EMCH 528 - Product Safety Engineering

Credit hours – 3  Contact hours – 50 minutes MWF or 75 minutes TTh

Instructor – Steve McNeill


Specific Course information:
 a. EMCH 528-Product Safety Engineering. (3) Design considerations and methodologies for products to ensure adequate safeguards for the prevention of accident, injuries and fatalities.
 b. Prerequisites: senior standing
 c. Mechanical Engineering Elective

Course Goals:
 a. Outcomes
 1. The student shall be aware of the engineer’s role and responsibility in product liability.
 2. The student shall be aware of how regulatory agencies and state laws affect engineering design.
 3. The student shall be aware of standards and Criteria that must be applied to engineering design.
 4. The student shall understand modern concepts of accident prevention
 5. The student shall understand hazardous characteristics of products.
 6. The student shall understand how environmental factors affect product safety.
 7. The student shall understand how minimize accidents and their effects.
 8. The student shall understand how operator error affects their designs.
 b. Relationship of Course to Program Objectives: The importance of each course objective to meeting the program outcomes is indicated with the following scale: 3 = major importance; 2 = moderate importance; 1 = minimal importance. Blank if not related

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<thead>
<tr>
<th>Program Outcomes (see list for complete description)</th>
<th>Course Outcomes</th>
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<tbody>
<tr>
<td>1.1. analyze, design and realize</td>
<td>CO 1</td>
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<td>1.2. computation techniques</td>
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<td>1.3. design and interpret experiments</td>
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Program Outcomes (see list for complete description) | Course Outcomes
-----------------------------------------------------|-----------------|
1.1. analyze, design and realize                      | CO 1 | CO 2 | CO 3 | CO 4 | CO 5 | CO 6 | CO 7 | CO 8 |
1.2. computation techniques                           |      |      |      |      |      |      |      |
1.3. design and interpret experiments                 |      |      |      |      |      |      |      |
1.4. apply linear algebra, calculus                   |      |      |      |      |      |      |      |
1.5. apply statistical methods                        |      |      |      |      |      |      |      |
1.6. understand chemistry and physics                 |      |      |      |      |      |      |      |
| 2.1. engineering economic analyses |   |   |   |   |   |   |   |
| 2.2. plan and execute projects |   |   |   |   |   |   |   |
| 2.3. oral and written communications | 2 | 2 |   |   |   |   |   |
| 2.4. professional responsibility | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 2.5. multi-disciplinary teams |   |   |   |   |   |   |   |
| 2.6. life-long learning |   |   |   |   |   |   | 3 |
| 3.1. engineering in modern society | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 3.2. literature, arts, humanities. |   |   |   |   |   |   |   |
| 3.3. foreign language |   |   |   |   |   |   |   |

**Topics Covered:**
1. Product Liability
2. Safety Costs and Losses
3. Regulatory Agencies and Stature Laws
4. Standards and Criteria
5. Modern Concepts of Accident Prevention
6. Hazardous Characteristics of Products
7. Environmental Factors in Product Safety
8. Operator Error
9. Minimizing accidents and their effects.

**Person Who Prepared This Description and Date of Preparation:**
Stephen McNeill, 6/15/2005
Approved by Steve McNeill 3/4/11