Tier 1 Engineering Initiative Update
November 2025

CEPS Tier-1 Goals

The University of Wyoming's Tier-1 Engineering Initiative, launched in 2012, is a comprehensive effort to transform the College of Engineering and Physical Sciences into a nationally recognized leader in engineering education and research. This initiative focuses on four strategic goals:

- **Excellence in Undergraduate Education:** Enhancing educational programs to produce highly skilled graduates who are in demand by employers.

- **World-Class Research and Graduate Education:** Building interdisciplinary research capabilities in selected areas that significantly impact Wyoming and the nation.University of Wyoming

- **Productive Economic Development through Partnerships:** Collaborating with state agencies, national organizations, and industry to translate research findings into economic growth for Wyoming.

- **K–14 STEM Education:** Introducing STEM concepts early in education and enriching STEM skills among university freshmen and sophomores to improve performance and retention.

Tier 1 annual budget is $9.3M

UW | College of Engineering and Physical Sciences

$2.50M 27.5 faculty salaries

$0.79M 13.1 staff salaries

$1.33M fringe

$1.55M 33 GAs

$1.36M start-ups

$0.63M equipment/renovations/maintenance

$0.48M undergrad scholarships

$0.36M teacher AI/CS workshops

$0.18M marketing+makerspace+career services

$0.15M seed grants

Tier 1 Engineering Initiative

College of Engineering and Physical Sciences — UW

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Color Key
Colors are included with goals that these groups could possibly pertain to.

Career Services	K–14 STEM Outreach	Recruiting
Academic Advising	Marketing & Communications	Alumni & Development
Faculty and Departments	Graduate Programs & Research Offices	Corporate Partnerships

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Goal #7 The college proposes to develop a unique relationship with its industry and agency partners by exploring opportunities to formally develop a required UW/industry/agency leadership program for all undergraduate engineering and computer science students.

Goal #8 UW will develop a systematic approach to collect employment data of its engineering college graduates by initiating an aggressive survey in January of the preceding academic year's graduates.

Goal #9 The opportunities to engage engineering and science alumni are multifaceted and UW would be well served to survey the landscape of various forms of alumni involvement with engineering schools. Armed with this information, the college will make a concerted effort to engage our alumni in activities designed to enhance the undergraduate experience.

Goal #10 UW should boldly develop the niche areas over the next decade, with the goal of achieving international prominence in each.

Goal #11 The college will strive to create an atmosphere that promotes industry collaboration on research and academic programs that are responsive to the most current technologies utilized today. We embrace the idea promoted by the Task Force of periodically conducting workshops with corporate CEO's and research vice presidents to keep the college connected to the most pressing challenges of the day.

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College of Engineering and Physical Sciences

	Research Funding $/TT[1]	Ph.D. grads/TT[1]	MS grads/TT[1]	BS grads/TT[1]	US News (Graduate Engr)[2]	25th and 75th Percentile ACT Scores[2]	Acceptance Rate %[2]
Engineering Metrics 2011							
School							
Cal-Berkeley	861,226	1.06	1.54	3.87	3	28-34	22
Illinois Urbana-Champ.	572,606	0.71	1.41	3.59	5	26-31	68
Georgia Tech	534,098	0.71	2.49	4.33	5	28-33	51
Michigan	520,826	0.59	2.33	3.55	7	28-32	46
Texas at Austin	634,067	0.70	1.78	3.88	8	25-31	47
Purdue University	653,849	0.71	1.52	4.43	10	23-29	68
Texas A&M	843,966	0.61	2.09	3.79	12	24-29	64
UCLA	652,464	0.87	2.86	4.99	16	26-33	25
Wisconsin-Madison	684,203	0.70	2.67	3.66	17	26-30	51
Washington	495,711	0.48	1.79	3.51	26	23-30	58
Statistics							
Average	645,301	0.71	2.05	3.96		26-31`	50
Max	861,226	1.06	2.86	4.99			
Min	495,711	0.48	1.41	3.51	199		
University of Wyoming	162,200	0.14	0.74	2.43	132		
Wyoming Ratio	0.19	0.20	0.36	0.61	34%	22-27	96
University of Utah	551,417	0.47	1.47	2.62	51		
Utah Ratio	0.85	0.66	0.72	0.66	74%	21-27	83
University of Arizona	349,955	0.53	1.23	2.85	48		
Arizona Ratio	0.54	0.74	0.60	0.72	76%	21-27	74

