



جامعة الملك فيصل
KING FAISAL UNIVERSITY



College of Engineering Strategy 2011-2015

***“...in pursuit of quality education and research
that lead to stakeholders success through
community engagement”***

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INTRODUCTION

The College of Engineering at King Faisal University (KFU) was established as per a royal decree in the year 1428 H (2008 G). The royal decree directed that the College includes seven different departments: Biomedical Engineering, Chemical Engineering, Civil and Environmental Engineering, Electrical Engineering, Materials Engineering, Mechanical Engineering, and Water Desalination Engineering. The first batch of students was admitted in 2009.

Since then, the College has adopted a scientific approach based on the principles of strategic planning and quality in higher education in order to achieve excellence and distinction. The vital importance of strategic planning lies in identifying priorities and allocating resources to maximize return on investment especially in light of the frenetic competition on resources, human and otherwise, as well as the fact that there are hundreds of other colleges that had lead in terms of tradition and resources.

One major facet of strategic planning at the College of Engineering involves specifying an identity for the College as manifested by forging vision and mission statements followed by a strategy to guide activities over a given period of time. All along the process, the College was conscious of the fact that its strategy draws on and supports KFU's strategic plan, vision, and mission. In order to implement the strategy, a detailed operational plan is put down. To measure and assess the extent of success, a set of key performance indicators (KPIs) for each level of planning are identified. The three levels of strategy and the framework of the strategic plan are shown in the two figures below.



The Three Levels of Strategy



The Framework of Strtegic Planning

OPPORTUNITIES AND CAPABILITIES

Sound strategic decisions require information about the potential opportunities and capabilities. In light of this fact, the College has adopted a proactive approach and conducted numerous market surveys that included meetings, questionnaires, workshops, and an international conference, among others. Examples of the College stakeholders participated in such surveys included SAUDI ARAMCO, SABIC, Honeywell, Advanced Petrochemical Company, Saline Water Conversion Corporation, KAPSARC, Alkazaf Saudi Company, ... etc.

Based on these market surveys, the College has identified a number of potential opportunities the most important of which include the great market demand on engineering graduates, location next to major petrochemical industry base and world leading companies, readily available and secured government financial support, and strong support from the Ministry of Higher Education to collaboration with international organizations. In addition, the College could highlight some of the challenging areas and domains that have not so far attracted sufficient attention and thus the College may excel and take the lead in such areas as transportation, telecommunications, bioenergy, materials, and corrosion.

Furthermore, the College has underlined a set of capabilities on which it can build including KFU's top management support, distinguished faculty members with high caliber expertise in education and research and excellent network of relations with prestigious international academic and industrial organizations, access to existing specialized research labs and centers on KFU campus, as well as sufficient KFU budget.

COLLEGE IDENTITY

The College identity was defined based on the determination and analysis of the opportunities and capabilities as presented in the previous section and in such a way that it is aligned with

KFU's vision and mission that highlight distinguished education and research to serve KFU's main theme of community engagement. Below we present the major items that define the College of Engineering identity.

Vision

"The College of Engineering aspires to be recognized for supporting and sustaining the **success** of its community and stakeholders to contribute to the Kingdom's development objectives and enrichment of humanity."

Mission

"The College of Engineering strives for providing quality services through *partnership with the community* by demonstrating commitment to

- quality education that prepares graduates through a project-based curriculum with broad basic engineering knowledge to be professionals and to pursue postgraduate studies and research.
- quality research that leads to better solutions to hot arid region issues with emphasis on efficiency as it pertains to cost minimization by working closely with industry and research centers."

As "*supporting and sustaining the success of its community and stakeholders*" is a key feature in the college vision, the phrase worth a word of explanation. As far as the success of individual is concerned, the college will harness all its resources to help its students and other individuals in the community accomplish success in its four major domains (*See the book: Just Enough: Tools for Creating Success in Your Work and Life* by L. Nash and H. Stevenson). In order to achieve that, individuals (students, employees and others) need plans on the part of the institution to develop their understanding of success and how to achieve it, provide them with adequate resources (competent faculty, extracurricular activities, supporting services, ...), educational and professional services, equip them with market-needed skills, enhance their entrepreneurship skills, motivate them, in addition to a wide spectrum of morals and values in terms of respect of others, team work, communication skills and dialogue, moderation in consumption, and raising their health awareness, among others.

As for organizations, the College, in addition to preparing qualified manpower who contribute to the success of organizations, can also contribute to the development of the knowledge and skills of employees of those organizations. The College can also conduct rigorous research to identify their problems and weaknesses and add value to their products in such a way that builds on the Kingdom's complete advantages (oil and gas, petrochemical industry, ...), as well as contributing to resolving pressing national problems (water scarcity, hot arid conditions, dust storms, ...). Moreover, the College may help organizations' employees in the happiness domain of success by pinpointing their preferences and desires and how to go about realizing them. Finally, the College is able to raise the level of work ethics among employees and social responsibility of organizations, as well as investing with them to create better management tools that ensure the continuity and sustainability of those organizations.

In contrast to the key feature in the vision, the "*close partnership with the community*" represents the key feature in the mission statement. This aspect should be viewed as a tool by which the College, in partnership with the community in decision making through the value chain stages, will utilize its educational and research services with the intention of accomplishing success to community, individuals and organizations. This kind of relationship should be designed to be deep and long lasting based on an understanding of the community needs and working hard to highlight the best possible total solutions.

