

**PROPOSAL TO CREATE NUCLEAR TECHNOLOGY MANAGEMENT GRADUATE CERTIFICATE****CURRICULUM:**

The certificate consists of 18 credits, i.e., it requires six 3-credit courses. The courses would be taken in conjunction with the Technology Management MS or the Nuclear Engineering MS.

**Required courses 15**

INDT 434	Power Distribution
TM 514	Nuclear Safety
TM 516	Nuclear Rules and Regulations
TM 521	Nuclear Material Storage, Transportation and Disposal
/NE	
TM 522	Management of Nuclear Facilities
/NE	

**Required course for TM/NE 3**

TM 520	Leadership and Conflict Resolution <sup>1</sup>
NE 450	Principles of Nuclear Engineering <sup>2</sup>

**Courses to total 18 credits**

<sup>1</sup>required for NE majors

<sup>2</sup>required for TM majors

## PROGRAM COMPONENT (Group B) OR NON-SUBSTANTIVE MINOR REQUEST FORM Short Form

**Instructions:** Please use one form for each request/action. Clearly mark all changes using Track Change or strikethroughs for deletions and underlines for additions. Following the approval of the appropriate college curriculum committee, a single representative for the college will e-mail the completed form to the Office of the Provost and Executive Vice President, [provost@uidaho.edu](mailto:provost@uidaho.edu) for approval and then submission to the Academic Publications Editor in the Registrar's Office for review by the University Curriculum Committee (UCC).

**Deadline:** This form must be submitted to the Office of the Provost and Executive Vice President by December 15<sup>th</sup> for inclusion in the next available General Catalog and to be available for scheduling beginning with the next summer session.

**When applicable a Curriculum Change Form and Course Approval Forms must accompany the short form when submitted to [provost@uidaho.edu](mailto:provost@uidaho.edu)**

### Submission Information

This section must be completed

College:	College of Engineering		
Department/Unit:	Technology Management, Nuclear Engineering		
Dept/Unit Approval Date:	9/6/2018	Vote Record:	TM 9/6/18; NE 10/26/18
College Approval Date:	21 Sept 2018	Vote Record:	7 yes/0 no
CIP code (Consult Institutional Research):	Nuclear Engineering 14.2301		
Primary Point of Contact (Name and Email):	Lee Ostrom, Rich Christensen		ostrom@uidaho.edu

### Rationale and Overview of Program Component Request or Name Change

This section must be completed

Provide the rationale and overview of this request. Include an explanation of how the department will manage the added workload for a new program component; describe whether the program component curriculum and admissions requirements remain the same; describe the rationale for a name change or degree designation change if applicable.

Nuclear Technology Management Certificate.

The certificate consists of 18 credits, i.e., it requires six 3-credit courses. The courses would be taken in conjunction with the Technology Management MS or the Nuclear Engineering MS.

Required courses (15 cr):

- TM 514 Nuclear Safety (3 cr)
- TM 516 Nuclear Rules and Regulations (3 cr)
- INDT 434 Power Distribution (3 cr)
- TM/NE xxx (requested 528) Management of Nuclear Facilities (3 cr)
- TM/NE xxx (requested 527) Nuclear Material Storage, Transportation and Disposal (3 cr)

Required course for TM/NE (3 cr):

- TM xxx (requested 520) Leadership and Conflict Resolution (3 cr) (required for NE majors)
- NE 450 Principles of Nuclear Engineering (3 cr) (required for TM majors)

### Name or Degree Change Only Requests

Leave blank if not making a name and/or degree change only request

This section to be completed **ONLY** for changes to the name of: degree, major, minor, option, emphasis, certificate, teaching endorsement. If there are accompanying curriculum or course changes, complete the next section and attach the curriculum and/or course forms. **\*\*Note:** a substantive change to a program degree, major, or program component may require a program proposal form.

Current Name:	
New Name:	
Current Degree:	
New Degree:	
Other Details:	
Effective Date:	

### Program Component Request

Leave blank if not adding, discontinuing, or modifying a program component. Program components consist of option, emphasis, minor, academic certificate less than 30 credits, or teaching endorsement

Clearly mark all changes to existing program components by using Track Change or strikethroughs for deletions and underlines for additions. A curriculum change form and/or course approval forms associated with this request are required to be submitted with this short form.

Create New:	<input checked="" type="checkbox"/>	Modify:		Discontinue:		Implementation Date:	
Graduate Level:	<input checked="" type="checkbox"/>	Undergraduate Level:		Law Level:		Credit Requirement:	
Are new courses being created:		No		Yes	<input checked="" type="checkbox"/>	If yes, how many courses will be created:	3

If the request is for an option or emphasis enter the associated major and degree:

Major:		Degree:	
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Enter the name of the program component in the appropriate row:

Option:	
Emphasis:	
Minor:	
Academic Certificate less than 30 credits:	Certificate of Critical Infrastructure Resilience (15 credit hours)
Teaching Endorsement (Major/Minor):	

