

**Academic Plan 2009-2014**  
**Department of Civil and Architectural Engineering**  
**University of Wyoming**

**MISSION**

The mission of the Department of Civil and Architectural Engineering at the University of Wyoming is to:

1. Educate civil and architectural engineers to design, build, operate and manage sustainable human habitat and infrastructure systems for Wyoming and the world.
2. Develop the technical solutions to support sustainable human habitat and infrastructure systems through research, innovation, application, design, and technology transfer.

**GOALS AND ACTION ITEMS**

**Goal 1: Enhance our two ABET-accredited undergraduate programs in civil and architectural engineering**

Action Item 1.1 Maintain ABET accreditation for our two undergraduate programs in civil and architectural engineering during the 2009 accreditation cycle.

Action Item 1.2 Create a culture where ABET accreditation activities are recognized as part of continuous program improvement.

Action Item 1.3 Identify appropriate undergraduate class sizes and resources to ensure instructional outcomes and maintain those to the extent possible.

Action Item 1.4 Evaluate the viability of enacting a gateway requirement for students to proceed into their junior level program.

Action Item 1.5 Maintain and enhance our laboratory and computational facilities to support effective instruction and currency with our profession.

**Goal 2: Increase retention of faculty and academic professionals**

Action Item 2.1 Work with the College to develop named Professorships so as to recognize excellent faculty members and encourage their continued development.

Action Item 2.2 Work with the College to address salary competitiveness and salary compression.

Action Item 2.3 Participate in the College-wide Mentoring Program for untenured faculty.

**Goal 3: Increase the number of MS and PhD graduates from the Department**

Action Item 3.1 Develop and implement a graduate student recruitment plan.

Action Item 3.2 Develop and implement an MS program in Architectural Engineering.

Action Item 3.3 Participate as a central member in the Interdisciplinary Water Resources/ Environmental Science and Engineering (WRESE) Doctoral program.

Action Item 3.4 Pursue new faculty positions in Geotechnical Engineering and Water Resources Engineering to enhance graduate opportunities in those fields.

- Action Item 3.5 Evaluate the viability of developing a PhD program in Architectural Engineering.
- Action Item 3.6 Evaluate existing PhD programs of study in the Department and develop and implement plans to strengthen those programs of study as appropriate.
- Goal 4: Sustain and enhance extension activities**
- Action Item 4.1 Provide continuing support for the Wyoming Technology Transfer Center and Local Technical Assistance Program (T2/LTAP).
- Action Item 4.2 Provide continuing support for the Wyoming Water Resources Data System (WRDS) including the Wyoming Water Library, the Wyoming State Climate Office and the Wyoming State Climatologist.
- Goal 5: Increase our capacity to develop technical solutions to support sustainable human habitat and infrastructure systems**
- Action Item 5.1 Increase the Department's overall research portfolio, especially in the areas of energy production and conservation, water resource management and water quality, transportation systems, and sustainable building design.
- Action Item 5.2 Increase interactions with the School of Energy Resources, the Ruckelshaus Institute for the Environment and Natural Resources, the Historic Preservation program in American Studies, and other appropriate UW entities such as but not limited to the Departments of Mathematics, Geology and Geophysics, Renewable Resources, Geography, Chemistry, Molecular Biology and Plant Sciences.
- Action Item 5.3 Identify opportunities to enhance the Department's research capabilities in conjunction with the University of Wyoming-National Science Foundation computational facility.
- Action Item 5.4 Develop and implement a plan to renovate and upgrade the Department's research facilities.
- Goal 6: Sustain and enhance outreach education**
- Action Item 6.1 Develop and implement a plan in conjunction with the Outreach School to support and strengthen the Land Surveying Certificate program and achieve economic sustainability for that program.
- Action Item 6.2 Evaluate the viability of offering additional coursework and/or programs in conjunction with the Outreach School.

## **IMPLEMENTATION**

The academic plan is a dynamic document, to be evaluated and updated as appropriate in response to goal accomplishment and changing external factors. The initial implementation plan is summarized in Table 1, which identifies the specific action item, the deliverable(s), the expected year(s) the action will be conducted, and the party(ies) responsible for leading the action. In many cases, the reports prepared as outlined in Table 1 will lead to additional actions and metrics that will become incorporated into the plan.

