In 2012, the President’s Council on Jobs and Competitiveness recognized the efforts of engineering deans to enhance the retention and graduation of engineering students by making its own commitment to increase the number of engineering graduates over the next 10 years. To this end, engineering faculty have conducted pilot studies that have shown a combination of factors contribute to variability in student retention. According to these studies, one of the primary reasons for the attrition of students from engineering is the perception that the learning environment fails to motivate them. Hence, these studies assert that many engineering programs can improve student retention by adopting best practices and strategies for retaining students.

As part of a larger study of student retention, the American Society for Engineering Education (ASEE) conducted a review of literature and documented more than 60 successful strategies that had been identified as effective in retaining students in engineering. Practices cited by engineering programs spanned the full range of retention strategies found in the literature. Most engineering programs, including K-State, took a system approach to improving retention; rather than focusing on one approach, they pursued multiple strategies. The most successful strategies and practices focused on tutoring, mentoring, learning centers, first-year instruction, academic advising and career awareness.

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VISION
The Ike and Letty Evans Academic Success Center, or ASC, catalyzes experiences in support of student success by creating novel programs to meet the needs of engineering students as they transition from initial enrollment to graduation. The ASC partners with students to address their individual needs and unique goals, utilizing a student-centered approach with an emphasis on academic achievement. This approach focuses on innovative learning-centered environments where students engage in academic and co-curricular activities.

MISSION
Utilizing a student-centered approach, the Ike and Letty Evans Academic Success Center, or ASC, supports engineering students by helping them overcome personal challenges while developing their unique strengths. The ASC fulfills this mission through tutoring, mentoring, learning centers, first-year instruction, academic advising and career awareness, so each student can reach his or her potential as a productive member of society.

THE ASC – AT A GLANCE

The College of Engineering Ike and Letty Evans Academic Success Center, or ASC, is lighting the way for student success now and in the future. For many first-year students, managing schedules, finances and academics is a new experience, and a getting a strong start in managing these critical life skills can improve student resilience and support academic success. Hence, the goal of the ASC is to give students multiple options with mentors, advisers and training that will empower them for success throughout college and beyond.

ASC programs, including mentoring, training and workshops, work synergistically to support student academic, personal and future professional success. ASC staff provide developmental and proactive advising for first-year and returning students to strengthen and improve their progress. They also give engineering students one-stop access to peer-to-peer tutoring, alumni mentoring, first-year instruction and diversity support programs, all designed to promote student success. These initiatives welcome, empower and encourage students to reach their full potential.

The ASC also offers workshops on topics such as study skills, time management, engineering careers and internships. The center’s Collaborative Learning Laboratory serves as home to the innovative Scholars Assisting Scholars program, which hires upper-level students to tutor their peers while also developing their own teaching and leadership skills.

With group study stations, computer workstations, conference rooms, team-building areas and multimedia flex rooms, the associated facilities have been developed to continually reinforce the discipline of working in a team setting. This teamwork modality helps ensure students are fully prepared to join the rapidly changing workforce after graduation.
Scholars Assisting Scholars, or SAS, is a free walk-in tutoring service employing upper-level students in math, science and engineering to provide tutoring in calculus, chemistry, economics, physics, programming and engineering science courses. SAS is available to all university students in these courses. Tutoring takes place in the new Collaborative Learning Laboratory. Tutors are assigned to a specific course each semester and work with course professors to provide the following appropriate supplemental instruction for students:

- Assistance consistent with course instruction
- Review sessions before each exam
- Academic coaching
- Learning groups

“SAS is really good — probably one of the best tutoring services at K-State. The review sessions before tests were AMAZING!”

Some freshmen pursuing an engineering degree are unsure about which degree program will best fit their interests, skills and career goals. In order to fully engage these highly capable and interested students, the Ike and Letty Evans Academic Success Center offers the general engineering program. Students receive detailed exposure to different career possibilities across the 11 degree programs offered in the College of Engineering through its Engineering Orientation course, DEN 160. Students also participate in the Engineering Problem Solving course, DEN 161, which provides a research-based learning environment that helps them achieve academic success by offering the following:

- Fundamental skills and engagement in real-world problem solving
- An introduction to the ability to effectively communicate design and analysis decisions
- Positive reinforcement and targeted feedback on problem-solving skills critical for success in engineering courses
- Experience working in collaborative student team environments
- Exposure to working with modern computer software
- Exploration of a variety of technical content as a preview of different degree programs
- Peer mentoring to learn techniques from experienced students
- A firm basis to confidently select an engineering discipline that aligns with interests, skill sets and career goals