### Learning Outcomes and Assessment Information

This section must be completed if program component request section is completed

1.	List the intended learning outcomes for the program component, using learner centered statements that indicate what will students know, be able to do, and value or appreciate as a result of completing the program:
This certificate is to be in accordance with the International Atomic Energy Agency's (IAEA) International Nuclear Management Academy (INMA) guidelines for Nuclear Technology Management programs. There are 4 overarching areas of these programs:	

<p>External Environment; Technology; Management; and Leadership. Each of these areas are broken down and mapped to specific IAEA guidelines. In a brief statement the students who complete this program will:</p> <ol style="list-style-type: none"> <li>1. Be able to discuss and interpret the United States' regulatory requirements for managing a nuclear facility.</li> <li>2. Be able to discuss and explain the technology of basic nuclear reactor types.</li> <li>3. Be able to plan and implement a budget for a nuclear facility.</li> <li>4. Be able to recognize leadership qualities and apply leadership qualities to complex workplace settings.</li> </ol>	
2.	Describe the assessment process that will be used to evaluate how well students are achieving the intended learning outcomes of the program component:
<p>The students will be assessed by assignments, examinations, course projects and interactive presentations. The courses that comprise this certificate program are and/or will be developed to contain the content that maps to the four overall learning outcomes that are briefly described about. The IAEA will visit UI, along with representatives from other certified programs, to verify that the courses provide the necessary assessments as part of the process to have the program attain an IAEA stamp of approval. The examinations for the courses, for example, will be mapped to the IAEA criteria. These criteria can be found on the attached sheet. Exit interviews will also be conducted with the students.</p>	
3.	How will you ensure that the assessment findings will be used to improve the program?
<p>The results from the assessment instruments will be used to determine if course content, delivery, or even the assessment tools need to be modified. On an annual basis the faculty associated with this planned certificate will review the student work and student course evaluations and use these data to determine if the courses and the certificate in general need to be modified. It is anticipated that the courses will be updated on a regular basis. These updates will be made as new technologies, regulations, and public perceptions evolve in the nuclear engineering world. Information from the IAEA's INMA site visit team will be used to modify course/program content. The IAEA INMA team meets once a year to determine how the programs are doing.</p>	
4.	What direct and indirect measures will be used to assess student learning?
<p>Direct measures are scores on assessments and results of the exit interviews. Obviously, good scores and exit interview results indicate a quality program. An indirect measure is how well the program is attracting students. If it isn't then changes will be made.</p>	
5.	When will assessment activities occur and at what frequency?
<p>The assessment activities will occur in every class in every semester. The overall program assessment will occur annually and will be in conjunction with the IAEA annual meeting.</p>	

**Financial Impact**

This section must be completed if program component request section is completed

Greater than \$250,000 per FY:	Less than \$250,000 per FY:	x
Brief Description of financial impact:	<p>The program will be funded from the INL contract as a part of normal course delivery. The individual courses will be made available to all graduate students. No additional funds will be requested.</p>	

**Distance Education Availability**

This section must be completed if program component request section is completed

To comply with the requirements of the Idaho State Board of Education (SBOE) and the Northwest Commission on Colleges and Universities (NWCCU) the University of Idaho must declare whether 50% or more of the curricular requirements of a program may be completed via distance education. **If the program component is to be offered via distance education, additional or different formwork may be required.** Contact [provost@uidaho.edu](mailto:provost@uidaho.edu) for assistance.

The U.S. Department of Education defines distance education as follows:

*Distance education means education that uses one or more of the technologies listed below to deliver instruction to students who are separated from the instructor and to support regular and substantive interaction between the students and the instructor, either synchronously or asynchronously. The technologies may include--*

- (1) *The internet;*
- (2) *One-way and two-way transmissions through open broadcast, closed circuit, cable, microwave, broadband lines, fiber optics, satellite, or wireless communications devices;*
- (3) *Audio conferencing; or*
- (4) *Video cassettes, DVDs, and CD-ROMs, if the cassettes, DVDs, or CD-ROMs are used in a course in conjunction with any of the technologies listed in paragraphs (1) through (3).*

Can 50% or more of the curricular requirements of this program component be completed via distance education?	Yes*	X	No	
*If Yes, can 100% of the curricular requirements of this program component be completed via distance education?	Yes	X	No	

### Geographical Area Availability

This section must be completed if program component request section is completed

Identify the geographical area(s) this program component can be completed in:

Moscow			
Coeur d'Alene			
Boise*			
Idaho Falls*	X		
Other**	X	Location(s):	Online

\*Note: Programs offered in regions 3, 4, and/or 5 may require additional formwork from the State Board of Education. Contact the Office of the Provost and Executive Vice President for additional information.

\*\*Note: If Other is selected identify the specific area(s) this program component will be offered.

### Office of the Registrar Information

Implementation Effective Date:	
Date Received by the Office of the Provost and Executive Vice President:	
Date Received by Budget Office, if applicable:	
Date Received by Institutional Research and Assessment:	
Date Received by UCC Secretary:	
UCC Item Number:	
UCC Approval Date:	Vote Record:
Faculty Senate Item Number:	
Faculty Senate Approval Date:	Vote Record:
General Policy Report Number or Faculty Meeting Date:	
Office of the President Approval Date:	
State Board of Education Approval/Acknowledgement Date:	