Learner outcome</b> <ul style="list-style-type: none"><li>• Understand how our presence on the earth impacts our environment</li><li>• Understand the need for recycling.</li></ul>	<b>Evaluation method</b> Online test
<b>Learner outcome</b> <ul style="list-style-type: none"><li>• Identify the fabrication processes used to create wood, metal, plastic, and ceramic products.</li></ul>	<b>Evaluation method</b> Online test
<b>Learner outcome</b> <ul style="list-style-type: none"><li>• Identify new processes and technologies that may impact the future of our society.</li></ul>	<b>Evaluation method</b> Written report

## COURSE OUTLINE

---

**COURSE SECTION NUMBER/TITLE:** MEC 111-01 Materials for Industry

**COURSE PREREQUISITE(S):** None

**SEMESTER:** Spring

**INSTRUCTOR:** Robert Huffman

**OFFICE NO:** Wyatt 209 (office is in the classroom)

**OFFICE HOURS:** Tues & Thurs 1:00-4:30 Fri 1:30-4:00

**TELEPHONE:** 434-797-8548

**E-mail:** rhuffman@dcc.vccs.edu

**TEXTBOOKS, OTHER REFERENCE MATERIALS:**

No textbook is required for this course. Students will use online resources as reference materials.

**ATTENDANCE REQUIREMENTS:**

Regular attendance is necessary for successful completion of this course. Absences will be considered if a student is between final grades. Two tardies will count as one absence.

In the case of an absence, the student is expected to make up work missed. Missed assignments or tests must be completed within two class days of the original due date or test date. Students taking makeup tests will not get credit for bonus questions and will not get the advantage of a grade curve. As you can see, there is a definite advantage to attend regularly.

**OTHER REQUIREMENTS:**

Students will be expected to get an e-mail account since several assignments will be web-based and solutions are to be submitted via e-mail.

**Cell Phones** – Cell phones are not to ring during this class. Set them to vibrate if possible or turn them off upon entering the class. If your phone rings during class, you may leave the class to answer it but do not return to class that day should you choose to. Students leaving class to answer phones during tests will not be permitted to continue the exam if they choose to leave the class.

## **STUDENTS WITH SPECIAL NEEDS:**

- ✓ If you are a student with special medical needs, please inform me as to how I can best assist you. All information will be considered confidential.
- ✓ If you are a student who needs special ADA-related accommodations, please inform the DCC ADA Coordinator at 434-797-8572. All information will be considered confidential.

## **PLAGIARISM AND ACADEMIC DISHONESTY**

Students will be expected to maintain complete honesty and integrity in their academic work in this class. Acts of academic dishonesty, such as cheating, plagiarism, or inappropriately using the work of others to satisfy course requirements, will not be tolerated and may result in failure of the affected assignments and/or failure of this class.

## **TUTORING**

DCC offers free tutoring to all students. If you experience any difficulty with this course, please immediately contact Letitia Lunsford in the Tutoring Center (797.6432) located in the Learning Assistance Center. Ms. Lunsford will help you schedule your tutoring sessions. To get the greatest benefit from tutoring, you should go as soon as you start experiencing difficulty and go on a regular basis.

## **Evaluation:**

Presentation	20 %
Homework	15%
Tests	30%
Tour Report	5%
Materials Paper	15%
Final Exam	15%

Letter grades will be determined as follows:

A - 100-92

B – 91-84

C – 83-76

D – 75-68

F – Under 68

**Dates to Remember**  
**Calendar**      Spring 2014

<b>Spring Session, 2014</b>	<b>Dates</b>	<b>Times</b>
<b>Advising/Registration by Appointment for Spring 2014</b>	January 2-3; 6-10	<b>8 a.m. - 4:30 p.m.</b>
<b>Registration, Payment of Tuition &amp; Add/Drops</b>	January 2-3; 6-10	
Faculty Planning and Preparation Days	January 2-3; 6-10	
<b>Classes Begin</b> <i>NOTE: Not all classes start on this date or this week. Check your schedule for the correct dates to determine when your classes will start.</i>	January 13	
Late Registration	January 13-17	
Last Day for New Registration	January 17	
Holiday (College Closed)	January 20	
*Swaps/Drops only	January 21-22	
<i>*Swaps cannot be processed without the approval of the instructor.</i>		
<b>Last Day to Withdraw with Full Tuition Refund</b> <i>NOTE: Classes of shorter duration may have different deadlines. Contact the Admissions Office at 434.797.8467 for more information.</i>	January 28	
Mid Term Grades Posted	March 3--7	
Spring Break	March 10--14	
<b>Last Day to Withdraw w/o Mitigating Circumstances (W grade issued)</b> <i>NOTE: Classes of shorter duration may have different deadlines. Contact the Admissions Office at 434.797.8467 for more information.</i>	March 21	