Graduate Council Meeting Minutes
1/18/2023– 3:30-5:00 p.m.

ZOOM LINK: https://uidaho.zoom.us/j/81521354062?from=addon

x	Jerry McMurtry	x	Evan Williamson (Library)	x	Grant Harley (COS) 2024
x	Chris Ludwig (EHHS) 2024		Pedram Rezamand (At-Large/CALS) 2023	x	John Cannon (At-Large/EHHS Boise) 2025
x	Linda Chen (CBE) 2023	x	Kelly Quinnett (CLASS) 2023		TBA (ENGR) 2025
	TBA (CAA)2025	x	Leda Kobziar for Kerri Vierling (CNR/ENVS) 2023	x	Carson Silsby (GPSA)
x	Paul Hohenlohe (UWP) 2024	x	Dan Strawn (CALS) 2023		Adamarie Marquez Acevedo (GPSA)
x	Sarah Wu (At Large/ENGR) 2024				

I.   Minutes from 12/14/2022
      Motion to accept minutes; Vote Approved 8/0/1

II.   Announcements
      a.   Three Minute Thesis (UI) Feb 7th in Nampa. ZOOM link https://uidaho.zoom.us/j/87438765400
      b.   Grad Visit Day Feb 16-17, 2023, 10 spots left.
      c.   Excellence Awards Nominations due Jan. 27. U of I Awards-College of Graduate Studies-University of Idaho (uidaho.edu)
      d.   SBOE Certificate Policy

III. Old Business
      a.   none

IV.   New Business
      Curriculum item: Nuclear Safeguards and Security Certificate. See pdf attachment for details.
      Motion to approve.
      Discussion: 6 credits BSU, 3 credits ISU, 3 credits UI.
      Vote: 9/0/1. Approved to move forward.

      Meeting Adjourned: 3:49 PM

500: NUCLEAR SAFEGUARDS AND SECURITY

In Workflow

1. 468 Chair (icharit@uidaho.edu)
2. 08 Curriculum Committee Chair (colberg@uidaho.edu)
3. 08 Dean (long@uidaho.edu)
4. Provost's Office (kudas@uidaho.edu; mstout@uidaho.edu; jvalkovic@uidaho.edu; gwen@uidaho.edu)
5. Assessment (sara@uidaho.edu)
6. Curriculum Review (V00814390@uidaho.edu)
7. Degree Audit Review (rfrost@uidaho.edu)
8. Graduate Council Chair (slthomas@uidaho.edu)
9. Registrar's Office (none)
10. Ready for UCC (disable)
11. UCC (none)
12. Faculty Senate Chair (mstout@uidaho.edu; jvalkovic@uidaho.edu; cari@uidaho.edu)
13. Provost's Office (kudas@uidaho.edu; mstout@uidaho.edu; jvalkovic@uidaho.edu; gwen@uidaho.edu)
14. State Approval (mstout@uidaho.edu; jvalkovic@uidaho.edu; lindalundgren@uidaho.edu)
15. NWCCU (sara@uidaho.edu; mstout@uidaho.edu)
16. Theodore Unzicker (tunzicker@uidaho.edu)

Approval Path

1. Fri, 04 Nov 2022 18:11:16 GMT
   Indrajit Charit (icharit): Approved for 468 Chair
2. Wed, 07 Dec 2022 18:22:07 GMT
   Patricia Colberg (colberg): Approved for 08 Curriculum Committee Chair
3. Thu, 08 Dec 2022 19:30:38 GMT
   Suzanna Long (long): Approved for 08 Dean
4. Fri, 16 Dec 2022 20:56:46 GMT
   Gwen Gorzelsky (gwen): Approved for Provost's Office
5. Fri, 16 Dec 2022 21:31:07 GMT
   Sara Mahuron (sara): Approved for Assessment
6. Wed, 11 Jan 2023 22:25:19 GMT
   Dwaine Hubbard (dhubbard): Approved for Curriculum Review
7. Thu, 12 Jan 2023 19:39:11 GMT
   Rebecca Frost (rfrost): Approved for Degree Audit Review

New Program Proposal

Date Submitted: Fri, 04 Nov 2022 17:40:23 GMT

Viewing: 500 : Nuclear Safeguards and Security

Last edit: Thu, 12 Jan 2023 19:43:29 GMT

Changes proposed by: Matthew Bernards

Faculty Contact

Faculty Name	Faculty Email
Matthew Bernards	mbernards@uidaho.edu

Will this request have a fiscal impact of $250K or greater?