1. Source: ASEE 2011 Database
2. Source: US News and World Report (2014)

None in the top quartile is non-selective
Will re-start reporting the data to USNWR

Tier 1 Engineering Initiative – metrics

Engineering Metrics 2011

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Engineering metrics 2022

School	Research Funding $/TT[1]	PhD grads/TT[1]	MS grads/TTP[1]	BS grads/TT[1]	US News (Grad Eng)[2]	25th-75th % ACT	Acceptance Rate %[2]
Cal Berkeley	941,751	1.06	4.58	7.22	3		12
U. Illinois	571,073	0.78	2.56	5.33	7		44
Georgia Tech	673,960	0.83	2.98	5.81	4		16
U. Michigan	708,669	0.70	2.55	5.16	11		18
UT Austin	1,065,227	0.70	1.36	5.15	7		29
Purdue	824,280	0.94	1.21	6.47	5		50
Texas A&M	817,381	0.73	1.71	6.98	15		63
UCLA	553,018	1.10	3.35	5.75	13		9
U. Wisconsin	544,062	0.56	1.64	6.29	27		43
U. Washington	608,447	0.67	3.21	5.25	20		43
Statistics							
Average	730,787	0.81	2.51	5.94	11		33
Max	1,065,227	1.10	4.58	7.22	27		63
Min	544,062	0.56	1.21	5.15	3		9
U. Wyoming	292,612	0.39	0.49	3.82	n/a	22-29	97
Wyoming ratio	0.40	0.48	0.19	0.64			
U. Utah	400,500	0.62	1.40	3.81	58		87
Utah ratio	0.55	0.77	0.56	0.64			
U. Arizona	196,906	0.25	1.30	3.35	69		86
Arizona ratio	0.27	0.31	0.52	0.56			

Source 1: ASEE 2022 Database
Source 2: US News and World Report (2025)

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Center of Innovation for Flow through Porous Media

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Undergraduate Research Scholarships

- *$480k FY26: 61 students @ $8k/yr/student*
- *Original Tier 1 recommendation:*
  award top 25% and we fund top 5.5%
- *Moving forward: fundraising*

![UW College of Engineering and Physical Sciences logo]

CEPS undergraduate student recruiting

Recruiting coordinator annually visits or meets with reps from every WY high school & CC

New: Buffalo 🏈, Houston, Front Range, California, Alberta

New 2+2 possibilities for engineering
- **SAIT and NAIT (Calgary & Edmonton)**
- **Canisius University (Buffalo)**

UW | College of Engineering and Physical Sciences

We recently hosted five 2nd year SAIT students

Average Ratings (1–5 stars):

- First Impression of Laramie — ★★★★★
- First Impression of Campus — ★★★★★ (two students joked, "Is six stars possible?")
- Culture and Community Feel — ★★★★★

- Petroleum Engineering Department — ★★★★★

Student Feedback:

"Easily the people were the best and most key part."
"This place is amazing! The facilities, students, faculty… I can't believe I didn't know about it sooner."
"Before visiting UW, I wasn't considering it at all. Now I'll do whatever it takes to transfer."
"The day I got home, I applied. I'm already thinking about how great life will be in Laramie."
"It makes me sad that so many students don't know how special the University of Wyoming is."

Most Importantly:

When asked, *"On a scale of 0–5, how likely are you to transfer to UW?"* the **average response was 5.0**. Every student said they are *extremely likely* to transfer.

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We annually track the performance of Tier 1 scholarship recipients. The vast majority maintain high GPAs and graduate from UW.
- 98% 6-year graduation rate for scholarship recipients
- 60% 6-year graduation rate UW overall

For post-graduation assessment including employer satisfaction, we send out surveys to graduates (see Goal #8).

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Engineering Science (ES) courses serve as the backbone of the undergraduate engineering curriculum.

Taught by cohort of dedicated lecturers, who are actively working to include more computational science into the ES courses.

Still want to incorporate more CS throughout engineering curriculum
- *AI in 3000-level chemical engineering*
- *CEPS/SoC/Honors course in Applied Computing & Prototyping*
- *Aiming for strategic hires in CS to buttress this effort*

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UW pass rate is 73%, slightly higher than national average

Caveat: we require the exam of all graduates; most schools do not. This requirement was motivated by alumni and industry.

