

UNIT REPORT

Nuclear Engineering and Industrial Management (NEIM) - APR Self-Study Report by Academic Unit/Department

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Program Mission

NEIM Department Mission Statement

Program Mission Statement:

The Nuclear Engineering and Industrial Management aims to provide graduate education in the area of Nuclear Engineering, Engineering Management and Technology Management, and undergraduate education in Industrial Technology. Our Nuclear Engineering program provides advanced technical education and quality research experiences to help you meet this demand in industry, government and academia. Engineering Management provides ways to integrate engineering methods, principles and technologies with business whereas Technology Management provides effective planning, selection, implementation and management of technology to solve today's complex and challenging problems. Industrial Technology provides the management and technical skills one needs to bridge the gap between engineers and technicians in fields such as business, manufacturing, industry and government.

Program Goal (add a minimum of 3 program goal "plan items")

Goal 1: Expansion of B.S. Degree Program in Industrial Technology to CDA

Goal Statement:

The Department of Nuclear Engineering and Industrial Management seeks approval to expand the Industrial Technology B.S. degree program to the Northern Idaho.

Alignment to UI Strategic Plan Goals: Transform (Goal 3): Increase our educational impact.

Indicators/Metrics to Evaluate Progress:

Approval of the proposal by SBOE

List of Actions the Program Will Take to Achieve Goals :

Follow university procedures and processes to assess demand and resources, develop and submit proposal.

Goal Achievement Level: In Progress

Goal 2: Develop Department Bylaws and Recruit an Advisory Board

Goal Statement:

Since NEIM is a newly formed department in the College of Engineering, we plan to develop bylaws to govern the department with specific policies, as appropriate, for the individual programs that are consistent with University Faculty-Staff Handbook and APM manuals as well as College of Engineering Bylaws. We also plan to recruit member of an Advisory Board.

Alignment to UI Strategic Plan Goals:

Engage (Goal 2): Suggest and influence change that addresses societal needs and global issues, and advances economic development and culture.

Transform (Goal 3): Increase our educational impact.

Cultivate (Goal 4): Foster an inclusive, diverse community of students, faculty, and staff and improve cohesion and morale.

Indicators/Metrics to Evaluate Progress:

n/a

List of Actions the Program Will Take to Achieve Goals :

Form a faculty committee, develop draft of bylaws, discuss with faculty and others as required by university and college policy, update with input, review and vote by faculty.

Contact professions who could serve on the Advisory Board.

Goal Achievement Level: In Progress

Goal 3: Development an Assessment Plan for all Graduate Degree Programs

Goal Statement:

We intend to consult with other departments in the College of Engineering about their assessment of graduate degree programs.

Alignment to UI Strategic Plan Goals:

Engage (Goal 2): Suggest and influence change that addresses societal needs and global issues, and advances economic development and culture.

Transform (Goal 3): Increase our educational impact.

Cultivate (Goal 4): Foster an inclusive, diverse community of students, faculty, and staff and improve cohesion and morale.

Indicators/Metrics to Evaluate Progress:

TBD

List of Actions the Program Will Take to Achieve Goals :

Under development

Goal Achievement Level: In Progress

Goal 4: Develop an Assessment Plan for all Certificate Programs**Goal Statement:**

Under development

Alignment to UI Strategic Plan Goals:

Engage (Goal 2): Suggest and influence change that addresses societal needs and global issues, and advances economic development and culture.

Transform (Goal 3): Increase our educational impact.

Indicators/Metrics to Evaluate Progress:

TBD

List of Actions the Program Will Take to Achieve Goals :

Under development

Goal Achievement Level: In Progress

Student Learning Assessment Report (add one "plan item" for each major, degree, and/or certificate offered by dept)**Certificate - Nuclear Criticality Safety**

Assessment Report Contact: Indrajit Charit

Program Changes in Past Year:

The certificate is now part of the new NEIM department. This is a graduate certificate program.

Learning Outcomes are Communicated to All Students in Program (check box if true): false

Learning Outcomes are Communicated to All Faculty (check box if true): false

Optional: Framework Alignment:

Import Outcomes Data (from Anthology Outcomes):

n/a

Summary of Student Learning:

under development

Summary of Faculty Discussion:

Summary of Changes/Improvements Being Considered:

n/a

Inter-rater Reliability:

n/a

Closing the Loop:**Certificate - Nuclear Decommissioning and Used Fuel Management**

Assessment Report Contact: Indrajit Charit

Program Changes in Past Year:

The certificate is now part of the new NEIM department and covers concepts and strategies for decommissioning nuclear facilities including project and program management, waste management, and site environmental restorations.

Learning Outcomes are Communicated to All Students in Program (check box if true):

Learning Outcomes are Communicated to All Faculty (check box if true):

Optional: Framework Alignment:

Import Outcomes Data (from Anthology Outcomes):

There is no data available as it is a new graduate certificate program and has not seen any student enrollment yet.

