NRE 4232 Nuclear Radiological Engineering Design (Required)

Catalog Description: NRE 4232 Nuclear Radiological Engineering Design (1-9-4)
Prerequisite: NRE 4328 NRE 4208
Introduction to the methodologies of nuclear and radiological design. An open-ended design project that integrates all relevant engineering aspects is to be completed in this course.

Textbook: None

Topics Covered:

1. Appropriate to the specific design project; design of primary system of a nuclear reactor; the associated fuel cycle; and determination of relevant safety parameters.

Course Outcomes:
Outcome 1: To teach, develop and encourage team work, technical leadership, communication and presentation skills.
   1.1 Students will demonstrate the ability to lead, work in teams, communicate (oral and written) and make presentations.

Outcome 2: To complete an open-ended design project that integrates all relevant engineering aspects (such as economics, neutronics, thermal hydraulics, safety, …).
   2.1 Students will demonstrate the ability to complete a design project, write a technical report and present preliminary and final designs.

Correlation between Course Outcomes and Program Educational Outcomes:

<table>
<thead>
<tr>
<th>NRE 4232 Nuclear Radiological Engineering Design</th>
<th>Outcome a</th>
<th>Outcome b</th>
<th>Outcome c</th>
<th>Outcome d</th>
<th>Outcome e</th>
<th>Outcome f</th>
<th>Outcome g</th>
<th>Outcome h</th>
<th>Outcome i</th>
<th>Outcome j</th>
<th>Outcome k</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Outcomes</td>
<td>i</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course Outcome 1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course Outcome 2.1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Prepared by: W.F.G. van Rooijen
Revised: October 2007