No

Academic Level

Graduate

College

Engineering

Department/Unit:

Nuclear Engineering and Industrial Mgmt

Effective Catalog Year
2023-2024

Program Title
Nuclear Safeguards and Security

Degree Type
Certificate

Please note: Majors and Certificates over 30 credits need to have a state form approved before the program can be created in Curriculum.

Program Credits
12

Attach Program Change
Proposal_Form-Academic_Certificate UI Final.docx
Budget-Proposal-Form Final.xlsx
2020 Market Demand Study.pdf
IAEA Nuclear Security Educational Program Guidance 12.pdf
2022 Market Demand Study.pdf

CIP Code
14.2301 - Nuclear Engineering.

Will the program be Self-Support?
No

Will the program have a Professional Fee?
No

Will the program have an Online Program Fee?
Yes

Will this program lead to licensure in any state?
No

Will the program be a statewide responsibility?
No

Financial Information

What is the financial impact of the request?
Less than $250,000 per FY

Note: If financial impact is greater than $250,000, you must complete a Program Proposal Form

Discribe the financial impact
Minimal financial impact is expected as this course draws upon existing faculty.

Curriculum:

This fully online graduate certificate is not intended to modify or replace any existing program, and instead will offer students the opportunity to focus their education on a growing workforce need within the United States. The certificate will be tied to the Nuclear Engineering and Industrial Management Department at the University of Idaho (UI), the Nuclear Engineering Department at Idaho State University (ISU), and the School of Public Policy at Boise State University (BSU). All courses are asynchronous and online, and will be available through Online Idaho.

Code	Title	Hours
NE 513	Nuclear Security Science	3
BSU Coursework		6
	PUBADM 555 Security Regulation & Policy for Nuclear, Radiation & Cyber-related Risk	
	CS 581 Cyber Security for the Nuclear Industry	
ISU Coursework		3

NE 4488/5588 Nonproliferation and Safeguards	
Total Hours	**12**

Courses to total 12 credits for this certificate

Course Title and Descriptions:

ISU - NE 4488 / 5588, Nonproliferation and Nuclear Safeguards (3 credits lecture); Offered every other Spring in even years (Spring 2024)

Course Description: https://coursecat.isu.edu/graduate/allcourses/ne/ (https://urldefense.com/v3/__https:/coursecat.isu.edu/graduate/allcourses/ne/__;!!JYXjzlvb!mtGPhnZCNL-oFD3HpKPN4GjfmqPQp1e2WbzTCeYQDflCl2pI129X1375BlvJFfOE0ZXSZz8-1dJpsZQ7Ke_S$/)

Note: BSU links for courses below will updated when available late spring 2023.

BSU - PUBADM 555 Security Regulation and Policy for Nuclear, Radiation and Cyber-related Risk (3 credits lecture); Offered every other Spring in odd years (Spring 2025)

Course Description: This regulation and policy course examines nuclear-radiation security, including cyber-nuclear risk, with an emphasis on the civilian sector. Topics cover: historical developments and relationships across nuclear security, safety and safeguards;
national and international legal frameworks; organizations; transport and import/export; cooperation; culture and management.

BSU - CS581 Cybersecurity for Nuclear Industry (3 credits lecture); Offered every other Fall in even years (Fall 2024)

Course Description: A balance of theoretical and practical knowledge of cyber and information security as it pertains to computing, networking, and electronic communication systems for the nuclear industry. Practical exercises (sometimes in teams) support the theoretical content of the lectures. Examples will be drawn from the nuclear industry.

UI - NE 513 Nuclear Security Science (3 credits lecture); Offered every other Fall in odd years (Fall 2023)

Course Description: An engineering course on threat and risk informed nuclear security covering topics including: physical protection, facility characterization, consequence analysis, access control/delay, insider threats, security culture, transportation security, radiological crime scene, and nuclear forensics. PRE-or-COREQ: BS in Science or Engineering or permission of instructor.

Distance Education Availability

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 which may be completed via distance education.

Can 50% or more of the curricular requirements of this program be completed via distance education?

Yes

If Yes, can 100% of the curricular requirements of this program be completed via distance education?

Yes

Note: Existing programs transitioning from less than 50% of its curricular requirements to 50% or more of its requirements being available via distance education is considered a Group C change and must complete the program proposal formwork before these changes will be processed.

Geographical Area Availability

In which of the following geographical areas can this program be completed in person?

Online Only

Student Learning Outcomes

List the intended learning outcomes for program component. Use learner centered statements that indicate what will students know, be able to do, and value or appreciate as a result of completing the program.