We are revitalizing our coaching for the Fundamentals of Engineering exam, including:
- practice tests
- review sessions
- tutorials

![UW College of Engineering and Physical Sciences logo]

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2/3 of our undergraduate receive experiential learning
- **Off-campus internships**
- **On-campus lab research**
- **Field-relevant off-campus job**

New / renewed:
- **Collaboration with the Wyoming Research Scholars Program**
- **UW Office of Industry and Strategic Partnerships**
- **Making a strong push on career fairs, alumni connections**
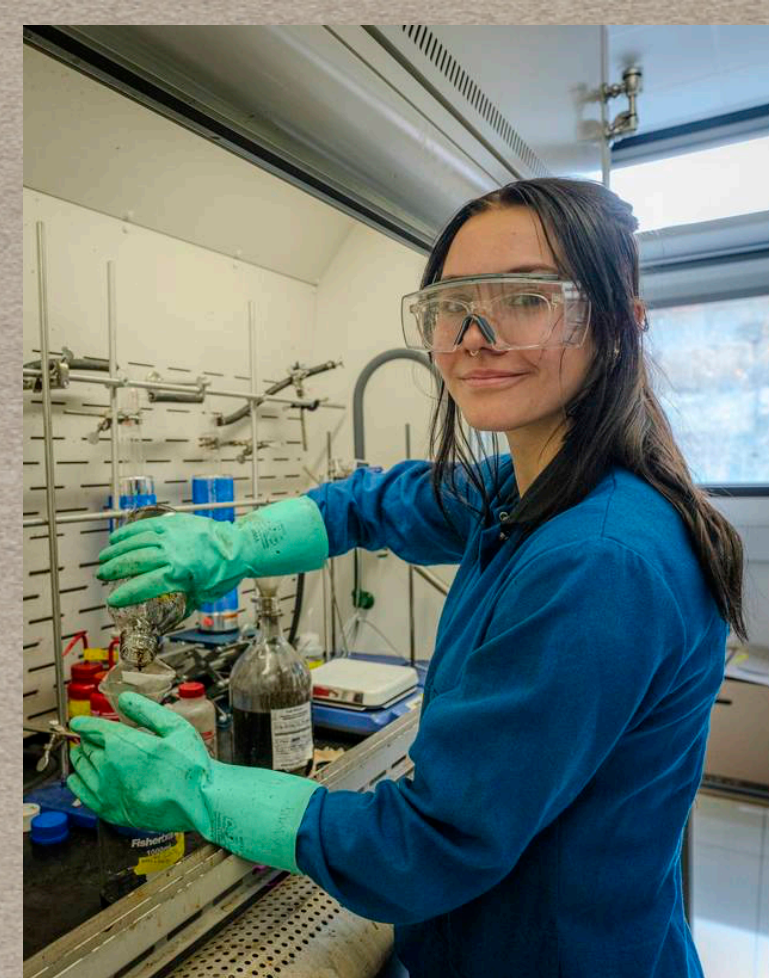
STEM and Design, Construction, and Building Fairs

Spring 2025
Held at Gateway Center
Attendance: 432
Post-survey: #1 reason for no-shows: class

Fall 2025
Held in Student Union
Attendance: 800

Going forward

- Surveying seniors needs to be strengthened
- Fundraising for more on-campus internships
- Cowboy Connection Program – monthly student interviews with alumni
- Employer Engagement Guide

College of Engineering and Physical Sciences

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- *Leadership Academy – CoB and Leadership WY*
- *Leadership minor – CoB*
- *Agency & industry speakers regularly invited to engineering courses*
- *Professional coaching for CEPS students*
- *Industry partners frequently train students on resumes, cover letters, interviewing, networking*

Many aspirational peers have leadership training
Berkeley, UIUC, GaTech, Michigan, Washington, …

Going forward – more industry partnerships and leadership training

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The CEPS Career Services Center works closely with UW's ACES to survey students post-graduation. Response rate could be better.

