

Status for College of Engineering, Applied Science & Technology (EAST) for spring 2022 for 2-year review for Dean David Ferro. March 14, 2022.

Preamble:

Thank you for reviewing my college's (and my) activities for the last two+ years. This past August, I marked ten years as dean of EAST (formally COAST). I'm honored to have had this opportunity to help lead the college and hope I can serve the university for another two years in this capacity (which gets us to the end of all the construction). Below you will find my philosophical statement, college focus, college SWAT/PEST analysis, a table with brief overviews of various college projects/initiatives, some results of our DEI efforts, enrollment/graduation numbers for the past decade, some recognitions, some images of our new homes, one of our exemplary students, and references.

Deaning Philosophy:

It was suggested that I write a leadership philosophy. Following the first 'edict' in the following list, and at the risk of cliché, let me try succinctness: Respect and value people and their time. Give people room to try things, make mistakes, learn from them, and succeed. Find the right people. Promote them. Match skills to projects. Encourage entrepreneurship. Find the resources to support people's passions. Avoid micromanaging. Realize that none of us are smarter than all of us. Listen. Lead by example. Practice frugality. Be agile. Value rhetoric in the service of empiricism. Focus on the mission. Realize not everything works. Value hard work. Value excellence. See and take advantage of opportunities. Work artfully. Communicate. Care. Be forthright. Admit mistakes. Have fun. Try to do no evil. Etc.

College Focus:

The college principally focuses on cost effectively placing students/graduates in industry/government high-skill and high-growth settings with the skills to succeed as collaboratively determined by community partners and the college. We do this with faculty and staff, with academic and industry education and experience leading out with considerable 'hands-on' and project-oriented education.

Some Projects:

The projects listed don't include all the fun day-to-day activities: everything from roaming the halls and watching students practice their project presentations to working with HR, university legal, and college leaders concerning a faculty, staff, or student member. Anyway, enjoy. If you want to see many of the activities going on in the college check out our Facebook page "Weber State EAST" or the News & Projects pages at weber.edu/east.

EAST 2019-2022

Project/Goal	Status	To Do / Future Goals
Accreditation-programs (ABET)	CS in fall 2019, ME fall 2020, MFET, PDD, MET in fall 2021 successful.	Stay on track

AAS increases	On track to increase graduation rate for Associates; narrowing gap between BS and AAS. Useful metric for increased funding.	Stay on track.
Budget	Overall great shape. Two years of budget cuts have been annoying but Rn'R strong and we still have money for hires.	Looking at Engineering Initiative funding 2022 up to 1 million.
Buildings-new	Status of our three-prong approach: Davis building completed fall 2020, Tech Ed building replacement (Noorda) due fall 2022, and Engineering Technology reconstruction happening Jan-Sept in 2022 (phase 1) and May-Sept in 2023 (phase 2).	Raised funds. Got state funding of 50 million. Continue managing logistics with people between buildings.
Curriculum-1700 and concurrent	We lost many SCHs with 1700 no longer gen. ed. category. This included losing concurrent enrollment. Most of our SCH losses have now settled out. We added CS, Web, PDD classes as concurrent enrollment. We also created a Computer Literacy Center to compensate but ... see below.	Continue increasing concurrent enrollment.
Curriculum-New	Implemented: Mechanical Engineering, Manufacturing Systems Engineering, MS in Computer Science, MS in Systems, BS in BioEngineering, BS in Energy Engineering, Collaboration for Data Analytics and Data Science BS and MS.	Run successfully. Look into Sales Engineering. MS in Advanced Composites with USU in process.
Development-overall	Assorted. Figures from the last two years: 2019 at ~1.5M, 2020 at ~6.9M, 2021 at ~1.3M. Total: ~9.7M.	Lots of opportunities for naming with the new buildings. Focus on non-CMT areas needed.
Development-Grants, Appropriations	6/1/19-3/15/22: Grant dollars brought in total ~\$8.5M (includes Rague's 2M DOL grant). In addition: Four SWIs totaling (annually) at ~\$1.14M. HEERF at >\$300K. Deep Tech at ~\$700K annually. Advanced Composites and Systems Engineering appropriations at 520K onetime, \$500K annually. Total >\$9M one time and >\$2.3M annual.	More Deep Tech and Eng. Init. money proposals. Continue encouraging faculty/chairs with internal, Perkins, and external grants.

