# ECCS Department – Realistic Constraints Rubric

## Course: _______________________________________          Date: _____________________

Student(s):  _____________________________________________________________________________

<table>
<thead>
<tr>
<th>3 - Expert</th>
<th>2 - Practitioner</th>
<th>1 - Apprentice</th>
<th>0 - Novice</th>
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</thead>
<tbody>
<tr>
<td>For All Realistic Constraints:</td>
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<tr>
<td>• Analysis correctly reasons how the design is constrained and provides sufficient, in-depth discussion in a clear and easy to follow manner.</td>
<td>• Analysis correctly reasons how the design is constrained but provides only a cursory discussion.</td>
<td>• Analysis contains a mixture of correct and incorrect reasoning as to how the design is constrained.</td>
<td>• Analysis incorrectly reasons how the design is constrained.</td>
</tr>
</tbody>
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<thead>
<tr>
<th>Constraint</th>
<th>Pertinent Questions</th>
<th>Applicable?</th>
<th>Score</th>
</tr>
</thead>
</table>
| Economic   | • What are the development costs?  
• What are the production costs?  
• What are the operational costs? | Yes     No | 3  2  1  0 |
| Environmental | • What valuable resources are being used?  
• Is pollution being produced as a result of production and/or use of the product? | Yes     No | 3  2  1  0 |
| Sustainability | • To what degree over time will the product be useful and viable?  
• Can the resources associated with the product be used effectively in a sustainable economy? | Yes     No | 3  2  1  0 |
| Manufacturability | • Can the product be built?  
• How can the product be designed to eliminate manufacturing errors?  
• How can the product be designed to minimize manufacturing costs? | Yes     No | 3  2  1  0 |
| Ethical    | • Are there any foreseen potential conflicts with a profession’s Code of Ethics arising from the development or use of the product? | Yes     No | 3  2  1  0 |
| Health and Safety | • Are there any laws that determine how safe this product has to be?  
• Are there related ethical issues?  
• Are there relevant health effects that are affected by this product? | Yes     No | 3  2  1  0 |
| Social     | • What anticipated impacts will the product have within a community? | Yes     No | 3  2  1  0 |
| Political  | • Is the project being conducted for a governmental entity?  
• Is the project being regulated, or being proposed for regulation, by a governmental entity? | Yes     No | 3  2  1  0 |

Comments:

Evaluator Signature: __________________________________________________________