

# Material Science with Mr. Randy

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Course Syllabus

**INSTRUCTOR:** Randy Kopf

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**COURSE TITLE:** ENTE 215, Material Science

**LENGTH:** One semester, 3 credit hours

**TEXTBOOK:** Industrial Materials, Hessel / Liu

**COURSE DESCRIPTION:** This course is intended to introduce the student to the materials used in engineering/industry and their properties. The types of material studied will include ferrous and nonferrous metals, plastics, rubber, ceramics, glass, and cement. In addition, material inspection, testing, and the effects of heat treatment and corrosion will be studied.

**ATTENDANCE POLICY:** Regular attendance and participation are necessary for successful completion of the course. Students may miss up to one week of class time without penalty. ***After one week of absences, each absence in the class will reduce your final grade by 20 points.***

**DERIVATION OF GRADE:** The final grade is computed from unit tests (700 pts.) reading questions/quizzes (200 pts.) and a group research project/paper (100 pts.) for a total of 1000 points, adjusted if appropriate due to excessive absence. Points required for each grade are:

B+ 867-899	A 935-1000	A- 900-934
C+ 767-799	B 834-866	B- 800-833
D+ 667-699	C 734-766	C- 700-733
	D 634-666	D- 600-633

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**ACADEMIC INTEGRITY:** All courses offered Engineering Technology will be conducted with the highest standards of academic honesty. Each student is expected to support these standards by neither giving nor accepting assistance on quizzes, tests or exams, and by submitting only his or her own work for credit. The Kellogg Community College policy on Academic Integrity is spelled out in the student handbook.

If it is suspected that you are cheating, fabricating, facilitating academic dishonesty, or plagiarizing, there may be serious consequences. The incident will be documented and may be reported to the academic chair and/or program director for possible disciplinary actions up to and including course, program, or college expulsion.

**ADA AND SECTION 504 STATEMENT:** Kellogg Community College does not discriminate in the admission or treatment of students on the basis of disability. KCC is committed to compliance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act.

### **Topic Outline for Material Science**

- The Structure of Materials
- Mechanical Properties
- Ferrous Metals
- Heat Treatment
- Non-Ferrous Metals
- Polymers/Plastics
- Wood
- Ceramics, Glass and Carbon products
- Composites

**Under each category above discussion may include items such as:**

- Production
- Mechanical Properties
- Corrosion
- Specifications and Characteristics
- Finishing, Surface Treatments, etc.
- Selection