Recommendation: require an 'exit survey' before graduating

2024 post-graduation plans (survey response rate of 73.4%)
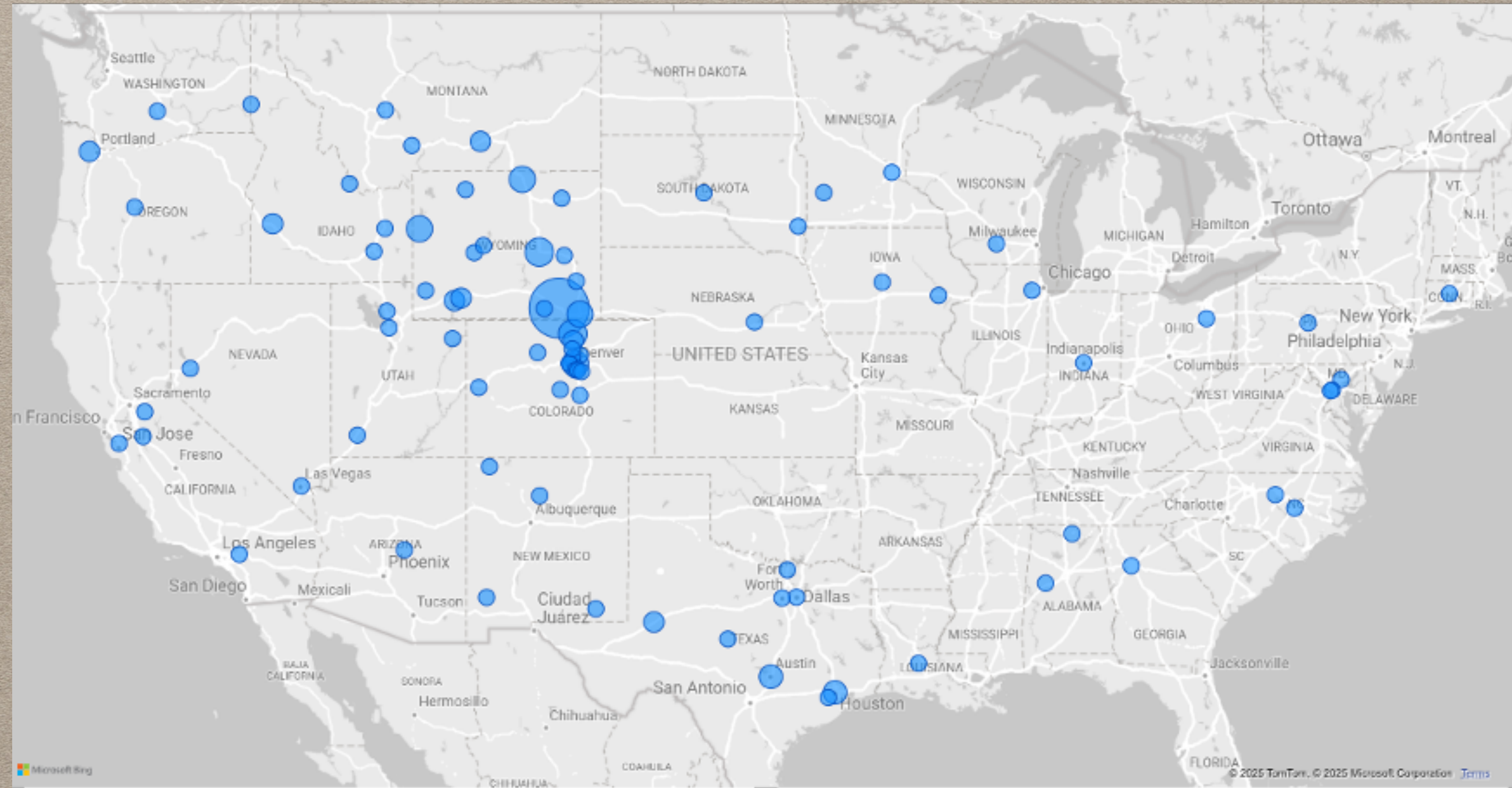67.5% Accepted employment
14.1% Grad school
 1.7% Military
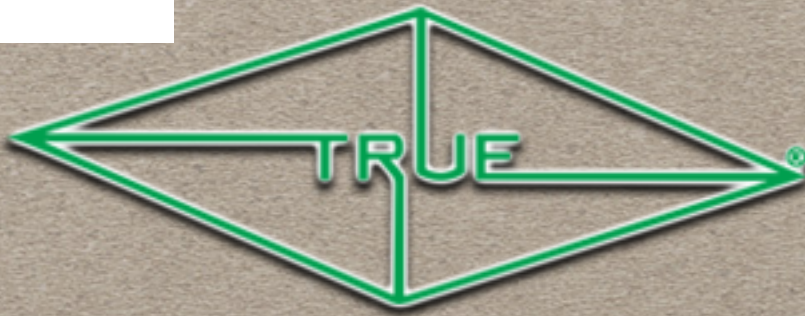15.7% Still looking
 0.3% Volunteering

