



COLLEGE OF  
**ENGINEERING**

2017-2022

**Strategic  
Plan**

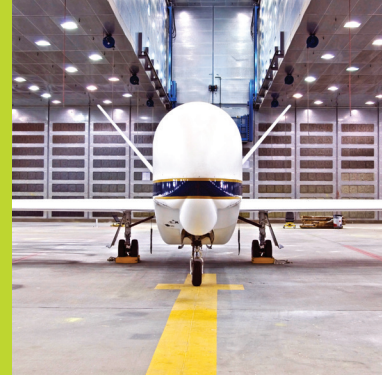
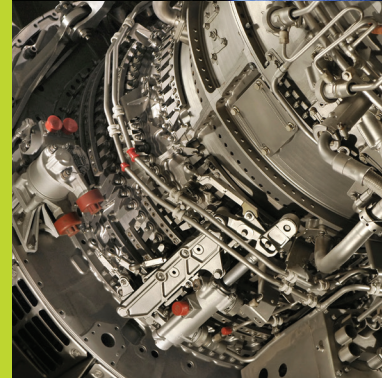
## Our Values

The College of Engineering embraces the diversity of ideas and backgrounds in faculty, students, staff and administration. We are committed to individual and organizational efforts to maintain an inclusive and supportive environment embodying respect, dignity, fairness, empathy and equality.

- /// In recognition of the University's emphasis on research, we are committed to advancing the frontier of knowledge and the incorporation of discovery into our teaching and practice.
- /// As part of an aeronautical university, the College of Engineering plays an important role in support of the aerospace and aviation industry. Our partnerships and research initiatives with industry provide a talented and skilled workforce and contribute to the development of new technologies.
- /// As a historically undergraduate institution, we value excellence in education and promote research and practice in pedagogy. We consider internships and research indispensable parts of engineering education and work with industry and government to support this paradigm.
- /// As members of the larger engineering community and responsible citizens of the world, we educate our students to be skilled and innovative engineers and research professionals, while developing solutions to this century's Grand Challenges.

## Our Mission

- /// Prepare students for successful careers as leaders, innovators and entrepreneurs in aerospace and related engineering fields.
- /// Advance engineering through collaborative research.
- /// Serve society and the engineering profession from our global perspective, teaching the value of integrity, social responsibility and a commitment to service.



## National Academy of Engineering (NAE) Grand Challenges for Engineering in the 21st Century

The College of Engineering is positioned to address 10 of the 14 NAE Grand Challenges:

- /// Advance Personalized Learning
- /// Make Solar Energy Economical
- /// Enhance Virtual Reality
- /// Reverse-Engineer the Brain
- /// Advance Health Informatics
- /// Restore and Improve Urban Infrastructure
- /// Secure Cyberspace
- /// Provide Access to Clean Water
- /// Prevent Nuclear Terror
- /// Engineer the Tools of Scientific Discovery

[engineeringchallenges.org/challenges.aspx](http://engineeringchallenges.org/challenges.aspx)

## Metrics

By 2022, the College of Engineering will achieve the following measures. We will designate a faculty leader for each goal and prepare a task list and milestone schedule for each task and metric.



### Reputation

*Our Rising Reputation ///*

One member of the National Academy of Engineering (NAE) and five professional society Fellows on the faculty



### Top Rankings

*Where We Rank ///*

College in the top 50% graduate and undergraduate; Aerospace Engineering undergraduate program in top 10; Aerospace Engineering graduate program in top 50%, in U.S. News & World Report rankings



### Growth

*Growing Graduate Programs ///*

A graduate to undergraduate student ratio of 1:4



### Programs

*Mature Doctoral Programs ///*

Ten doctoral degrees awarded per academic year



### Research

*Research on the Rise ///*

\$5 million in externally funded research and one additional externally funded research center



### Diversity

*Celebrating Diversity ///*

Exceed by at least 5% the national representation of women and underrepresented minorities in engineering and by discipline for faculty, staff and students



### Curriculum

*21st Century Curriculum ///*

75% of students having participated in an internship, co-op, or directed research experience before graduation



### Success

*Ensuring Student Success ///*

A first-year retention rate of 90%; a six-year graduation rate of 70%



### Investment

*Highest Return on Investment ///*

100% job placement one year after graduation



### Innovation

*Accelerating Innovation ///*

Ten filed patent applications and five new business start-ups

# Our Goals

## 1. Elevate College Academic Reputation

The College of Engineering will be recognized for graduating talented professionals at the undergraduate, master's and doctoral levels and for its groundbreaking research focused on the current and future needs of the aerospace and aviation industries.

### STRATEGIES

- i. Increase acceptance standards at undergraduate and graduate levels.
  - ii. Work closely with Development to generate and capitalize on fundraising opportunities.
  - iii. Develop a more effective marketing strategy.
  - iv. Recruit at least one faculty member who is also a member of the National Academy of Engineering and assist faculty members in applying for awards and professional society Fellow status.
  - v. Establish a website with available faculty seminar titles and brief abstracts for both technical and lay audiences.
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## 2. Increase Collaborative Research

The College seeks to increase the number of transformative research endeavors that lead to scientific advancement, industrial impact and social relevance, while translating these into external funding, partnerships, publications, patents and entrepreneurial initiatives.

### STRATEGIES

- i. Develop and implement a five-year strategic plan for research 2017-2022.
  - ii. Establish interdisciplinary research centers and clusters for our signature areas.
  - iii. Incentivize research productivity.
  - iv. Create a College of Engineering Researcher of the Year Award.
  - v. Expand the research support provided by the Associate Dean for Research.
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## 3. Promote Student Success

The College has successful students who are energized and empowered by their experiences to take responsibility for their own learning, ethical behavior and professionalism. On graduation, our students will be valued highly by prospective employers and will demonstrate the inherent value of an Embry-Riddle education.

