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Faculty of Engineering & Applied Science
Strategic Plan 2012-2017
Executive Summary

The Faculty of Engineering and Applied Science Strategic Plan 2012-2017 outlines the faculty’s mission and values, as well as our key goals for the next five years. The values and goals are presented under the major themes of “Our Work: Responsiveness, Sustainability, and Excellence in Teaching and Research” and “Our People: Service, Engagement, Harmony, and Ethics & Professionalism.” High-level strategies for implementing the plan are also outlined.

Our values are identified as professionalism, our systems engineering approach, service and entrepreneurship, diversity, mentorship, excellence in teaching and research, engagement of our communities, responsiveness, and sustainability.

Our key goals over the next five years will be to:

1. Foster a sense of service, professionalism, ethics, and dedication in our students.
2. Ensure our students are gaining the skills and experience needed to work as professional engineers.
3. Maintain a professional, ethical, and respectful workplace that is mutually supportive and open to diversity and that fosters communication, dialogue, and sharing of ideas and resources whenever possible.
4. Remain responsive to the needs of our communities (the public, our profession, academia, our university, our faculty, our students, and business and industry, as well as the environment).
5. Maintain a strong focus on sustainability (in our teaching and research, in how we operate, and in our consideration of our communities and our environment).
6. Build the physical, infrastructure, and human resource capacity to provide students a high-quality, world-class education and to expand our world-class research capabilities.
7. Build our research base by strengthening ties between the Faculty, the University, the community, and industry.
8. Build programs to meet evolving student, industry, and community needs.
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1. Themes, Vision, Values, and Mission

Themes
The University of Regina Strategic Plan (2009-2014) identifies responsiveness to change, engagement, and sustainability as its overarching themes. The Faculty of Engineering & Applied Science Strategic Plan (2012-2017) also incorporates these themes but identifies professionalism, service, and excellence in teaching and research as its core themes. Our values and our mission incorporate this range of themes.

Vision

The Faculty of Engineering and Applied Science will strive to be a dynamic centre of innovation and creativity dedicated to teaching, lifelong learning, professionalism, research, entrepreneurship, and partnership with local and global communities.

Values

- Professionalism
  - Accreditation – Working to maintain and exceed Canadian Engineering Accreditation Board (CEAB) standards in teaching.
  - Respect – Demonstrating respect for our profession, our students, our colleagues, the environment, and the communities we serve.
  - Ethics – Remaining cognizant of our rights and responsibilities as professional engineers, as academics (teachers and researchers), as mentors and leaders, and as colleagues.

- Systems Engineering Approach
  - Focuses on the breadth of skills necessary for professional engineering practice in the modern world.
  - Combines the human elements of engineering with the technical.
  - Fosters team orientation to facilitate working with others.
  - Encourages adaptability, flexibility, and responsiveness to diversity and to a range of communities.

- Service/Entrepreneurship
  - Engaging in leadership and mentorship wherever and whenever possible.
  - Learning the needs of our communities and striving to meet them.
  - Striving to develop ideas to serve our communities and implement them wherever and whenever possible.
• Diversity
  o Engineering is global.
  o Diversity fosters global partnerships, sharing of information and resources, and tackling global problems by sharing local and regional experiences and successes.

• Mentorship
  o Engaging in and providing Lifelong Learning.
  o Engaging in and providing professional growth opportunities and both seeking and providing guidance to meet teaching, research, and career goals.

• Excellence in teaching and research
  o Producing highly qualified personnel.
  o Conducting sound research that benefits the academic and professional communities, as well as our communities (the public) at large, including the environment.
  o Preparing our students for professional work and development in modern business, industry, and communities.

• Engagement/Community
  o Participation and communication (dialogue) with our students and alumni, within our Faculty, with the University community, with our academic and professional communities, and with our communities (the public) at large.

• Responsiveness
  o Remaining responsive to the communities we serve (the public, academia, our university, our faculty, our students, business, and industry).
  o Engaging with our communities to remain cognizant of their changing needs.
  o Remaining flexible and current in teaching and learning.

• Sustainability
  o Providing solutions for economic and environmental sustainability for our communities (the public, academia, our university, our faculty, our students, business, and industry).
  o Remaining responsive to the needs of our faculty so that it can continue to grow without straining resources.
  o Continuing to provide quality education to our students while keeping costs low.
Mission

In general, our mission is to foster excellence in teaching, research, and learning within a systems approach to engineering education. Our goal is to produce engineering graduates with both a strong base of technical knowledge and the complementary skills needed to be successful professional engineers in the modern world.

