

King Saud University
College of Engineering

**College of Engineering
Strategic Plan
(For 1428-1433 H / 2007-2012 G)**

TOWARDS EXCELLENCE IN ENGINEERING EDUCATION AND RESEARCH

Part I: Goals, Strategies, and Actions

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FOREWORD

Our College of Engineering, with its long tradition of excellence in research and teaching, is poised to take a leading role as one of the top premier engineering schools in the region. The high quality education we provide, enriched by a distinctive college experience, is sustained by a continual demand by the society for highly-qualified engineering graduates. Our challenge is to figure out a strategy to become more alert and responsive to the nation's needs and provide a truly remarkable student experience so that we can enhance our position of strength and reputation in the nation and Gulf region.

The Strategy presented here sets out our aims and priorities for the period to 1433 H (2012 G) and outlines our strive toward excellence in engineering education and research. The document has two main parts: Part 1 sets out our purpose and values and outlines our goals, strategies, and actions. Part 2, on the other hand, is basically a current status report which outlines the existing structure, facilities, and academic capabilities of our College and provides background information and trends regarding students and faculty.

There are seven goals, thirty five strategies, and two hundreds and eight action items contained in this Strategic Plan. The Strategic Plan Committee will carefully coordinate the plan's implementation to ensure that the aims of the plan are fully realized.

Creating a College dedicated to educational excellence will require difficult decisions and hard work. As we move forward to enact our strategic plan, several principles shall guide our progress, including timely actions to implement the mandated tasks, continual refinement and improvement of our strategic drive as well as open communications and full transparency. It is essential for the success of the College that a forward-looking, proactive perspective characterizes our approach to the challenges facing our College. Accordingly, each department will be asked to develop its own strategic plan to support the College in its efforts to achieve excellence in education and research.

Prof. Abdulaziz A. Alhamid
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1.5 COLLEGE OF ENGINEERING STRATEGIC PLANNING TENETS

Our College of Engineering Culture With pride in its heritage and aware of the contributions to this heritage by diversity of its people is dedicated to provide the best engineering education possible to all who seek it. Despite extensive growth from its inception, the College, reflective of its beginning, continues to convey a "small college" atmosphere through an open door way of thinking that promotes one on one interaction between faculty and students. Friendliness, professionalism, and a supportive environment are the foundation of our College of Engineering culture, a culture committed to students, their organizations and activities.

Vision

The vision of the college of engineering is:

To improve quality of life of the society through pioneer application-oriented research; customer focused scientific discoveries; and the education of future leaders in the engineering fields.

Mission

The mission of the college of engineering is:

To provide high quality education programs that address the changing needs of future engineers, serve the profession and contribute to the advancement and well-being of the society by creating and disseminating knowledge and technology to future generations through teaching, research and partnership with industry and government.

Values

The values of the college of engineering are:

- To excel at what really matters, and to aspire to the needs of society
- To treat individuals with dignity and respect: to judge without partiality, critique without contempt, and encourage without reserve.
- To value diversity and support – hearten and promote – creativity.

2. COLLEGE OF ENGINEERING STRATEGIC PLAN

"TOWARDS EXCELLENCE IN ENGINEERING EDUCATION AND RESEARCH"

2.1 INTRODUCTION

The College of Engineering continues to improve and to contribute to society in meaningful ways. In formulating the strategic plan that embodies the College guiding principles, we have built on the College's unique heritage of promotion of close interaction between students and faculty. In this view, the exchange of ideas among individuals is the most effective way to foster leadership, personal responsibility and a lifelong commitment to learning. Another defining feature of this plan is our view of education as an enterprise encompassing teaching, research, and public service. These are all ways in which we discover and disseminate knowledge for the benefit of society.

The goals described on the following pages reflect our highest priorities as we strive to fulfill our mission and realize our vision.