Students completing this program should be able to demonstrate the following nuclear safeguards and security learning objectives:
1. Develop a design basis threat and security plan for a nuclear facility.
2. Discuss and select the elements of a physical protection system.
3. Develop components of a broader community-based nuclear security plan.
4. Recall and provide practical examples of cyber and information security .
5. Use computer and communication security measures.
6. Apply various security techniques (e.g. authentication, access control, threat analysis, intrusion detection, etc.).
7. Possess a fundamental understanding of nuclear energy and the nuclear fuel cycle.
8. Possess a fundamental understanding of radiation detection methods and instrumentation and radiation safety.
9. Possess an understanding of nuclear material accountancy and inventory control.
10. Possess an understanding of nuclear forensic techniques.
11. Develop an advanced understanding of how the security of nuclear technology, related material and associated cyber-risk are overseen and managed at the governmental level.

12. Know the key elements of international and national legal frameworks, nuclear security system, and actors/organizations.
13. Recognize the importance of human factors in nuclear security, including the security culture and insider threats.
14. Be aware of the threats posed by nuclear/radioactive materials and cyber-risks out of regulatory controls as well as knowledge of the regulatory environment to address them.
15. Understand the limits and applicability of policy and regulation for nuclear security and cyber risk.

Describe the assessment process that will be used to evaluate how well students are achieving the intended learning outcomes of the program component.

Program evaluation and assessment to evaluate student learning outcomes will be multi-faceted and will be based on best practices. Program success hinges on factors such as a) student recruitment and participation; b) instructor engagement and commitment to student learning; c) course module and program accessibility for different learning styles; d) quality of course materials and applicability to workforce development gaps as identified; and e) student completion of certificate program and career trajectory, among others.

How will you ensure that the assessment findings will be used to improve the program?

The academic partners will employ a retrospective program assessment to account for student learning outcomes, quality of course materials, and alignment with workforce needs, particularly in the State of Idaho. Additionally, the academic partners will leverage current assessment tools as defined by their universities so as to align with education requirements and objectives for each university and the State. Each course will also be assessed as part of the home department's institutional accreditation process per the established university procedures. These assessments will then be used by course developers and partners to augment, enhance, and alter courses to ensure student learning outcomes as defined by the certificate program partners.

What direct and indirect measures will be used to assess student learning?

Each course will identify specific direct measures for the student outcomes associated with that course. These measures will be reviewed annually by the academic partners.

When will assessment activities occur and at what frequency?

Each course will identify specific direct measures for the student outcomes associated with that course. These measures will be reviewed annually by the academic partners.

Student Learning Outcomes

Learning Objectives

Specific learning outcomes for each course are identified in the attached course syllabi.

Rationale for the proposed change. Include an explanation of how the department will manage the added workload, if any.

This request relates to the creation of a new Graduate certificate program in Nuclear Safeguards and Security. This program is not intended to modify or replace any existing program, and instead will offer students the opportunity to focus their education on a growing workforce need within the United States. The certificate will be tied to the Nuclear Engineering and Industrial Management department at the University of Idaho, the Nuclear Engineering department at Idaho State University, and the Public Policy School at Boise State University. Since the courses already exist, there should be no added workload on the contributing departments.

There is a need for highly qualified experts in nuclear security and safeguards. Jobs in power production, medicine, industrial use, and the military require specialized training to protect against malicious acts with nuclear and radioactive material, including activity through cyber channels. Changes through workforce attrition as well as rapidly evolving technology impact a country's level of readiness for nuclear and radiation-related security and safeguards. In line with this context, the Center for Advanced Energy Studies, including all collaborator institutions, have partnered to offer students and professionals the opportunity to develop unique cross-disciplinary knowledge and expertise. Such training will enhance students' and professionals' performance in careers requiring in-depth understanding of policy and engineering challenges in safeguarding and securing nuclear material and technology.

Supporting Documents

UI Course Nuclear Security Science.pdf
BSU Course Security Regulation and Policy.pdf
BSU Course Cybersecurity (UW).pdf
ISU Course Safeguards.pdf

Reviewer Comments

Linda Lundgren (lindalundgren) (Thu, 15 Dec 2022 16:53:02 GMT): Statewide responsibility changed to "no".

Linda Lundgren (lindalundgren) (Thu, 15 Dec 2022 17:16:30 GMT): The link to ISU course: NE 4488 / 5588, Nonproliferation and Nuclear Safeguards Course added. https://coursecat.isu.edu/graduate/allcourses/ne/ BSU links for courses will updated when available late spring 2023.

Sara Mahuron (sara) (Fri, 16 Dec 2022 21:31:06 GMT): reviewed assessment section. Section complete.

Rebecca Frost (rfrost) (Thu, 12 Jan 2023 19:38:56 GMT): Adjusted curriculum to better fit with catalog formatting as well as an adjustment to the description.

Key: 500