

UNIT REPORT

Water Resources-Academic - APR**Self-Study Report by Academic****Unit/Department**

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Program Mission

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Program Mission Statement:

Advance water resources education, research and outreach in the state of Idaho through interdisciplinary education encompassing engineering, science, law and policy.

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

Goal 1. Effective Research Design

Goal Statement:

Students will develop the breadth and depth of disciplinary understanding and critical thinking skills to design research focused on water resource challenges.

Alignment to UI Strategic Plan Goals:

Innovate (Goal 1): Scholarly and creative products of the highest quality and scope, resulting in significant positive impact for the region and the world.

Indicators/Metrics to Evaluate Progress:

Completion of research-based theses and dissertations.

List of Actions the Program Will Take to Achieve Goals :

Faculty will mentor students in the development of research plans or proposals.

Goal Achievement Level: In Progress

Goal 2. Interdisciplinary Understanding

Goal Statement:

Students will understand the diverse philosophical bases of different water resources disciplines to work effectively in interdisciplinary teams.

Alignment to UI Strategic Plan Goals:

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

Indicators/Metrics to Evaluate Progress:

Students will successfully complete a core course in integrated water resource methods.

List of Actions the Program Will Take to Achieve Goals :

A team of interdisciplinary program faculty members will regularly teach and assess an interdisciplinary methods course.

Goal Achievement Level: Met

Goal 3. Effective Science Communication

Goal Statement:

Student will develop written and oral communication skills to engage professional peers and the public in a concise, factually accurate, mechanically correct, and engaging manner.

Alignment to UI Strategic Plan Goals:

Innovate (Goal 1): Scholarly and creative products of the highest quality and scope, resulting in significant positive impact for the region and the world.

Indicators/Metrics to Evaluate Progress:

Completion of research-based water resources thesis, dissertation, and outreach publications.

List of Actions the Program Will Take to Achieve Goals :

Program faculty will mentor students the completion of research publications.

Goal Achievement Level: Met

Student Learning Assessment Report (add one "plan item" for each major, degree, and/or certificate offered by dept)

Water Resources Engineering and Science Option (M.S.)

Assessment Report Contact: Timothy E. Link

Program Changes in Past Year:

Total required course credits were reduced to reflect reduction in required courses from the previous year and to align program requirements with CoGS minimums. Learning outcomes were refined for the current version of the catalog.

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: na

Import Outcomes Data (from Anthology Outcomes):

No outcomes were formally assessed this reporting cycle because there has been no effective guidance provided to program leadership for how to design and implement a meaningful assessment program.

1.

Apply, Engage, Understand

Graduates will possess skills and breath of perspectives to apply ethical, socially responsible practice in research and problem solving; engage with communities and stake holders; and understand the different philosophical constructs and paradigms of different WR professions.

Academic Year 2020-2021: **Water Resources-Engr & Sci Opt (M.S.)**

Term: **Overview**

No Results

2.

Purpose & Perspective

Clarify Purpose and Perspective - Graduates understand perspectives of different WR professions and stakeholders through transformational experiences that foster an understanding of one's own role, relationships to other participants, and diverse global perspectives.

Academic Year 2020-2021: **Water Resources-Engr & Sci Opt (M.S.)**

Term: **Overview**

No Results

3.

Communication Skills

Student is capable of communicating in written and oral forms with academic, scientific, and professional peers as well as the general public in a concise, factually accurate, mechanically correct, and engaging manner.

Academic Year 2020-2021: **Water Resources-Engr & Sci Opt (M.S.)**

Term: **Overview**

No Results

4.

Purpose & Perspective

Clarify Purpose and Perspective - Graduates understand perspectives of different WR professions and stakeholders through transformational experiences that foster an understanding of one's own role, relationships to other participants, and diverse global perspectives.

Academic Year 2020-2021: **Water Resources-Engr & Sci Opt (M.S.)**

Term: **Overview**

No Results

5.

Professionalism

Graduates will possess skills and breath of perspectives to apply ethical, socially responsible practice in research and problem solving; engage with communities and stake holders; and understand the different philosophical constructs and paradigms of different WR professions.

Academic Year 2020-2021: **Water Resources-Engr & Sci Opt (M.S.)**

Term: **Overview**

No Results

Summary of Student Learning:

No findings to report, see 'Import Outcomes Data' section above.

Summary of Faculty Discussion:

Increased interdisciplinary academic activities are being considered as a programmatic requirement to maintain the interdisciplinary distinctiveness of the program.

Summary of Changes/Improvements Being Considered:

Development and implementation of a formal assessment program is planned for future assessment periods, now that we're aware of the system and information needed to complete program assessments.

Inter-rater Reliability:

Faculty members are encouraged to evaluate whether thesis and dissertation chapters are publishable as peer-refereed manuscripts within their respective disciplines to ensure both high-quality research outputs and consistency of evaluation across the program.

Closing the Loop:

No previous formal assessments have been completed. Student satisfaction and the time to graduation has been improved due to the removal of the required WR507 Projects course and interdisciplinary thesis chapter.

Water Resources Engineering and Science Option (Ph.D.)

Assessment Report Contact: Timothy E. Link

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Student Achievement

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Student Retention:

Student retention is monitored by comparing student persistence and graduation data between years. Since this is a graduate program, the Director is in frequent discussions with students and is typically aware of retention issues.

Student Persistence:

Student persistence is monitored by reviewing records of enrolled students approximately 4 weeks after the start of the semester. Program enrollment is currently 30 (10 PhD (7M,3F) and 20 MS (9M,11F). There are 3 international students, 2 Tribal, 1 hispanic, and 24 caucasian students in the program.

Student Completion:

Student completion is monitored by tracking final thesis or dissertation submittals. Data have not yet been compiled for the previous year.

Student Postgraduate Success:

The program monitors postgraduate success via exit interviews with most students. Long term success is currently not tracked.

Identify Equity Gaps:

In general, programmatic gender equity has been very good although recently a gender equity gap has emerged among the PhD students. Race/ethnic diversity continues to represent an opportunity for improvement.

Effective Learning Environment and Closing Equity Gaps:

Research assistantships are prioritized in part to support underrepresented groups in STEM to help close equity gaps. The program has also partnered with the Bridges to Doctorate program to facilitate the education of indigenous students in water resources.

Demand and Productivity

Demand and Productivity

External Demand:

External demand for the Water Resources Graduate Program remains high and the program continues to reject excellent applicants due either to lack of faculty capacity to advise students and/or available research funding.

Internal Demand:

The Water Resources Graduate Program is a University-Wide Program that primarily draws on course offerings from other departments. Several water resources courses are cross-listed with other programs (i.e. NRS, ENVS, SWS, and AGECE) and hence serve students from diverse programs across the University of Idaho.

Credit Productivity:

There is a strong opportunity to grow enrollment in water resources courses across campus by developing more online courses and implementing a non-thesis Professional Science Master's option.

Financial Health and Resources

Financial Health and Resources

Financial Health:

The program has a modest operating budget (\$4000/yr) which has been adequate for the program operation since travel has been curtailed due to COVID. The program also has access to 2 research assistantships which have proved very useful in recruiting new students, helping to fund new faculty members, and recruiting underrepresented individuals in STEM.

Efficient Use of Resources:

Meetings are held by Zoom whenever possible and physical travel only occurs for meetings with stakeholders to develop funded student projects.

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