Our specific (core) goals are:

- Foster a sense of service, professionalism, ethics, and dedication in our students.
- Ensure our students are gaining the skills and experience needed to work as professional engineers.
- Maintain a professional, ethical, and respectful workplace that is mutually supportive and open to diversity and that fosters communication, dialogue, and sharing of ideas and resources whenever possible.
- Remain responsive to the needs of our communities (the public, our profession, academia, our university, our faculty, our students, and business and industry, as well as the environment).
- Maintain a strong focus on sustainability (in our teaching and research, in how we operate, and in our consideration of our communities and our environment).
- Build the physical, infrastructure, and human resource capacity to provide students a high-quality, world-class education and to expand our world-class research capabilities.
- Build our research base by strengthening ties between the Faculty, the University, the community, and industry.
- Build programs to meet evolving student, industry, and community needs.
2. Our Work: Responsiveness, Sustainability, and Excellence in Teaching and Research

Responsiveness

Responsiveness – that is, the ability to deal with change in student and community needs, in resource availability, and in policy – is a theme that runs throughout our strategic plan.

Our strengths in terms of responsiveness are our lean size as a faculty, as an administrative team, and as programs. We have the ability to address issues and the need for change quickly.

That being said, our challenges, in terms of responsiveness, are time and resources. Our small size and lean operations, despite giving the faculty a certain nimbleness, lend themselves to the potential creation of work overloads and bottlenecks, reducing our capacity to respond to change.

Strategies for meeting our challenges and improving our responsiveness will include a focus on building stronger communications, both internally but especially externally, and a focus on growth management through increasing funding resources. The key will be to increase community, government, alumni, and employer and industry engagement.

Sustainability

Sustainability is also a theme that runs throughout the other themes presented in our strategic plan. Our commitment to sustainability is seen in our lean operations, but most significantly, it is the underpinning of much of our teaching and research.

The key strategies for increasing sustainability will be increasing employer and industry engagement and committing to seeking unconventional funding sources. As a faculty and as individuals, we will also commit to engaging fully in existing and future sustainability efforts.

Teaching

In teaching, our strengths are our size and responsiveness to our students, our unique programs based on the systems engineering approach, our dedicated laboratory instructors, our diversity, and the breadth of our research envelope, which offers our students opportunities to learn about many facets of engineering and applied science in our programs.
To maintain these strengths and build new ones, we need to foster increased engagement across the faculty, diversify our teaching methods, increase our commitment to lifelong learning as educators, increase our use of communication tools and resources, and adopt new and stronger strategies for securing and increasing capital and operational resources, so as to increase teaching space and access to new equipment and learning tools and technologies.

The key strategy for meeting these goals will be committing as a faculty and as individuals to moving beyond conventional teaching methods and utilizing opportunities to learn about and incorporate new teaching tools and strategies. We will commit to making use of the many resources and opportunities available for teaching development.

**Research**

Our research strengths are reflected in our world-leading research programs, our number of patents across the faculty, and the relevance of our research to the global, national, regional, and local communities. Many of our research programs have fostered strong industry relationships. The quality of our research is also reflected in the calibre of the graduate students we attract, the success of our graduate students in industry and academia after graduation, and the general size of our graduate program (e.g., we have the largest contingent of full-time Ph.D. students among all faculties).

One of the greatest challenges to continuing and building research excellence will be securing funding and infrastructure, including laboratory and workspace. Maintaining strong research programs will require new, creative approaches to gaining funding and industry support. In the next five years, our focus will be on developing synergies among research groups, finding greater efficiencies in the use of existing resources and infrastructure, moving beyond traditional funding sources, strengthening and broadening industry and alumni relationships, mentoring our graduate students in seeking out additional funding opportunities, increasing internal communication about our research and funding opportunities, and developing strategies to promote our research beyond the faculty and the university community.
3. Our People: Service, Engagement, Harmony, and Ethics & Professionalism

Service

As engineers, we are committed to service of society. As teachers, we are committed to service of our students. Our service strengths are reflected in our lean operations, our support of student activities and services (we have a number of student groups, such as Engineers Without Borders, providing excellent service to the community), and the commitment of our faculty members to serving on university committees, serving on industry and community boards, and volunteering time to community organizations.

In the next five years, we will develop strategies to promote service among faculty, staff, and students. Communication strategies will focus on recognizing service excellence.

Engagement

Our strengths in terms of engagement are the dedication shown by many of our faculty members in serving on numerous university committees and in sustaining many thriving student groups and programs.

Our challenges, in terms of engagement, are to foster greater participation and commitment to service across the faculty as a whole and within our programs. We also need to dedicate time and resources to increasing and supporting engagement opportunities for our students.

Incentives to promote engagement, including increasing communication and recognition of excellence, will be developed.