Values

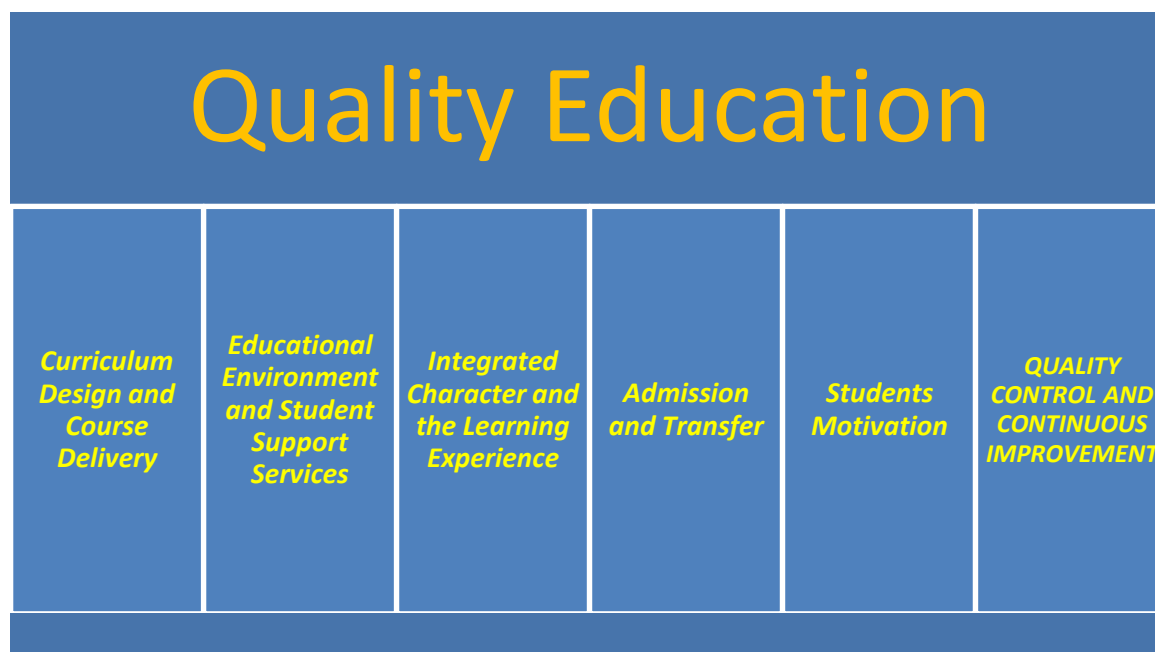
As the College of Engineering realizes that different types of competitive advantages correspond to and require a different set of values, the college has selected the following list as its values based on the competitive advantages it seeks to accomplish, namely, quality and community engagement (partnership). Appendix A shows the mapping process the College has conducted to select its values. The list of the College values is as below

- Planning and continuous assessments and improvement
- Transparency
- Understanding the needs of customers
- Close relationship with customers that is based on courtesy, patience, appreciation, and continuous communication
- The eagerness to provide complete solutions
- Flexibility through employee empowerment and decentralization
- Continuous improvement and learning process
- Team work
- Commitment through compliance with procedures, regulations, and standards
- Initiative

Following the vision, mission, and values, the college adopted a multi-colored logo with relevance to the College identity that has the expressive shape of a key to indicate success and a three-word phrase underneath "Uniqueness ... Partnership ... Success."

STRATEGY AND INITIATIVES: *UNDERGRADUATE*

The quality of education at the undergraduate level consists of several components. The table below illustrates these components.



Elements of Quality Education

Academic Programs

As indicated in the introduction, the royal decree to establish the College of Engineering at KFU directed that the college includes seven different academic departments. However, based

on the extensive market surveys, the College has identified its strategic directions and priorities within the decree framework on which the return on investment is maximized. Consequently, it was decided to start the first academic year (2009/2010) with three programs, namely, Mechanical, Electrical, and Civil Engineering while, based on the market demand, the Chemical Engineering Program was inceptioned in the year 2010/2011. In addition, and due to high market demand of the healthcare industry, the plans are underway to start the Biomedical Engineering Program in the year 2013/14 for female students. The reason behind this decision lies in the fact that the college sees an added value in this decision in light of the large number of female high school graduates as well as an attempt to diversify the college student population. It is also planned to open the Materials Engineering Program in the year 2014/15. The matrix below, known as Ansoff's matrix, shows the different strategic directions of the College.