### STRATEGIES

- i. Expand the resources and the role of the College Advising Center.
- ii. Facilitate connecting our industry partners with our students.
- iii. Increase opportunities for leadership, social responsibility and global engagement.
- iv. Recognize teaching excellence by creating a College of Engineering Outstanding Teacher of the Year Award.
- v. Increase financial support for student competitions and entrepreneurial ventures.

## 4. Cultivate Innovation and Entrepreneurship

The College will inspire faculty and students to pursue creative thinking and innovation, provide an understanding of the entrepreneurial process and facilitate entrepreneurial activities in the College.

### STRATEGIES

- i. Launch a dual Engineering-Business master's degree focused on new business ventures.
  - ii. Leverage the new John Mica Engineering and Aerospace Innovation Complex to promote interdisciplinary entrepreneurship.
  - iii. Support increased University intellectual property infrastructure, including marketing of existing assets and support of faculty and student entrepreneurial efforts.
  - iv. Encourage support of entrepreneurship in both performance evaluation and promotion and tenure processes.
  - v. Recognize innovation and entrepreneurship by creating a College of Engineering Innovator of the Year Award.
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## 5. Increase Diversity

As a College we strive for a diversity-supportive environment that encompasses individuals from any race, gender and cultural background based on mutual respect and understanding of differences.

### STRATEGIES

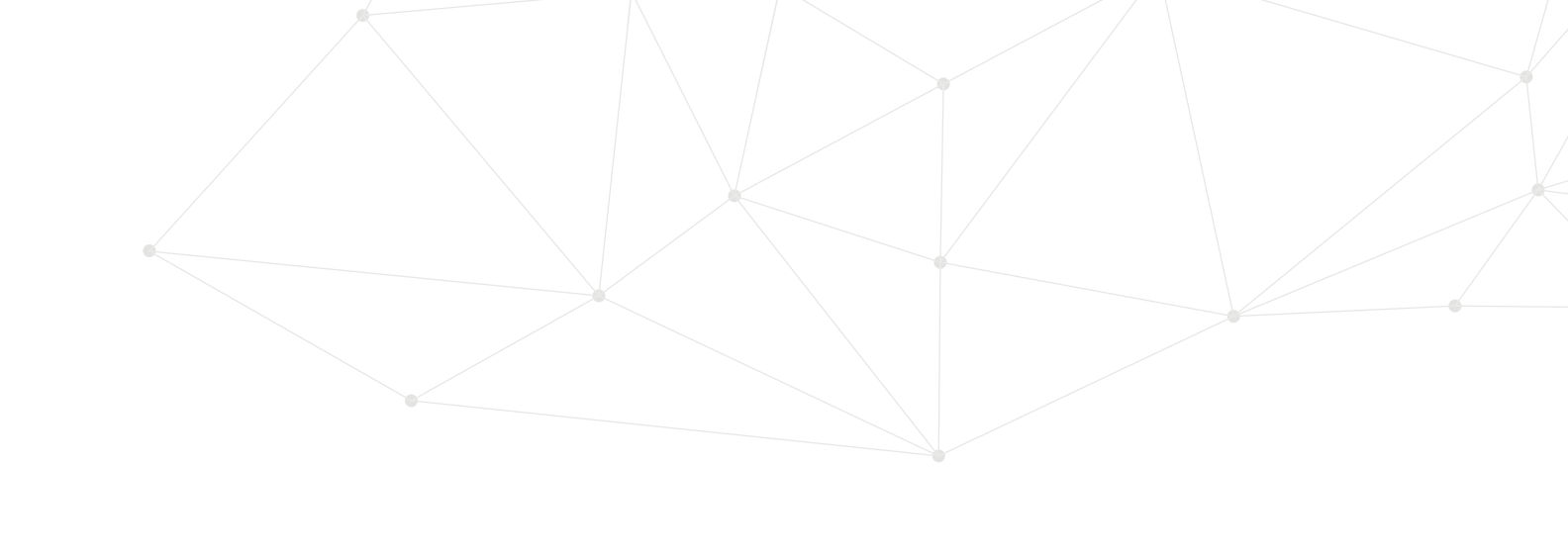
- i. Inform faculty search committees with relevant, helpful material enabling them to reach a diverse talent pool, as a part of the search process.
  - ii. Work with Embry-Riddle marketing to develop strategies and materials explicitly focused on women and under-represented minorities to more effectively highlight how their perspective is valued by Embry-Riddle engineering.
  - iii. Encourage and provide earmarked funds and resources to effect a culture of diversity and peer mentorship among students and faculty of all demographics; encourage the formation and activity of demographically-supporting professional organizations (SWE, WIE, SHPE, NSBE, etc.) as well as student participation in related professional conferences.
  - iv. Ensure that student employee training is consistent with federal guidelines and the desired college culture regarding professional interactions among workers of diverse backgrounds.
  - v. Recognize efforts to promote diversity through creating a College of Engineering Diversity Achievement Award for faculty, staff and student groups.
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## 6. Promote Community Engagement and Service

The College actively promotes STEM education and outreach to the community.

### STRATEGIES

- i. Expand K-12 STEM activities in the community and local schools.
- ii. Host national/international collegiate competitions.
- iii. Host technical conferences and workshops.
- iv. Establish a Speaker's Bureau with information on faculty presentations of potential interest to service clubs and other community groups.
- v. Recognize responsible citizenship and community service by creating a College of Engineering Community Engagement and Service Award for faculty, staff and students.



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The vision of the College of Engineering at Embry-Riddle Aeronautical University's Daytona Beach Campus is to be a preeminent engineering college recognized internationally for excellence in education and leadership in aerospace and aviation research.

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