40% Stayed in WY

Salary information for bachelor's recipients

Major	Average Salary Offer	Median Salary Offer	Range of Salary Offers
Architectural Engineering	$63,333	$66,000	$50,000 - $74,000
Chemical Engineering	$75,800	$78,000	$66,000 - $80,000
Civil Engineering	$69,985	$70,250	$45,000 - $87,100
Computer Engineering	$92,333	$92,000	$85,000 - $100,000
Computer Science	$72,800	$72,000	$51,000 - $85,000
Construction Management	$73,055	$72,000	$62,000 - $80,000
Electrical Engineering	$97,166	$96,500	$80,000 - $115,000
Mechanical Engineering	$78,607	$76,500	$61,000 - $108,000
Petroleum Engineering	$107,100	$110,000	$75,500 – $120,000

Notable employers

College of Engineering and Physical Sciences

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Goal #9 The opportunities to engage engineering and science alumni are multifaceted and UW would be well served to survey the landscape of various forms of alumni involvement with engineering schools. Armed with this information, the college will make a concerted effort to engage our alumni in activities designed to enhance the undergraduate experience.
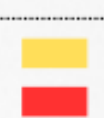
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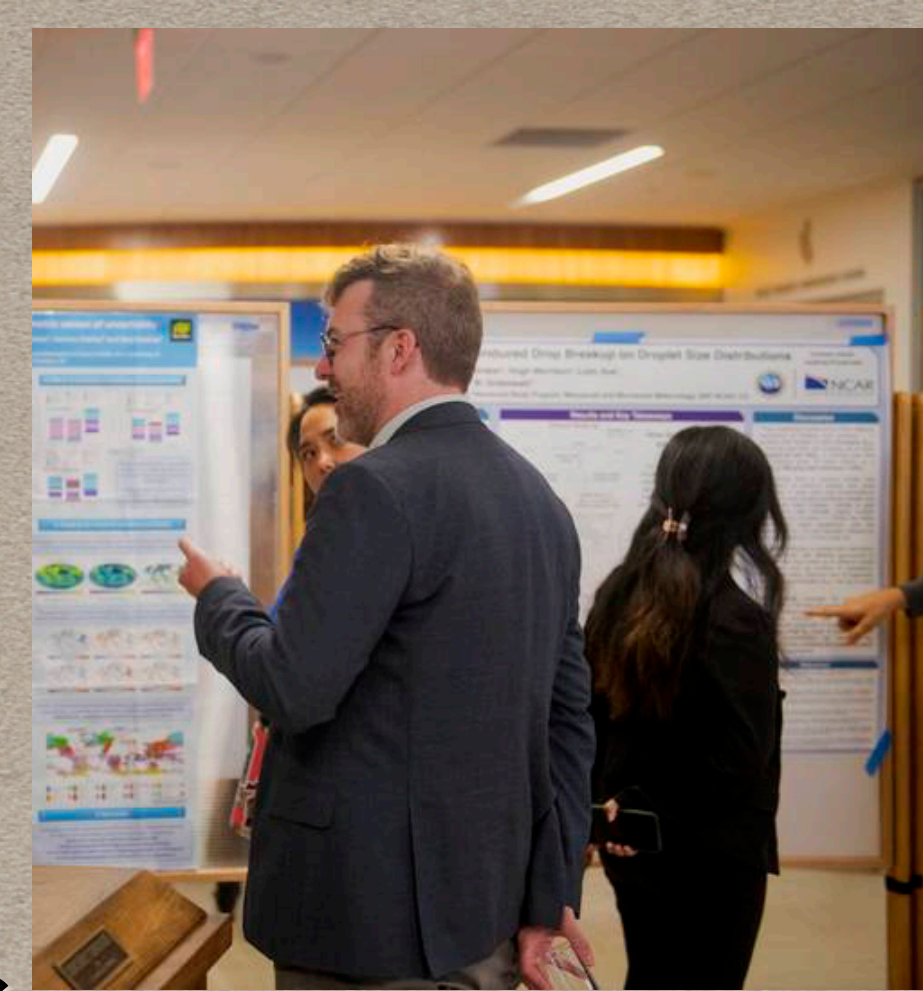
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New: Cowboy Connections (mentioned for Goal #6)
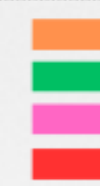
Alumni are regularly invited to engage with our students
- **Class visits**
- **Senior design judges**
- **'Speed networking' career advice (with SER)**
- **Propose/sponsor student projects, e.g., 9H Foundation**