<div>Customer</div> <div>Product</div>	Current	New
Current	B.S. in Civil Eng B.S. in Mechanical Eng B.S. in Electrical Eng B.S. in Chemical Eng	B.S. in Biomedical Eng (F)
New	B.S. in Materials Eng	Graduate Programs Research

Strategic Directions for the Education Component

Curriculum and Course Delivery

At the set out, the curriculum is to be designed to achieve the so-called Program Educational Objectives (PEOs) as outlined in the following list :

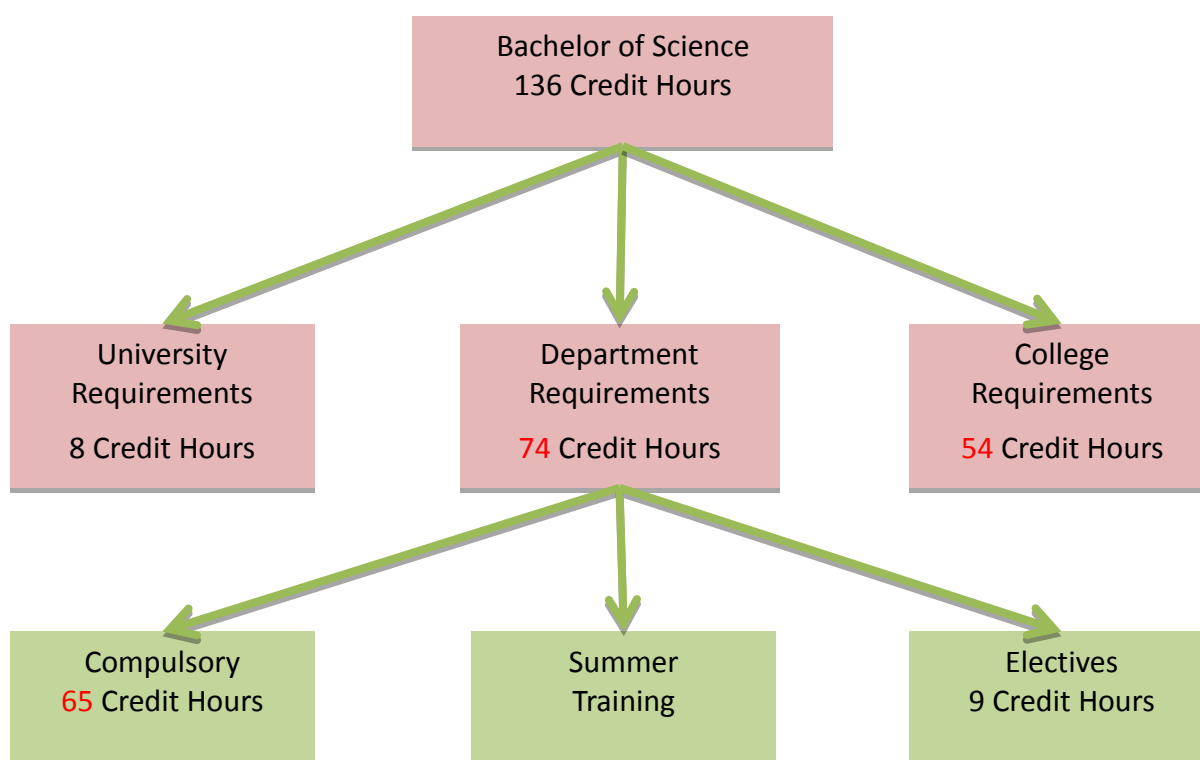
- Technically competent graduates for a successful and productive career in the engineering profession
- Graduates who are capable of pursuing graduate studies and research
- Graduates who can demonstrate their effective communication and teamwork skills in a diverse environment with an integrative perspective to solving engineering problems
- Graduates with the desire for life-long learning for the purpose of continuous improvement

These PEOs are assessed after few years of graduation and are consistent with the college competitive advantages. The table below shows the PEOs and their relation to the College competitive advantages and core competencies.

<i>Competitive Advantages (PEOs)</i>	<i>Core Competencies</i>
Integrative Perspective, Communication and Team Work Skills	<ul style="list-style-type: none"> - Broad Basic Engineering Knowledge - Project Based Curriculum - FE Exam Components
Professional	
Postgraduate Studies and Research	
Lifelong Learning	

In developing the curriculum for the academic Programs, the College dedicated substantial time and exerted great efforts over several months to put down a distinguished curriculum that is benchmarked against prestigious regional and international accredited institutions and organizations (ABET, EIT/FE Exam, 22 ABET Accredited Schools) and is examined in light of a significant volume of data on engineers statistics in the Kingdom. Furthermore, the study plans were sent out to experienced and knowledgeable reviewers from around the world whose input and feedback was taken into account in finalizing the curriculum.

The College has eventually concluded the efforts by presenting and approving a contemporary study plan that comprises 136 credits distributed as in the chart below. Still, however, the study plans were presented in a unique way based on the so-called project-based curriculum (PBC) featuring the concepts of clusters at the program as well as intra-program levels.