Development-NOORDA gift	All installments received from Noorda Foundation in fall 2021.	In Feb. 2022, submitted another proposal to Noorda working with SPARC.
Dean-Industry Advisory Board (IAB) management.	Dean's IAB worked for funding for new buildings. Successful.	Dean IAB meeting virtually in May 2022.
General Education	ETC 2001 now required in CS. Online, FLEX, and Brick-and-mortar versions scheduled for fall 2022.	Continue to develop.
International	Interior Design (IDT) conducted their trips. Sent a student to Finland in 2021. Travel was down during covid.	Continue to find ways to balance our study abroad with partners. Add other countries.
Marketing	Billboards, visits, stickers, conference kiosk, more, created.	Review marketing. Need to address faculty and administrators in engineering colleges nationwide to build reputation.
Outreach	PREP, parent-daughter, Girls Go Digital, FIRST (FLL, FLLJr.) were run despite covid. In 2019 we created four 'bootcamps' open to all students, some working with A&H and SBSS (got Perkins support).	Continue and continue assessment.
Organization-Electronic Engineering Technology (EET)	Surveyed students, industry, faculty. Discussed with SLCC. We moved EET to Noorda Interdisciplinary Center for flexibility. Decided to discontinue the program and teach-out our students. We keep several courses and solar certificates as useful.	Teach out. For both this and FM below we will work with the data group to catch up with our re-organization from 2019.
Organization-FM (and general)	Similar process to above. Eliminating the Facilities Management program.	Teach out.
Personnel-diversity	Brought in anthropologist from Harvey Mudd college (well-known for diversity) to run discovery sessions and college-wide presentations. We have hired DEI candidates successfully. See table below.	Continue to run our diversity committee for hiring and recruiting; started on hiring committees trained on bias recognition.

Personnel-faculty-mentoring	Departments assign mentors for new faculty. Also revamped training.	Continue to reward service/scholarship/teaching
Personnel-hires	Budget allows hires but no space. Noorda building opening helps with that.	Will look to support MSE, ME, CS, EE next year. Could use more lab support staff.
Personnel-Recognition	In 20/21: Cody Squadroni, Career Champion; Kim Murphy, Ruby; Alex Lawrence, Entrepreneurial Spirit; Rainie Ingram, FYE Instructor of year, Giovanni Frias, Pres. Community Engagement, Gina Naisbitt, Pres. Outstanding Staff. Christel Grange-Hicks, Super Staff. Also see below. Created EAST Merit Scholar.	Continue to promote faculty, students, and staff.
Personnel-retention	Good except for losing seven people to retirements.	Find a way to implement salary increases for highly skilled individuals.
Personnel-review	Did PREP with all staff and solidified annual reviews. Allyson S. took many.	Continue
Strategic Plans	Completed strategic plans in 2018. Used for annual reviews for departments/programs.	Consolidate more. Reduce labor. Need to continue to align strategy with university and academic affairs strategic plans.
Students-Recruitment	In 2019 we created a report on where exactly slowdowns in enrollments lie (after 10 years of highest growth in university) and created a plan to address.	Continue to implement solutions based on findings.
Students-recruitment-retention-diversity	CS and PS worked together in Ogden School District to recruit. Gaming, coding, and web dev workshops provided to the community through CEC to recruit. CMT worked with Hispanic Community to get scholarships. College received bronze medal for diversity in engineering from ASEE national org. Created Team. Increased advising touchpoints. See Student Retention below.	Continue.
Xproject-Speakers	Six speakers, both academic and development. Mostly online in 20-22.	Assess the latest approaches to increase attendance.

