Project Team

The project team grew out of grass-roots efforts to increase the number of students entering engineering, to improve the quality of transfer students, and to increase the number and success rate of graduates. The team has a strong experience base, a high level of motivation and enthusiasm, and a group mind-set of establishing a sustainable "process" that will serve the U of U for years to come, and that will also be a model for other universities.

Dr. Cynthia Furse, Professor, Electrical and Computer Engineering (PI)

Dr. Furse has significant experience bringing groups of educators, administrators, and community leaders together to change how engineering is taught. She has worked for years to interest young students, particularly women and minorities, in STEM and routinely volunteers in Utah's K-12 schools as an engineering mentor, science educator, and engineering career guidance counselor. She has been active with the Society of Women Engineers, Junior Engineering State, Expanding your Horizons, School-to-Careers, MESA, Girl Scouts and Boy Scouts. Dr. Furse was the Professor of the Year in the College of Engineering at Utah State University for the year 2000. While there, she facilitated an effort for the Engineering College to prepare and present hands-on activities that fit the curriculum for each grade from K-12. Dr. Furse is the chair of an international education committee that gives her access for wide dissemination to ECE educators. She is the chair of the UofU ECE Undergraduate Committee.

David Richerson, Adjunct Associate Professor, Materials Science and Engineering (Program Director)

Professor Richerson's responsibilities will include overall program management, organizing team meetings and internal and external review meetings, participating in and reviewing curriculum development, making sure that all program tasks are progressing effectively, and maintaining close liaison with SLCC, AMES, PLTW, the Center for Service Learning, MESA and other participants. Mr. Richerson has many years of successful program management experience and also has been active for many years in K-12 outreach, community partnerships, and development of curriculum modules. Most recently he was a leader in developing a "continuous improvement" process for the Dept. of MSEE ABET planning. Additional specific information is included under Biographical Sketches.

Dr. Amy Bergerson, Assistant Professor, Educational Leadership and Policy (Co-PI)

Dr. Bergerson's research focuses on college choice and college student retention. In particular, Dr. Bergerson is interested in how underrepresented student populations make the decision to attend college and how to improve their retention. She has presented papers at the Assoc. for the Study of Higher Ed., the Am. Educ. Res. Assoc., and the Natl. Assoc. for College Student Personnel Admin. Dr. Bergerson teaches courses in college student retention theory, leadership theory, organizational change, and qualitative research methods. She also is the coordinator of the Dept. of Ed. Leadership and Policy's Masters of Ed. in Student Affairs program, acting as recruiter, advisor, and manager of the admissions process for the program. Dr. Bergerson has worked as an admin. in higher ed. for 10 years. She will work closely with each departmental team and with Stephanie Richardson on assessment.

Dr. Stephanie J. Richardson, PhD, RN, Assoc. Prof., College of Nursing and Director, Center for Teaching & Learning Excellence (Co-PI -- Assessment)

Dr. Richardson spent her early career in public health and nursing ed., but shifted her focus in recent years to research in best practices in teaching in higher ed. She is the Director of the Ctr for Teaching & Learning Excellence (CTLE). She has led the way in mentoring both junior and tenured faculty in research in teaching in higher ed, through the Medical Scholars program (MedSC) and the Fine Arts Scholars Program (FASc) and in preparing graduate students as future faculty through the TA Scholars Program (TASc) (Welch, Chapman, Richardson, 2003). Dr. Richardson has co-authored the University's Best Practices Hiring Manual, designed to eliminate gender and ethnic bias in the recruitment and hiring of faculty, and she is a member of the President's Commission on the Status of Women. Her expertise includes assessment of courses, curricula, and programs, and she holds multiple University-level committee chair appointments. She recently assisted SLCC in forming their Diversity Course Reqt. policies and procedures, and the articulation agreement between the two institutions (Richardson, 2003).

Dr. Keith Roper, Assistant Professor, Chemical Engineering (Co-PI)

Dr. Roper initiated and coordinated the federally sponsored service learning initiative between Departments of Chemical Engineering, Economics, Communication, Biology, Geology and the Bennion Service Learning Center to work with 11th grade high school students from AMES. This model program provided the AMES students with a real engineering design experience and culiminated in an award-winning solar hydrogen unit and website. 25% of the students from the project have already committed to enter the Chemical Engineering program at U of U. Dr. Roper will help other departments integrate similar activities into their curriculum modules, design projects, and service learning. Dr. Roper also has established Student/Industry Partnerships between university seniors and local companies to provide consulting and engineering services and advises the UofU Student Chapter of Tau Beta Pi.

Dr. Pedro Romero, P.E., Assistant Professor, Dept. of Civil and Environmental Engineering (Co-PI)

Dr. Romero is a liaison with SLCC where he has worked to create a seamless transition for future transfer students, and he advises the student chapter of the Am. Soc. of Civ.Eng. (ASCE) where he has incorporated SLCC students into ASCE activities such as concrete canoe and steel bridge competitions (Safai and Reaveley, 2005). Dr. Romero is also active in outreach programs provided by ASCE including Zoom into Engineering (K-5) and the West Point Bridge Designer (grades 9-12). Dr. Romero has been active in recruiting underrepresented groups for advanced degrees in CivE. He has graduated a female Ph.D. and two hispanic MS students. He was selected as 2004-2005 Utah Engineer Educator of the Year by the Utah Section of ASCE.