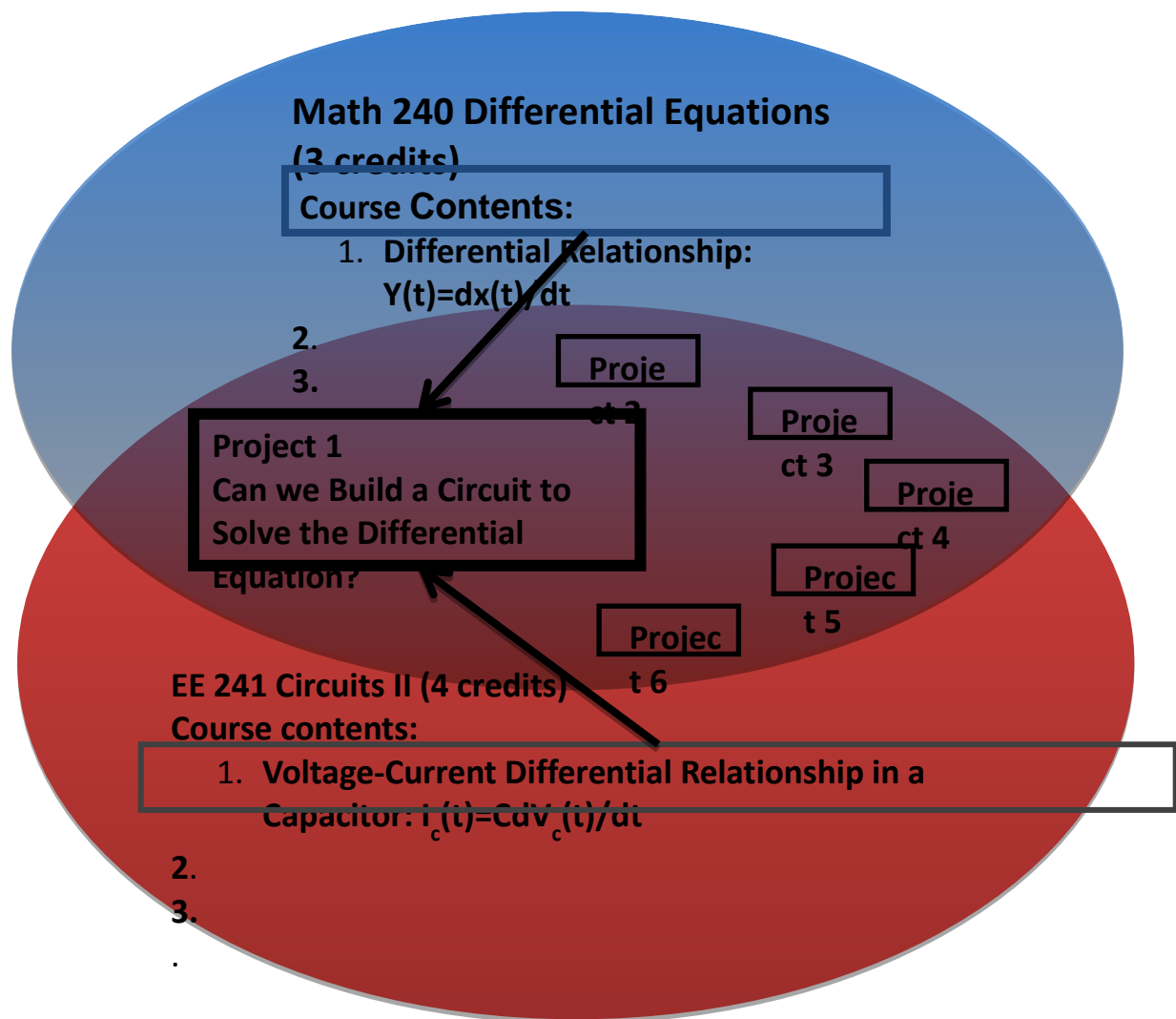


Curriculum Structure

Furthermore, the College has been working hard from the early beginnings to ensure academic quality and further establish the embedded concepts of continuous improvement and accreditation as key features. In fact, the College elected right from the start to work along the guidelines set forth by ABET according to which the learning/teaching process is driven and

assessed by a predefined set of specific and interrelated outcomes/objectives at the course level and then at the program level both at the time of graduation and later on. In the academic year 2011/2012, the College has approved developmental changes to the study plans based on inputs from the course portfolios and the overall experience over the last three years.

Now, as far as the method of course delivery is concerned, the college adopted a unique approach, as is the case with the curriculum, known as the project-based delivery whereby the process of project-based learning is a key theme in which course clusters is a key feature and, as the name implies, projects are a major learning tool be it at the course-lab level, two or more courses in the same program, or interdisciplinary courses. An example of these concepts is presented in the figure below for clarification purposes. The figure shows a two-course cluster (differential equations & electric circuits) that are to be delivered simultaneously and in close coordination. The common domain in the two courses is served by a number of *projects* that make the main theme of delivery of both courses and highlight the close links between the two courses. Additionally, the complete 8-semester study plan of the Electrical Engineering Program is also presented below in which each row of two or more courses with the same color indicates a cluster that shall be delivered as illustrated above.



A Two-Course Cluster Delivered by the PB Method

Bachelor of Science in Electrical Engineering

Preparatory Year (Intensive English/ Math /Computer Skills /Study Skills /etc.)

First Year			
First Semester			Credits
Phys	140	General Physics I	3
Math	140	Calculus I	3
Engr	101	Engineering Computing & Skills I	1
Chem	140	General Chemistry I	3
Eng	135	English Composition I	3
Engr	100	Introduction to Engineering	1
Engr	103	Engineering Graphics I	2
Total			16
Second Semester			Credits
Phys	141	General Physics II	3
Math	141	Calculus II	3
Engr	102	Engineering Computing & Skills II	1
Chem	142	General Chemistry II	3
Eng	136	English Composition II	3
Phys	142	General Physics Lab	1
Chem	143	General Chemistry Lab	1
Engr	104	Engineering Graphics II	1
Total			16