Summary of Student Learning:

n/a

Summary of Faculty Discussion:**Summary of Changes/Improvements Being Considered:**

We are looking into finding ways to get an instructor for our Nuclear Decommissioning course (NE 587) so that the course can be offered in Fall 2022.

Inter-rater Reliability:

n/a

Closing the Loop:**Certificate - Emergency Planning and Management**

Assessment Report Contact: Indrajit Charit

Program Changes in Past Year:

This certificate is now part of the new NEIM department.

Learning Outcomes are Communicated to All Students in Program (check box if true): false

Learning Outcomes are Communicated to All Faculty (check box if true): false

Optional: Framework Alignment:**Import Outcomes Data (from Anthology Outcomes):**

n/a

Summary of Student Learning:

Assessment Plan needs to be developed

Summary of Faculty Discussion:

In progress

Summary of Changes/Improvements Being Considered:

n/a

Inter-rater Reliability:

n/a

Closing the Loop:

n/a

Nuclear Engineering PHD

Assessment Report Contact: Indrajit Charit

Program Changes in Past Year:

The PhD degree program is now part of the new NEIM department

Learning Outcomes are Communicated to All Students in Program (check box if true): false

Learning Outcomes are Communicated to All Faculty (check box if true): false

Optional: Framework Alignment:**Import Outcomes Data (from Anthology Outcomes):**

n/a

Summary of Student Learning:

n/a

Summary of Faculty Discussion:**Summary of Changes/Improvements Being Considered:**

n/a

Inter-rater Reliability:

n/a

Closing the Loop:

Attached Files

[Rubric Thesis & Dissertation - Appendix H.pdf](#)

Certificate - Fire Safety

Assessment Report Contact: Indrajit Charit

Program Changes in Past Year:

This certificate is now part of the new NEIM department. This is an undergraduate certificate program.

Learning Outcomes are Communicated to All Students in Program (check box if true): false

Learning Outcomes are Communicated to All Faculty (check box if true): false

Optional: Framework Alignment:

Import Outcomes Data (from Anthology Outcomes):

n/a

Summary of Student Learning:

n/a

Summary of Faculty Discussion:

Summary of Changes/Improvements Being Considered:

n/a

Inter-rater Reliability:

n/a

Closing the Loop:

Certificate - Human Safety Performance

Assessment Report Contact: Indrajit Charit

Program Changes in Past Year:

The certificate is now part of the new NEIM department. This is an undergraduate certificate program.

Learning Outcomes are Communicated to All Students in Program (check box if true): true

Learning Outcomes are Communicated to All Faculty (check box if true): true

Optional: Framework Alignment:

Import Outcomes Data (from Anthology Outcomes):

n/a

Summary of Student Learning:

n/a

Summary of Faculty Discussion:

Summary of Changes/Improvements Being Considered:

n/a

Inter-rater Reliability:

under development

Closing the Loop:

n/a

Technology Management MS

Assessment Report Contact: Indrajit Charit

Program Changes in Past Year:

The degree program is now part of the new NEIM department

Learning Outcomes are Communicated to All Students in Program (check box if true): false

Learning Outcomes are Communicated to All Faculty (check box if true): false

Optional: Framework Alignment:

Import Outcomes Data (from Anthology Outcomes):

n/a

Summary of Student Learning:

n/a

Summary of Faculty Discussion:

Summary of Changes/Improvements Being Considered:

n/a

Inter-rater Reliability:

n/a

Closing the Loop:**Engineering Management MEngr****Assessment Report Contact:** Indrajit Charit**Program Changes in Past Year:**

This degree program is now part of the new NEIM department.

Learning Outcomes are Communicated to All Students in Program (check box if true): true**Learning Outcomes are Communicated to All Faculty (check box if true):** true**Optional: Framework Alignment:** American Society of Engineering Management (ASEM)**Import Outcomes Data (from Anthology Outcomes):**

n/a

Summary of Student Learning:

The self-study report for ASEM certification of the UI Engineering Management Program is attached.

Attached Files

[U of I EM ASEM Certification Package 2020_final.pdf](#)**Summary of Faculty Discussion:**

We have discussed revamping the mandatory courses in the EM MEngr curriculum and EM faculty provided input. The NEIM Department needs to vote on the EM curriculum changes and will follow the UI processes and procedures to make those changes.

Summary of Changes/Improvements Being Considered:

We would like to include EM 513 (Leading Technical Organizations), a new course to be included in the EM curriculum as a required course in lieu of MHR 513 (Leadership and Organizational Behavior). This opens up opportunities to bring in innovation into the EM curriculum. Also, a project management course like EM 580 (Technical Project Management) is proposed to become a part of the mandatory courses as per ASEM certification recommendations.