Xproject-LingoFest	Ran annual conference remotely in '20,'21.	Continue
Xproject-ConceptCenter	Mary Foss took over for Andrew in '18. Taylor running operations. Many projects. Running in black. Began operating with Falcon Hill facility on projects for advanced composites.	Increase number of projects, students, faculty involved. Link more to class projects.
Xproject-Falcon Hill - MARS	Took on more operations. Wrote Deep Tech grant for supporting operations.	Write many more grants.
Xproject-Computer Literacy Center CLC	Implemented in '18. All modules now created for replacing 1700. However, not enough uptake to continue.	Close down CLC 1700 module creation over one year and move CLC to software dev.
Xprojects-other	Oral history project complete.	Review LEAN/SixSigma certificate.
Xprojects-FLEX	Implemented FLEX in CS. Now ~400 students.	Assess and potentially grow.
Xprojects-Net0-House	Jeremy Farner, collaborating with FM and students, built net-0 house in Ogden. Won at Solar Decathlon in DC.	Look to retrofit or build one every two years or quicker.
xtra-me-Teaching	Yearly class taught in Honors	Continue
xtra-me-Service	Wrote a monthly column in Standard Examiner. Member of NUAMES and DaVinci school boards.	Continue
xtra-me-Scholarship	Co-wrote history of computing book, copyedit phase, 2022 publication. Built Digital History Archive at CAE building.	Next book?

College SWAT/PEST Analysis:

swat/ pest	Strength	Weakness	Opportunity	Threat
Politics	.Gov. relationships & demand	.Need for resources to build programs	.Rethink programs .New programs	.Ukraine and/or covid economic impact
Enviro	.New Buildings .Budget	. less space during construction	.Improve support classes (Davis, math..) .Covid means less space needed .More concurrent	.CS to Davis expansion lowers enrollment in CS
Social	.Industry relationships & demand .Internal relationships .Outreach (& centers) .Faculty/Staff	.50% of likely customer base unaware of product .Low (but growing) level of underrepresented students .Slow throughput .Slowed growth for 2 years .Salaries lower .Stretched faculty	.Covid-19 stems lowering enrollment, lessens faculty loss .Marketing opportunity .Scholarships for throughput . Economy drives students back to college?	.Covid-19 lowers enrollment and budget
Tech	.Money for technology	.Need to save for buildings - unknown costs	.{supplement faculty?} for improved online and Flex approach	.Tech always changing

Diversity, Inclusion and Equity 2012 to 2020 - Students and Faculty Hires:

Majors in College/ Year	Female	Diverse (M&F)	Total	%Female	%Diverse (M&F)
2012 (sp)	379	316	2692	14%	11.7%
2021 (sp)	515	529	2818	18.3% (23.5% increase)	18.8% (37.8% increase)
Difference	+136	+213	+126		

Faculty in College/ Year	Female	Diverse Male	Total	%Female	%Diverse Male
2012	13	1	60	21.7%	1.7%
2021	22	5	80	27.5%	6.25%
Difference	+9	+4	+20	45% of total increase	20% of total increase

Retention of Students:

We moved from 62% in 2014 to 70.7% in 2021 with fall-to-fall first-time student retention so those efforts have been fruitful. With demographic breakdown we are at 69% for female, 71% for male, 55.6% for hispanic, and 64.3% for other ethnicities (so we still have work to do!).