Second Year

Third Semester			Credits
EE	241	Electric Circuits I	3
EE	243	Electronics I	3
EE	245	Circuits & Electronics Lab I	1
Deic	101	Islamic Culture	2
EE	232	Digital Logic Design Lab	1
EE	231	Digital Logic Design	3
CS	204	Engineering Programming	3
Eng	137	Technical Writing	2
Total			18
Fourth Semester			Credits
Math	240	Differential Equations	3
EE	246	Circuits & Electronics Lab II	1
EE	242	Electric Circuits II	3
Engr	221	Engineering Mechanics I	3
EE	244	Electronics II	3
EE	234	Microprocessors Lab	1
EE	233	Microprocessors	3
Total			17




Third Year

Fifth Semester			Credits
Engr	340	Probability & Statistics for Engineers	3
EE	331	Engineering Electromagnetism	3
EE	312	Math for Electromagnetism	2
EE	330	Analogue Sys & Signal Processing	3
EE	313	Math for Systems & Controls	3
EE	332	Digital Systems & Signal Processing	3
Total			17
Sixth Semester			Credits
Engr	222	Engineering Mechanics II	3
EE	333	Comm Systems Fundamentals	3
EE	334	Comm Systems Fundamentals Lab	1
Engr	310	Numerical Methods for Engineers	3
Engr	307	Engineering Economics	3
EE	335	Electric Energy & Power Systems	3
EE	336	Electric Energy & Power Systems Lab	1
Total			17

Summer Semester – Engr 399 Engineering Training (00 Credit Hours)

Fourth Year

Seventh Semester			Credits
Engr	303	Thermo Fluids	3
Deic	351	Economic System in Islam	2
Deic	251	Islamic Creed & Ethics	2
EE	491	Graduation Project I	1
XX	4xx	Technical Elective	3
EE	431	Mechatronics & Controls Lab	1
EE	429	Mechatronics	3
EE	430	Analogue Control Systems	3
Total			18
Eighth Semester			Credits
XX	4xx	Technical Elective	3
Mgt	290	Manag Fundamentals & Skills	3
XX	4xx	Technical Elective	3
Deic	404	Political System in Islam	2
EE	492	Graduation Project II	3
Engr	205	Materials Science	3
Total			17

	Project-Based Cross Curriculum: PBCC		Project-Based Curriculum: PBC		Project-Based Integrated Curriculum: PBIC
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The College strives to enhance its study plans by amending the plans with extra initiatives that include written and approved documentation related to course delivery such as those on laboratories, Senior Design projects, and Engineering Training.

The college has also pre-planned schedules of external course activities related to utilizing required expertise from the industry. The activities take the form of either inviting an expert to deliver one or more lectures on specific topics in the designated courses, *or* arranging for a visit by students enrolled in the given course to an industrial firm to see for themselves relevant practical aspects to the theory. The intention is to implement the community engagement concept on the one hand, and to enrich students learning experiences on the other.

Educational Environment and Student Support Services

The College works hard to provide as productive of an environment and supporting services to its students as possible and thus provides a package of activities in order to achieve this goal.

The college administers such activities as regular annual and/or per semester orientation days to the newly admitted students that is followed on the same day by scheduled distribution of textbooks to all students to ensure that classes commence on the first day of each semester. In addition, the college provides other relevant services that include state-of-the art building with comfortable rest areas and readily available wireless internet service, contemporary labs with good safety measures, IT public and instructional labs with modern terminals and software packages, photocopying and stationary services, a cafeteria, and a small library besides the KFU main library. Moreover, the college allocates space and hardware for a tutoring office and has an established system and documentation for academic advising and counseling. The college believes that all these activities have proven to work as key success factors and, therefore, strives to maintain them.

Integrated Character and the Learning Experience

These two interrelated aspects are dedicated to facilitate the success of individuals (our students). Obviously, they come in line with and support this key feature in our vision as indicated earlier. As the College firmly believes that the complete and rewarding student learning experience goes beyond lectures in the classrooms and is more than just getting high grades, the College makes all possible attempts and devises as a diverse of means and tools as possible to build the students' integrated character. The most highlighted of these include some extracurricular activities and initiatives that include, for instance, a set of soft skills and leadership doses, a design competition contest, and professional chapters.

Admission and Transfer

The College sets stringent requirements in order to guarantee and maintain the quality of its outcomes such that their standards are comparable to those of respected colleges elsewhere. Students of the College of Engineering who are potentially capable of successfully completing its graduation requirements are characterized with many desired attributes such as self-reliance and independence, achievement and ability to face challenges, optimism and self-confidence, innovative and creativity, communication skills, high ethics and loyalty, respect of others, and time and stress management.

In order to maintain its high standards, the College adopts a proactive recruitment policy of high caliber students via a diverse spectrum of initiatives. For instance, the College participates in the annual KFU exhibition, which is an open day event for the community to get to know about KFU Colleges, programs, and future plans. The college also arranges for visits by top students from the community high schools to the college in addition to examining other means and tools of outreach to the Eastern Region (Province) high school students as well studying the possibility of sponsoring non-Saudi students from within the Kingdom and abroad.

Moreover, the college puts minimum acceptable requirements on those applying for admission that starts with selecting a limited number of students according to the weighted average admission criteria (HS, Achievement, and Capabilities) and then other constraints on Prep Year performance. To this end, the College conducted a comprehensive statistical study that correlated the admission requirements to the students' GPA. It turned out that only the achievement component was significant and accordingly, the weight on this component was increased from 30% to 40%. In addition, pre-specified stringent criteria apply to those who file for transfer from other colleges.