Inter-rater Reliability:**Closing the Loop:****Certificate - Nuclear Technology Management****Assessment Report Contact:** Indrajit Charit**Program Changes in Past Year:**

The certificate is now part of the new NEIM department. This is a graduate certificate program.

Learning Outcomes are Communicated to All Students in Program (check box if true): false**Learning Outcomes are Communicated to All Faculty (check box if true):** false**Optional: Framework Alignment:****Import Outcomes Data (from Anthology Outcomes):**

n/a

Summary of Student Learning:

n/a

Summary of Faculty Discussion:**Summary of Changes/Improvements Being Considered:**

n/a

Inter-rater Reliability:

n/a

Closing the Loop:**Nuclear Engineering MS/MEngr****Assessment Report Contact:** Indrajit Charit**Program Changes in Past Year:**

Nuclear Engineering became part of the new Nuclear Engineering and Industrial Management department effective Summer 2020. Essentially, this is a new department in the College of Engineering and administered from Idaho Falls.

Learning Outcomes are Communicated to All Students in Program (check box if true): false

Learning Outcomes are Communicated to All Faculty (check box if true): false

Optional: Framework Alignment:

Import Outcomes Data (from Anthology Outcomes):

n/a

Summary of Student Learning:

under development

Summary of Faculty Discussion:

in progress

Summary of Changes/Improvements Being Considered:

Nuclear Engineering is under the new NEIM department.

Inter-rater Reliability:

under development

Closing the Loop:

n/a

Industrial Technology BSTech

Assessment Report Contact: Indrajit Charit

Program Changes in Past Year:

This program is now part of the new NEIM department.

Learning Outcomes are Communicated to All Students in Program (check box if true): true

Learning Outcomes are Communicated to All Faculty (check box if true): true

Optional: Framework Alignment: Association of Technology, Management and Applied Engineering (ATMAE)

Import Outcomes Data (from Anthology Outcomes):

Please see the attached ATMAE accreditation documents.

Summary of Student Learning:

The Industrial Technology Program is accredited by ATMAE (Association of Technology, Management and Applied Engineering). The self-study report (2018) and compliance report (2020) are attached.

Attached Files

[ATMAE Accreditation_Final Self Study 2-8-18.pdf](#)

[ATMAE_Accreditation_Progress 2020 Univ ID printed.pdf](#)

Summary of Faculty Discussion:

Please find them in the previously attached documentation.

Summary of Changes/Improvements Being Considered:

We do course assessments for our mandatory courses in the Industrial Technology (INDT) Program. Details are included in the attached documents.

Inter-rater Reliability:

Upholding similar standards/criteria as promulgated in the pertinent course syllabi.

Closing the Loop:

Please see the attached documents.

Certificate - Critical Infrastructure Resilience

Assessment Report Contact: Indrajit Charit

Program Changes in Past Year:

The Critical Infrastructure Resilience certificate is part of the new NEIM department. No changes are required.

Learning Outcomes are Communicated to All Students in Program (check box if true):

Learning Outcomes are Communicated to All Faculty (check box if true):

Optional: Framework Alignment:

Import Outcomes Data (from Anthology Outcomes):

n/a

Summary of Student Learning:

Assessment Plan needs to be developed

Summary of Faculty Discussion:

In progress

Summary of Changes/Improvements Being Considered:

n/a

Inter-rater Reliability:

n/a

Closing the Loop:

n/a

Student Achievement

Student Achievement

Student Retention:

We have a large portion of our students as part-time. They take courses in their own time and convenience. So, they cannot take a number of courses together. So, it's hard for us to calculate any retention rate. However, we get several students who return even if they have not taken any courses for a semester or two. The NEIM department is the youngest in the College of Engineering and we are devising ways to determine what student retention activity will be most beneficial. University of Idaho - Idaho Falls Center Student Services Office has different ways to engage with students.

Student Persistence:

The university collects this information and we discuss those at the college level. As described before, it is not useful to do that given the unique nature of our student population.

Student Completion:

Over 80% of our students complete their degrees even if they take longer than traditional students.

Student Postgraduate Success:

Student exit surveys are a tool that we use to assess success.

Identify Equity Gaps:

n/a

Effective Learning Environment and Closing Equity Gaps:

n/a

Demand and Productivity

Demand and Productivity

External Demand:

Strong external demand - our graduates are highly sought after by leading companies and national laboratories.

Internal Demand:

The NEIM Department is new. This analysis is done at the Idaho Falls Center level.

Credit Productivity:

The NEIM Department is new. This analysis is done at the Idaho Falls Center level.

Financial Health and Resources

Financial Health and Resources

Financial Health:

The NEIM Department is dependent on the University of Idaho Idaho Falls Center finances. So, this analysis is done at the center level. The finances come from a combination of general education money, contract funds and course fees. The financial model is different from the main campus at Moscow.

Efficient Use of Resources:

n/a