After completing the first-year general engineering program, students can easily transition into the College of Engineering degree program of their choice and stay on track with their peers. This first-year program provides students with a perspective of the various types of engineering problems and career paths, and develops a strong foundation for their personal and professional development.
The general engineering academic advising program provides support, connection and resources to students in the general engineering program, assisting their selection of a degree program to accomplish their academic and career goals. General engineering advisers use developmental advising to support student persistence and academic success. Advisers meet with students individually to create connections and determine their needs while guiding students in developing the skills needed to be successful in engineering, finding appropriate resources and selecting a degree program. They provide information about engineering careers and programs of study in the college that can lead to those careers. General engineering advisers work with students to develop networking, interaction and collaboration connections with other engineering students. The advising program includes seminars and instruction to help students establish effective study skills, and time management and problem-solving practices. Advisers also direct learning communities, both residential and non-residential, for general engineering students.

The College of Engineering Alumni Mentor Program aims at connecting current engineering students with alumni. Students are matched with a mentor based on background, experience and interest. The nine-month — September to May — program is designed specifically for engineering students with sophomore standing or above.

The Alumni Mentor Program provides students with the opportunity to learn from highly successful and experienced professionals in their field of study. Mentors can help mentees in the following ways:

- Share technical expertise
- Discuss industry trends
- Introduce students to colleagues to help build professional networks
- Provide knowledge and understanding
- Facilitate career development through professional guidance and advice
- Give advice on professional communication, dress and demeanor
The Multicultural Engineering Program, or MEP, is focused on increasing the pool of interested and qualified students from historically underrepresented groups pursuing engineering degrees while also providing a foundational support system. Programs providing support and engagement for multicultural students include the following:

- MEP Kompass summer bridge program, a free three-day intensive bridge program designed to accelerate academic success for incoming freshmen
- Multicultural Academic Program Success, or MAPS, a six-week summer bridge program providing opportunities to network with peers and faculty while also acclimating to the K-State campus
- Student organizations including American Indian Science and Engineering Society, National Society of Black Engineers and Society of Hispanic Professional Engineers

The Women in Engineering, or WiE, program provides opportunities for women in engineering to connect, share and support each other during their time at K-State. WiE mentors and leaders create and plan events and activities that provide social engagement, professional development and academic support for women in the college through —

- Engineering Women Mentoring Women
- Seminars and workshops
- Social activities
- Professional societies including the Society of Women Engineers, or SWE
- Engineering organizations
- Women in Engineering Laboratory Experience

“Diversity in the engineering world has brought new ideas and concepts. Men and women are different, and that is a good thing.”

“DIVERSITY SUPPORT”
Creative Inquiry Mentor Program

Creative inquiry is the College of Engineering’s highly successful blend of engineering principles and practice. Faculty mentors lead teams of undergraduate students in their search for innovative solutions to problems with challenging technical, economic and social components. Each year, faculty mentor hundreds of students who join creative inquiry teams that compete in regional, national and international events on topics ranging from wind power to unmanned aircraft. Participation on creative inquiry teams gives students a competitive edge in the job market while also supporting the college’s visionary plan and K-State’s 2025 goal to enhance the student experience.

Based on a previous record of outstanding creative inquiry mentoring accomplishments, faculty members are nominated by their department head for creative inquiry mentor positions in each of the departments throughout the college. Each creative inquiry mentor is given a three-year appointment with a salary increase, and discretionary funds to support the mentoring of a creative inquiry team or project each year. Creative inquiry accomplishments are closely reviewed to achieve academic excellence and maintain high student interest.

Cornerstone Teaching Scholar Program

The Cornerstone Teaching Scholar Program fosters exemplary undergraduate teaching skills and commitment for excellence in fundamental engineering courses. Specifically, the program encourages the college’s best teaching faculty members to instruct its most fundamental courses in the sophomore and junior years to improve student retention and graduation rates, and ensure students obtain the best possible learning experience.

Based on a previous record of outstanding teaching accomplishments, faculty members are nominated by their department head for teaching scholar positions in each of the departments throughout the college. Each Cornerstone Teaching Scholar is given a three-year appointment with a salary increase and discretionary funds to support instruction of at least two fundamental engineering courses each year. Courses are closely reviewed to achieve academic excellence and high student interest.
LIGHTING THE WAY FOR STUDENT SUCCESS