Harmony

In terms of fostering a harmonious work environment, our strengths lie in our diversity and in our faculty framework in which we operate programs rather than departments. As a faculty, we have tremendous diversity, featuring one of the most culturally diverse units at the University of Regina. Our framework of programs versus departments fosters increased collaboration and a sense of belonging to the faculty as a whole among our faculty members and students.

Once again, the key to fostering greater harmony will be a focus on increasing internal communications including seeking and utilizing new technologies for increasing communication.
Ethics & Professionalism

As engineers, we are committed to both ethics and professionalism in our training and our vocation. We are guided by the principles of our profession, founded on our duty to society and the environment. We are also, as a requirement of our profession, dedicated to self-improvement and lifelong learning.

While we view ethics and professionalism as one of our strengths, there are opportunities to enrich our commitment to this theme.

Strategies for enhancing this theme include developing a code of ethics specifically for the faculty and increasing learning opportunities about ethics and professionalism for faculty, staff, and students.
4. Summary of Goals and Strategies

The following are our core goals and the key strategies for meeting these goals:

1. Foster a sense of service, professionalism, ethics, and dedication in our students.
   - Increase incorporation of service, ethics, and professionalism across our curricula.
   - Increase communication regarding service excellence as well as service opportunities.

2. Ensure our students are gaining the skills and experience needed to work as professional engineers.
   - Increase teaching capacity by:
     - Increasing industry, community, government, and alumni engagement.
     - Seeking out alternative funding opportunities.
     - Setting communication of our needs and of opportunities as a priority.

3. Maintain a professional, ethical, and respectful workplace that is mutually supportive and open to diversity and that fosters communication, dialogue, and sharing of ideas and resources whenever possible.
   - Strengthen commitment to professionalism and ethics in the faculty by developing a code of ethics for the faculty.
   - Develop regular channels of communication at all levels (administrative, committee, faculty, staff, and student) and commit to using them consistently.
   - Commit to improving utilization of existing communication resources and forums.

4. Remain responsive to the needs of our communities (the public, our profession, academia, our university, our faculty, our students, and business and industry, as well as the environment).
   - Develop strategies and make commitments to increasing industry, government, and community engagement.
   - Increase communication internally and externally by:
     - Establishing a strategic communication committee and developing a strategic communications plan.
     - Committing to utilizing new and existing communication resources.
5. Maintain a strong focus on sustainability (in our teaching and research, in how we operate, and in our consideration of our communities and our environment).
   - Encourage sustainable practices among our students and emphasize sustainability as a cornerstone of engineering practice.
   - Engage in sustainable teaching and research practices such as utilizing more online tools rather than printed materials, finding ways of sharing resources, etc.
   - Commit to developing and adhering to new sustainability initiatives.
   - Regularly review our operations for sustainability.
   - Commit to seeking out alternative funding and finding ways to share resources as a priority.

6. Build the physical, infrastructure, and human resource capacity to provide students a high-quality, world-class education and to expand our world-class research capabilities.
   - Commit to seeking out unconventional sources of funding and support.
   - Increase community, industry, government, and alumni engagement by:
     - Developing communication strategies.
     - Increasing commitment to communication by increasing communication resources and activities and committing to utilizing them.

7. Build our research base by strengthening ties between the Faculty, the University, the community, and industry.
   - Develop strategies and make commitments to increasing industry, government, and community engagement.
   - Develop a strategic communication plan and commit to increasing communication activities.

8. Build programs to meet evolving student, industry, and community needs.
   - Review and communicate teaching resources and evaluate student needs.
   - Commit to professional development and seek out professional development opportunities with respect to teaching.
5. Implementation of the Strategic Plan

Strategies for implementing the Faculty of Engineering and Applied Science Strategic Plan 2012-2017 are outlined in the new Engineering and Applied Science Faculty Operations Guide. The guide outlines highly specific strategies agreed on by the faculty for implementing the strategic plan. This document will be reviewed and updated regularly and will form a core reference document for the faculty to facilitate planning, communication, and sharing of ideas and responsibilities amongst faculty members and staff.

Conclusion

The Faculty of Engineering and Applied Science is a growing faculty in a growing community. Over the past decade, our enrollment, our programs, our research capacity and calibre, and our faculty and staff numbers have increased tremendously. We are no longer a small engineering school in Canada; we are now a mature, competitive, medium-sized engineering faculty with the desire to continue to grow and increase our teaching and research capacity and provide even greater service to Regina, to Saskatchewan, to Canada, and to the world. We will continue to strive for excellence in teaching and research, to provide service to our communities, to develop highly qualified personnel for our industries and employers, and to respond to the changing needs of students, employers, and communities. The next five years will be marked by efforts to manage our growth, interact with our communities, industries, and leaders, and produce capable, qualified graduates ready to meet the future needs and challenges of our industries and communities.