Student Motivation

The college motivates its students on a systematic and continuous basis through a number of initiatives that celebrate and recognize distinguished achievements and drives the spirit of constructive competition among its students. The most important initiatives are the Outstanding Student Awards that include the Dean's List which is awarded on a semester basis, the Highest GPA senior student award that is given to the student with the highest GPA in the batch, in

addition to the best senior design award that is provided on a competitive basis as well as a prize given to best achieving students by the Honeywell Company. Moreover, the College covers the costs of senior design projects and allocates a financial award to students who publish a paper in a specialized publication medium.

Quality Control and Continuous Improvement

Under the section "*Curriculum and Course Delivery*", it was explicitly stated that quality represents a milestone as far as the educational component is concerned. It was also indicated that continuous improvement and accreditation are key features. Accordingly, the College possesses and operates according to a quality control system that relies on a number of quality practices that make a quality assurance system for achieving the educational goals set out for the College and ensure improvement on a continuous basis. These activities are administered by a Quality Office (Committee) that is dedicated to oversee all quality-related practices throughout the College. Below is a summary of these practices:

- **Grade Distribution:** Each semester, all instructors are required to submit the distribution of their course grades to the College Quality Office indicating the numbers and percentages of those getting A/A+ and D/D+ in addition the percentage of failing students.
- **In-Class Peer Evaluation:** Each semester, a plan is put down early on in the semester to arrange for visits to a number of selected colleagues during their classes to evaluate their performance. The visit and the evaluation process are completely transparent whereby 3 to 4 senior faculty members attend part of the lecture to the colleague who is aware of the visit time beforehand and evaluate him according to an existing template that is available to all. Moreover, the colleague has the privilege and the right to see the evaluation and respond to the comments raised by evaluators. A colleague may be visited one more time during the semester if the evaluation team deems that necessary and justified.
- **GPA distribution:** The College keeps updated records of the distribution of its students GPAs. As the College has consistently noticed that a significant proportion of its students are below 3.0/5.0, which compromises the College pursuit of high standards, it adopted a move that was approved by the KFU management that requires all students admitted in 2012 and thereafter to acquire a minimum GPA of 3.0/5.0 to graduate. And, in an attempt to raise the standards of pre-2012 students, the college submitted a proposal that allows students to repeat some courses under a set of carefully selected conditions and constraints.
- **Student Course Evaluations:** Since its very first semester, the College has been conducting course evaluations based on a college template. However, over the last three semesters, the College has adopted the NCAA template that is conducted on-line throughout KFU. KFU statistics indicate that the student turnout in the College of Engineering is among the highest in KFU as the event is carefully organized and scheduled by the College Quality Committee.
- **Learning Outcomes Assessment (LOA):** Since quality requires that courses be delivered to achieve a predefined and specific set of learning outcomes, the College Assessment Committee started since the Fall 2011 (First Semester 1432/1433 H) conducting formal direct and indirect LOAs for each and every course (including labs) offered in the College in the given semester. At the assessment conclusion, an extensive report is prepared and submitted to the Dean to draw conclusions and make corrective actions.

Now in order to secure continuous improvement, all data generated from all these practices are compiled and analyzed to pinpoint areas of weakness and strength. Based on available information, remedies are proposed for improvements and information is disseminated to the College staff via a number of workshops, meetings, reports or otherwise during the semester or

early on in the next semester as the case may be. The College has agreed on a list of KPIs that may well be used for assessing the quality of the undergraduate programs.

STRATEGY AND INITIATIVES: *GRADUATE*

The college recognizes the significance of graduate programs as a strategic direction that shall come to compliment the College research priorities and support its mission in the research component that shall work to solve pressing national problems. In the process, a number of challenges were identified and the College has been moving to establish a framework for its graduate program. A key feature of the framework involves three parties: the College, an industry partner, and an international academic partner that is either a university or research center. The major strength in this framework lies in the synergy among these three parties. For instance, in the transportation field, which is one of the College strategic research directions, the College will partner with the municipalities as the industry partner and the University of Idaho as the international partner. The College expects that its graduate programs will begin in the academic year 2014/2015.

STRATEGY AND INITIATIVES: *RESEARCH AND PROFESSIONAL SERVICES*

As a newly incepted college, the College of Engineering realized that it was hard to decide on its research priorities as part of its strategic directions. Therefore, the college opted to work along two parallel approaches in defining its research priorities: the Internal Approach and the External Approach. In the internal approach, the college draws and builds on the various research expertise of existing faculty from the different disciplines. Such expertise include but not limited to RF and Microwave Communications, Bioenergy, Computational Methods, Modeling, and Optimization, Polymers, Gas Purification and Desulfurization, Industrial Water Treatment, Multi-scale Modeling/Simulation in Fluid and Heat Transfer and CFD, and engineering education. The College faculty members are actively engaged in scholarly activity and have managed to publish a good number of research articles and attract a good amount of research fund.

As for the external approach, the research priorities were identified based on the industry needs and the challenges that are most significance to the national economy. It was not difficult for the college to underline the issues of national significance within the Saudi Arabian context but further elected to categorize them under two main classes: competitive advantages and competitive disadvantages. A competitive advantage is an industry or sector where Saudi Arabia enjoys an apparent strength in which it can compete globally such as oil and gas and petrochemicals, while a competitive disadvantage refers to a problem or challenge in Saudi Arabia that calls for urgent action like water scarcity and corrosion.