2.2 COLLEGE OF ENGINEERING GOALS

Goal 1: Provide excellent academic programs that best reflect the current needs and requirements of the profession

Strategy 1-A: Provide curricula that accomplish eleven key outcomes in our students. Our graduates shall have

- a. An ability to apply knowledge of mathematics, science and engineering.
 - b. An ability to design and conduct experiments, as well as to analyze and interpret data.
 - c. An ability to design a system, component or process to meet desired needs.
 - d. An ability to function on multi-disciplinary teams.
 - e. An ability to identify, formulate and solve engineering problems.
 - f. An understanding of professional and ethical responsibility.
 - g. An ability to communicate effectively.
 - h. The broad education necessary to understand the impact of engineering solutions in a global and societal context.
 - i. A recognition of the need for and an ability to engage in life-long learning.
 - j. A knowledge of contemporary issues.
 - k. An ability to use the techniques, skills and modern engineering tools necessary for engineering practice.
- Actions:

Strategy 1-B: Develop and adopt appropriate assessment practices to ensure and enhance educational excellence.

Actions:

Strategy 1-C: Encourage the continuous evolution of curricula

Actions:

Strategy 1-D: Enhance the English proficiency and the writing and communication skills of the college graduates.

Actions:

Strategy 1-E: Assess integrated engineering first- and second-year experience and revise accordingly

Actions:

Strategy 1-F: Enhance the design and practical implementation handiness, teamwork and leadership skills for the college graduates.

Actions:

Strategy 1-G: Promote motivation to excel and build up self dependability, critical and analytical thinking and problem-solving skills in the college students.

Actions:

Strategy 1-H: Revitalize engineering education to include experiential hands-on learning as an integral part of the education process.

Actions:

Strategy 1-I: Provide high quality graduate education.

Actions:

Goal 2: Recruit, nurture and retain outstanding students

Strategy 2-A: Attract outstanding students to our undergraduate programs

Actions:

Strategy 2-B: Nurture and retain undergraduate students throughout their course of study

Actions:

Strategy 2-C: Encourage students to join scientific, professional and honor societies and support their activities

Actions:

Strategy 2-D: Control the total undergraduate student population of the college to suite the available facilities, the space and to achieve and maintain good student-to-faculty ratio.

Actions:

Strategy 2-E: Attract outstanding students to our graduate programs

Actions:

Strategy 2-F: Link the graduate programs with the contemporary national and international technology and engineering issues.

Actions:

Goal 3: Recruit, nurture and retain outstanding faculty.

Strategy 3-A: Attract and retain highly qualified faculty

Actions:

Strategy 3-B: Create a balanced undergraduate teaching program and a strong research program.

Actions:

Strategy 3-C: Upgrade the quality of teaching and research.

Actions:

Strategy 3-D: Facilitate a comfortable environment for all faculty members.

Actions:

Goal 4: Empower the College Research

Strategy 4-A: Impact the national and global science and technology program

Actions:

Strategy 4-B: Increase interdisciplinary research

Actions:

Strategy 4-C: Expand the research enterprise

Actions:

Strategy 4-D: Support the creative discovery process

Actions:

Strategy 4-E: Foster an environment that is renowned for encouraging leadership in research and that rewards all discovery activities.

Actions:

Strategy 4-F: Establish expertise and unique capabilities.

Actions:

Strategy 5-A: Secure long-term research funding through establishing partnerships with the industry

Actions:

Strategy 5-B: Establish mechanisms for improving interactions with industry

Actions:

Strategy 5-C: Facilitate College services directed at local industry

Actions:

Strategy 5-D: Launch a marketing campaign to improve the reputation of the College

Actions:

Strategy 5-E: Create a strong sense of loyalty to the College among alumni.

Actions:

Strategy 6-A: Effectively manage the available and the extra college's space and land resources, available from the move of A&P+CS&I Colleges, for learning, living, and work.

Actions:

Strategy 6-B: Achieve adequate quality of space and infrastructural facilities

Actions:

Strategy 6-C: Enhance health and safety operations to support the college's research, learning, and engagement endeavors

Actions:

Strategy 6-D: Advance and implement initiatives to improve administration operational efficiencies and enhance customer service.

Actions:

Strategy 6-E: Attract, develop, and retain quality support staff

Actions:

3. IMPLEMENTATION AND ASSESSMENT

3.2 KEY METRICS

3.2.1 Programs

3.2.2 Students

3.2.3 Faculty and Staff

3.2.4 Research

3.2.5 Outreach (Engagement)

3.2.6 Facilities