Dr. Kelly Broadhead, Assistant Professor, Dept. of Bioengineering (Team leader for Bioengineering)
Dr. Broadhead is the Undergraduate Advisor and pre-major advisor for bioengineering. He works with incoming transfer students, so has considerable experience interfacing with SLCC and other feeder schools. Dr. Broadhead also teaches design classes and is one of the instructors for the senior project class. He will be very valuable in curriculum development, especially in design content, and also in establishing the service learning component.

Dr. Dinesh Shetty, Professor, Dept. of Materials Science and Engineering (Team leader for MS&E)
Dr. Shetty is well-known internationally for his work on ceramic materials and composites. He is the undergraduate advisor for MS&E and has been active in recruiting students, developing curriculum, and establishing partnerships and work opportunities for students with industry. He has co-founded a spin-off company from the U of U and has extensive program management and budget experience. In addition to leading curriculum development in MS&E, he will oversee budget administration for the program.

Dr. Meredith Metzger, Assistant Professor, Dept. of Mechanical Engineering (Team leader for ME)
Dr. Metzger has supervised 16 undergrads in experimental fluid dynamics. She has a long history of supporting students in underrepresented groups including almost 40% of her current and previous undergrad. res. students. In addition, nearly 80% of her undergrads are pursuing advanced eng. degrees. Her undergrad students have co-authored 1 peer reviewed journal article and numerous poster and conference presentations. In addition, Dr. Metzger is actively involved in outreach programs and professional development activities, including Hi-GEAR, MGE@MSA, Utah MESA/STEP, judge for JSHS paper competition, mentor for IIT summer interns. Dr. Metzger had guided development of in-lecture demonstrations for undergraduate courses to focus on making difficult engineering, mathematics, and physics concepts more accessible to a large percentage of the student population.

Dr. Sneha Kumar Kasera, Assistant Professor, School of Computing (Team co-leader for CS)
Dr. Kasera was recruited onto our program team because of his reputation for getting things done and especially because of his expertise in networking. He has industrial experience in this area, has taught many courses on Networking, and is currently collaborating with the Utah Education Network and the Utah Telehealth Network in understanding the needs and challenges arising in the services delivered by these networks to K-12 institutions, and telehealth to remote areas in Utah. His expertise will be vital in curriculum development and in planning and implementing of web-based modules. Dr. Kasera has served on many technical program committees, co-chaired student poster competitions, participated as a science fair judge, and delivered talks to K-12 children and teachers.

Dr. John Carter, Associate Professor, School of Computing (Team co-leader for CS)
Dr. Carter is the Associate Director for Outreach for the School of Computing. He has initiated a major effort to better connect the School of Computing to local industry and the state government. Among the results of this effort is a novel "Industry Forum" class in which local and national business leaders speak to SoC students from an industry perspective and discuss trends in science and engineering, professionalism, and ethics, which helps retain students by exposing them to the broader impact of engineering. Dr. Carter provides a valuable bridge to the local business and government communities, who are very interested in the success of this initiative.

Dr. Edward M. Trujillo, Professor, Chemical Engineering (Team leader for ChemE)
Dr. Trujillo will help develop ChemEng. modules and serve as a liaison with MESA-STEP. He has been involved with encouraging minorities and women students to consider engineering for over 30 years. He was one of the early founders of the Colorado Minority Eng. Assoc. and co-founder and first president of the Utah MESA-STEP Organization. Dr. Trujillo has served as the College of Eng Assoc. Dean for Minority Affairs from 1991-94, and has received many awards for outstanding service. He also was the first professor in his department to develop a service learning component in ChemEng and participated on the very successful AMES service learning program .

Dr. Rohit Verma, Dept. of Marketing (Operations Management) (choice-based market survey)
Dr. Verma's research includes application and development of choice-based market surveys, and he will help set up a survey of potential students to help determine how best to design our program for maximum student preference.

Internal Review Committee

Dr. David Pershing	**Senior Vice President**	**Chemical Engineering**
Dr. John Francis	**Vice President for Academic Affairs**	**Political Science**

Dr. Patrick Tresco	**Assistant Dean of Engineering**	**Bioengineering**
Dr. David Dobson	**Professor**	**Mathematics**
Dr. Charles Wight	**Professor**	**Chemistry**
Dr. Marshall Welch	**Director, Lowell Bennion (service learning)**	**Center**
Dianne Leonard	**Engineering Student Advisor**	

External Review Committee

Dr. Brett Moulding	**Director of Curriculum and Instruction**	**Utah Office of Education**
Dr. Randy Sylvester	**Chief Technologist**	**L3 Communications**
Dr. Warren Hill	**Director, Project Lead the Way**	**Weber State University**
Dr. Gary Stewardson	**Dept.Engineering and Technology Ed.**	**Utah State University**
Larry Madden	District Science Specialist , Teacher	SLC School District
Dr. Brenda Burrell	Minority Graduation Specialist	Utah State Office of Education
Dr. Nick Safai	ECE Dept Head	Salt Lake Community College
Dr. Al Church	Principal and CEO	AMES High School