In its efforts thus outlined, the College focuses on specific industries/sectors perceived as most affected by these issues. These industries or potential customers include Oil and Gas, Petrochemicals, Fertilizers, Mining, Energy, Water Desalination, Telecommunications, Transportation, Construction, Air Conditioning and Energy-Efficient Buildings, and Healthcare Facilities.

It is obvious that these themes are quite broad and, therefore, the College has been seeking to narrow them down and be more focused. To this end, the College has passed through two phases: the first entails selecting the core competency where the college singled out "efficiency" among other significant potential competencies such as reliability, safety, standardization, etc. Under the umbrella of this core competency –efficiency-, the College has selected the following research thrusts:

- High temperature climate and discomfort
- Air conditioning and energy-inefficient buildings
- Corrosion
- Sand and dust storms
- Water scarcity

- Open, unpopulated, and underserved areas, and
- High energy consumption.

Using these thrusts, the College went on to the next step in identifying the mechanisms needed to get even more research focus in each theme. It followed several paths in an attempt to achieve excellence in these themes including conducting workshops, organizing international conferences, and hosting international research figures. For instance, the college conducted a specialized workshop on transportation the conclusion of which was identifying the specific topic of "Tracks buckle in extreme heat, impact of temperature variation on earthworks, and impact of sand ingress" as a main research theme.

In the implementation phase, the college has adopted different initiatives among which motivating faculty to carry out research in these fields, contacting several scholars to serve as chairs and companies for possible funding, and conducting joint research projects via service contracts, among others. In addition, as these areas of research represent strategic directions and competencies, the College will give them utmost priority in senior design projects as well as potential graduate theses topics.

In addition to research activities, the College faculty have been active in delivering a number of high quality specialized short training courses (workshops) to several organizations within the Kingdom and beyond. This reflects the unique expertise of the faculty and highlights the market demand for that expertise. The following list makes a carefully examined set of KPIs for the research component.

- Funded Research:
 - Internal funded projects (KFU)
 - External funded projects (KACST, SABIC, ARAMCO, etc.)
 - Consultancy projects
- Publications:
 - Number of published international journals
 - Impact factor of the journal
 - Number of published book chapters
 - Number of published conference papers
 - Workshops
- Awards
- Fellowships
- Patents
- Concentrated Research:
 - Research conducted within the college identity
 - Applied research to help the local community
- Research Activities:
 - College of Engineering organizing conferences
 - Editorial board involvement of a scientific journal
 - Peer review involvement of a scientific journal

STRATEGIC ALLIANCES

As in all other aspects of its strategy, the College regards alliances with other institutions, centers, companies, .. etc. an important approach in accomplishing its strategic directions and creating and sustaining its competitive advantages. In this regard, the college has already forged alliances with, for instance, Honeywell Co., Al-Ahas Municipality, and Irrigation and Drainage Commission. To further fulfill this approach, the College has come a long way to sign alliance agreements with several other national and international organizations such as SAUDI ARAMCO and Michigan State University.

ORGANIZATIONAL STRUCTURE AND SYSTEMS

The effective and successful implementation of the College strategy requires putting down a clear organizational structure that specifies administrative and academic units such as academic departments, committees, councils, ... etc.

As the College believes in decision making participation by all its affiliates and as an attempt to develop a sense of ownership among its stakeholders, the College relies on a number of sources including KFU Council, College Council, Department Coordinators, and Student Advisory Board. The College has ongoing effort to establish advisory boards at the academic department level. In addition, the College invested heavily in terms of time, efforts and thought to establish a system that governs all the facets of its functioning. Examples on this may be the regulations put forth for both the College Advisory Board, the Student Advisory Board, the Codes of Conduct for both faculty and students, the General College Policies directed to faculty, the regulations set for short training courses delivered by faculty, Engineering Training Regulations, and Senior Design projects.

In order to further facilitate college management and enhance the decision making process and lift its effectiveness and efficiency, the College is in the final stages of establishing an integrated and universal management information system (MIS) in which all relevant processes, procedures, and policies are included.

COLLEGE STAFF

The college views its distinguished staff as a major asset and counts on their professionalism, commitment, dedication and loyalty to carry all their tasks and responsibilities to support the realization of the College strategy.

The College takes pride in the highly qualified staff thanks to an effective and transparent human resource management that relies on a well-structured recruitment policy and planning, strict selection criteria, continuous professional development, and regular performance evaluation.

The human resource planning in the College is based on well-defined academic department needs as well as maintaining a reasonable faculty-to-student ratio. As part of this system, the College has preset criteria for staff salary that ensures equity among all its affiliates. The College strives to secure the continuity of staff development by having them attend several workshops organized by both the College and the University in addition to regular orientation days for new faculty. As a quality assurance measure, all members of staff are subject to an annual evaluation procedure the results of which are open to faculty for comment. The results of these evaluations are utilized in multiple of ways including identifying staff areas of weakness and means by which they can be remedied and serve as a tool for selecting and granting annual awards including the Outstanding Instructor and the Outstanding Researcher Awards.