Some Recognition:



Some Statistics:

SCH/Majors last two years (spring 2020 to spring 2022):

Department	2020 SCH	2020 Major	2022 SCH	2022 Major	% SCH Diff	% Major Diff
Automotive	580	153	481	131	-17.06	-14.37
Construction	1920	231	2248	354	17.08	53.24
Electrical	786	463	900	368	14.5	-20.51
Manufacturing	1449	387	1161	259	-19.87	-33.07
Mechanical	842	141	1173	367	39.31	160.28
Professional Sales	3054	460	2792	383	-8.57	-16.73
School of Computing	7084	1119	6976	1162	-1.52	3.84
TOTAL	15716	2970	15732	3037	0.1	2.25

Graduation Rates for the last two years (spring 2019 to spring 2021):

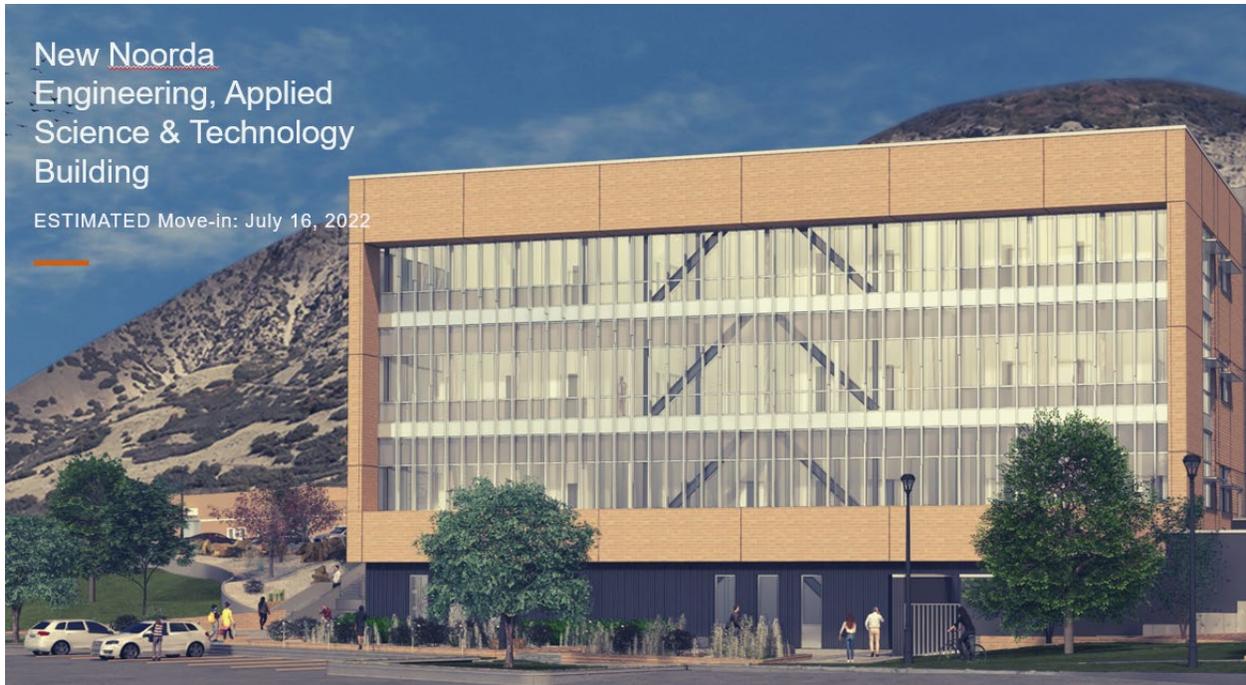
Graduations			
Department	2019	2021	% Diff
Automotive	45	64	42.22
Construction	49	71	44.89
Electrical	40	40	0
Manufacturing	176	85	-51.7
Mechanical	1	20	1900
Professional Sales	217	251	15.66
School of Computing	330	520	57.57
TOTAL	866	1064	22.86

Construction Projects:

Computer and Automotive Engineering at Davis Campus (completed fall 2020):



Noorda at Ogden Campus (current completion date is July 19, 2022):



Reconstruction of Engineering Technology Building (completions: phase 1: fall 2022, phase 2: fall 2023)



More Student Success:



Here you see Jennifer Morales at Grand America in SLC winning the 2020 STEM Pathway Ward from the Women Tech Council. Jennifer is a 1st generation student majoring in both Computer Science and Professional Sales.

Thank You:

Thank You for your consideration in reviewing this document

- David