New: working with the UW Alumni Association
New: all distinguished alumni that come to campus through UWF-related visits are encouraged to speak in engineering courses.

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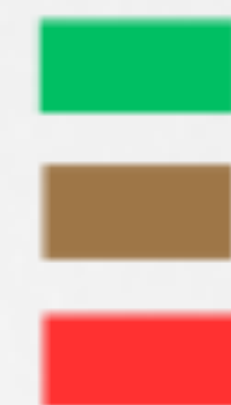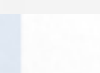
Goal #5 The college aspires to have a consistent

Goal #10 UW should boldly develop the niche areas over the next decade, with the goal of achieving international prominence in each.

college will make a concerted effort to engage our alumni in activities designed to enhance the undergraduate experience.

achieving international prominence in each.

Goal #11 The college will strive to create an atmosphere that promotes industry collaboration on research and academic programs that are responsive to the most current technologies utilized today. We embrace the idea promoted by the Task Force of periodically conducting workshops with corporate CEO's and research vice presidents to keep the college connected to the most pressing challenges of the day.

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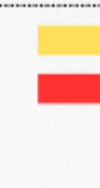
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Original areas suggested in the Tier 1 report:
- **Unconventional reservoirs**
- **Advanced energy technologies and energy conversion and delivery**
- **Computational science and engineering**
- **Atmospheric sciences**
- **Water resources**
- **Biological and biomedical engineering**

Refined focus areas, in partnership will SER, SoC, SI:
- **_Computational science_**
    - **_AI, cybersecurity, simulation, modeling, data science_**
    - **_New – working group established_**
- **_Critical minerals & advanced materials_**
    - **_New – working group established_**
- **_Quantum information science and engineering (SI center)_**
- **_Controlled environment agriculture_**
- **_Nuclear energy_**

Federal funding emphasis; aligned with state priorities

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- **New: Office of Industry and Strategic Partnerships**
- **Industry advisory boards for all engineering units**
- **We annually survey employers on needed skills**
- **Hired Professors of Practice**

Recent industry collaborations

- **HF Sinclair – chemical engineering process control lab**
- **JR Simplot – chemical and biomedical engineering; electrical engineering and CS**
- **Associated General Contractors of America – construction management**
- **Multidisciplinary Advanced Stimulation Lab – petroleum engineering**
- **Safran Passenger Innovations – electronics and interfaces**
- **BWXT – nuclear energy**
- **Trona industry – process control labs**

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We have added 33 GAs, several targeted toward key priorities

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Goal #6 UW's College of Engineering and Applied Science aspires to have 90% of its graduates complete at least one professional internship by the time of graduation. The college will actively partner with prospective employers to achieve this goal.

Goal #7 The college proposes to develop a unique relationship with its industry and agency partners by

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CEPS partners with Center for Entrepreneurship & Innovationation

UW recently held Innovation Week activities
•Panels on Promotion & Tenure Innovation and Entrepreneurship
•Launch of the student entrepreneurship club
•Accelerating Research Translation ambassador workshops

NSF Great Plains I-Corps Hub
•Training for moving ideas and technology to commercialization

Moving forward
CEPS Faculty Council – incorporating EI into tenure and promotion

College of Engineering and Physical Sciences (UW)

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A full-time marketing specialist is funded by Tier 1