**Table 1. Action Plan Implementation Schedule and Deliverables**

<b>Action Item<sup>a</sup></b>	<b>Deliverable(s)</b>	<b>Schedule</b>	<b>Lead Party(ies)</b>
<b><i>Goal 1</i></b>			
1.1	Six-year accreditation for both programs.	2009	UPD <sup>b</sup> and Head
1.2	Annual assessment reports of ABET activities.	2010-2014	UPD and Head
1.3 (a)	Department-approved report that describes different instructional outcomes, summarizes the courses associated with each outcome and recommends appropriate class sizes.	2010	CTLC <sup>c</sup>
1.3 (b)	Annual reports comparing actual class sizes to recommended class sizes.	2011-2014	Head
1.4	Department-approved report that evaluates the need for a gateway requirement, compares different gateway alternatives, evaluates implementation factors and provides a recommendation to implement or not.	2011	CTLC
1.5 (a)	Laboratory and computational facilities assessment report documenting current capabilities and expected future needs, and including a development plan to meet future needs.	2010	UPD
1.5 (b)	Annual reports evaluating progress against plan.	2011-2014	UPD
<b><i>Goal 2</i></b>			
2.1 (a)	Prospectuses to support Professorships in areas of excellence.	2010-2011	Faculty
2.1 (b)	Donations to support Professorships.	2011-2014	Head and College
2.2	Annual merit pay evaluations and salary recommendations.	2009-2014	Head
2.3 (a)	Tenured faculty identified to serve as mentors.	2009	Faculty
2.3 (b)	Untenured faculty participating in the College mentorship program.	2009-2014	Head
<b><i>Goal 3</i></b>			
3.1 (a)	Department-approved report that summarizes past graduate student enrollments, identifies enrollment goals for MS and PhD students, and proposes a recruitment plan to achieve goals.	2010	Graduate Committee
3.1 (b)	Annual reports summarizing graduate student enrollments and progress against plan.	2011-2014	Head
3.2 (a)	Department-approved report describing the need, the curricula and the staffing requirements for an MS program in Architectural Engineering.	2009	ARE Faculty and Graduate Committee

**Table 1. Action Plan Implementation Schedule and Deliverables (cont.)**

<b>Action Item<sup>a</sup></b>	<b>Deliverable(s)</b>	<b>Schedule</b>	<b>Lead Party(ies)</b>
3.2 (b)	Graduate School approval for an MS program in Architectural Engineering.	2009	Head
3.2 (c)	Annual reports summarizing enrollments in the MS program in Architectural Engineering.	2010-2014	Head
3.3	PhD students supervised in the WRESE program.	2009-2014	Water Resources and Environ. Eng. Faculty
3.4	Annual CPM requests submitted for positions in Geotechnical Engineering and Water Resources Engineering until the positions are received.	2009-2014	Head and Faculty in those areas.
3.5	Report for Department consideration describing the need, the curricula and the staffing requirements for a PhD program in Architectural Engineering.	2012	ARE Faculty and Graduate Committee
3.6 (a)	Department-approved report summarizing the current PhD programs of study, evaluating their efficacy, proposing goals for specific programs of study and presenting a plan to achieve those goals.	2010	Graduate Committee
3.6 (b)	Annual reports summarizing actions taken to achieve goals and including a summary of PhD enrollments.	2011-2014	Head
<b>Goal 4</b>			
4.1	T2/LTAP receives space, faculty support (Director) and administrative support for operations.	2009-2014	Head
4.2	WRDS receives space, personnel support (Director) and administrative support for operations.	2009-2014	Head
<b>Goal 5</b>			
5.1 (a)	Report summarizing Department's current research portfolio with target areas identified.	2009	Head
5.1 (b)	Department-approved plan specifying goals for research activity.	2010	Head
5.1 (c)	Annual reports summarizing the Department's research portfolio and progress toward the goals.	2010-2014	Head
5.2	Annual reports summarizing interactions with appropriate UW entities.	2010-2014	Head
5.3	Report for Department consideration describing opportunities to enhance research capabilities with the UW-NSF computational facility.	2010	Selected Faculty
5.4 (a)	Research facilities assessment report documenting current capabilities and expected future needs, and including a plan to renovate and upgrade.	2010	Head and Research Faculty
5.4 (b)	Annual reports summarizing progress against plan.	2011-2014	Head

**Table 1. Action Plan Implementation Schedule and Deliverables (cont.)**

<b>Action Item<sup>a</sup></b>	<b>Deliverable(s)</b>	<b>Schedule</b>	<b>Lead Party(ies)</b>
<b><i>Goal 6</i></b>			
6.1 (a)	Report that summarizes the Land Surveying Certificate Program curriculum, instructors, enrollment and financial performance, and presents a curricular, instructional and business plan with specific growth and financial targets.	2010	DLSCP <sup>d</sup>
6.1 (b)	Annual reports summarizing progress against plan.	2011-2014	DLSCP
6.2	Report identifying coursework and/or programs to be offered in conjunction with the Outreach School.	2011	Selected Faculty

<sup>a</sup>Described in earlier sections

<sup>b</sup>UPD = Undergraduate Program Director

<sup>c</sup>CTCL = Department Curriculum, Teaching and Learning Committee

<sup>d</sup>DLSCP = Director of Land Surveying Certificate Program