Expanding into social media – Instagram, Facebook, LinkedIn

Wholesale website upgrades

Going forward: marketing videos, updated photography, interns

Saddle Up winners 2025

UW | College of Engineering and Physical Sciences

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- **Engineering Summer Program**
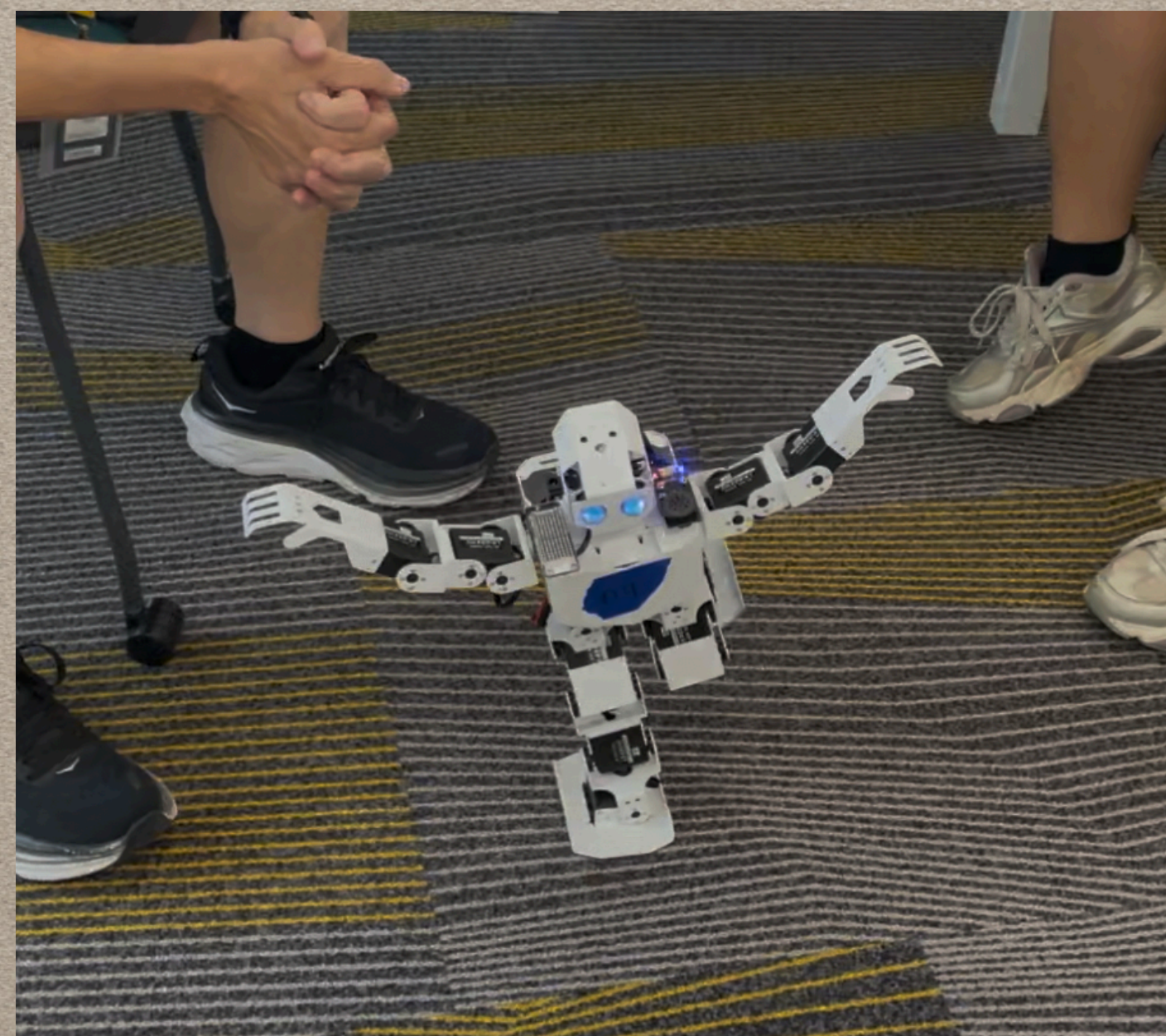- **ESP4T – Engineering Summer Program for Teachers**
  - *Physical computing with Arduino and Raspberry Pi microcontrollers*
- **ML4HST – Machine Learning for High School Teachers**
  - *Summer 2025: developed LLM using electronic textbook*

Also: Astro Camp, Student Ambassadors, Teton STEM Academy, K12 Roadshow

![UW College of Engineering and Physical Sciences logo]

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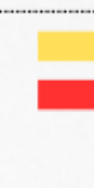
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In progress
- *Kickoff meeting with CEPS leadership on Nov 6*
- *Endowed chairs, named departments, named college, scholarships, graduate fellowships, internships, …*

Thank you