The College also exerts focused efforts to motivate staff, maximize their productivity, and deepen their loyalty by providing a range of supporting services and creating the most adequate work environment. In this regard, the College provides each staff member with an adequate well-equipped office space, arranges for social and sports activities, gives its staff ample opportunities to participate in decision making, and recognizes and supports their initiatives, ... etc.

PUBLIC RELATIONS

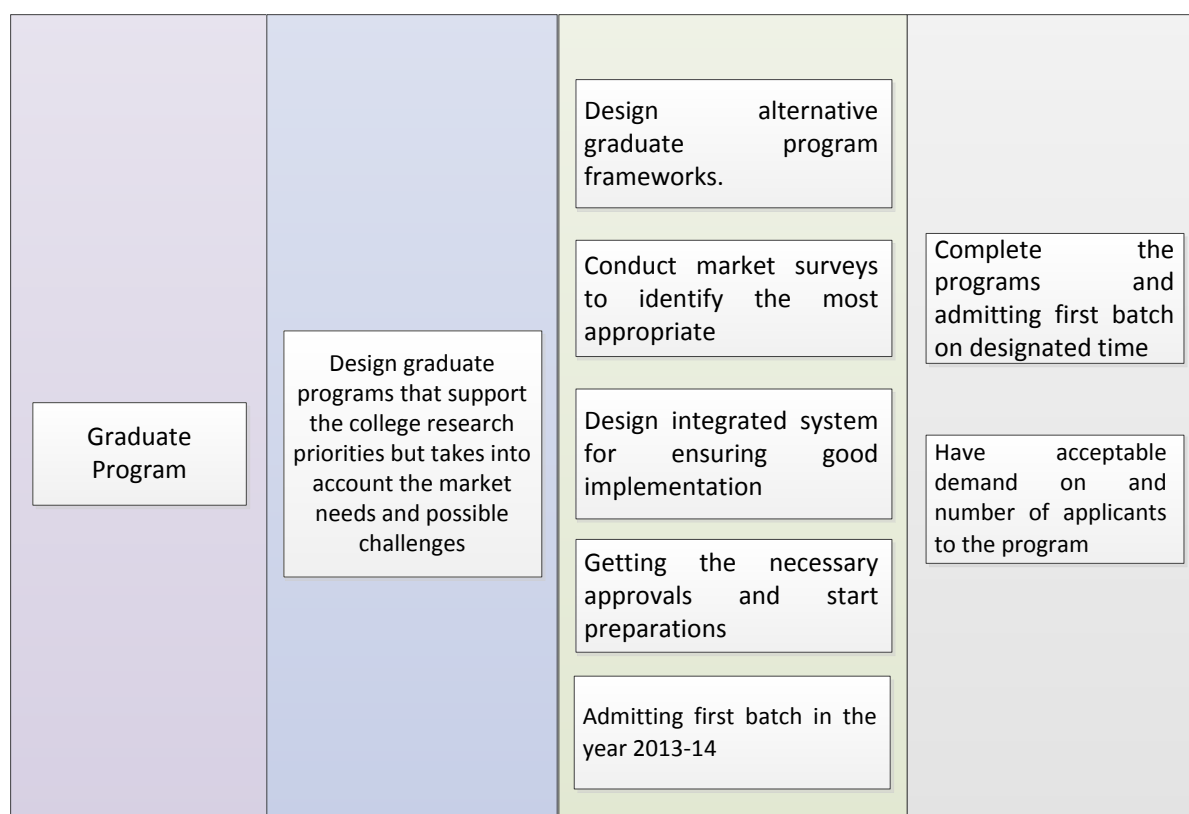
As any other organization, the College of Engineering realizes the paramount importance of keeping long lasting links and staying continuously in touch with stakeholders. The significance of this dimension stems from its necessity for both a healthy community partnership and the accomplishment of the College competitive advantages. As such, the college maintains a number of communication channels including an updated website on the net as well on facebook, an active forum, well designed brochures, distinguished presence in exhibitions, and posting its news on the KFU ISHRAQA paper.

STRATEGY MAP

From its early beginning, the College has put down a strategy map that is based on its strategy. This map identifies the three basic elements of objectives, initiatives, and KPIs. In this document, the College puts forward a map for the 5-year period spanning from 2011 to 2015, where the latter signals the end of the first strategic cycle. In strategic planning, it is well-known that setting specific and reasonable achievement targets is essential. However, it was hard for the College of Engineering to set such targets since, as a newly established unit that is still in the transition phase, the College has been witnessing changes in faculty and is still searching to define its own specific targets on sound scientific bases.

It should be noted here that all the initiatives that are presented above in the text will be maintained and improved over time. And, to avoid unnecessary repetition, we'll present in the map table below only the initiatives that haven't been mentioned earlier.

Perspective	Objectives	Initiatives	KPIs
Undergraduate Programs	Give students more options by opening new programs.	Start the BME Program for female students in 2012-13.	Start these new programs on designated times.
		Start the MAT Program in 2013-14.	Number of course/clusters delivered according to PBC
		Design and deliver courses according to the PBC in collaboration with other institutions with expertise in this field.	Numbers of lectures delivered by experts and number of field visits to industry
	Ensure education quality.	Maintain and enhance other quality practices (portfolios, rubrics, evaluations, workshops, etc.) in order to complete the quality control loop	Extent of accomplishing quality requirements and deviations thereof and accreditation

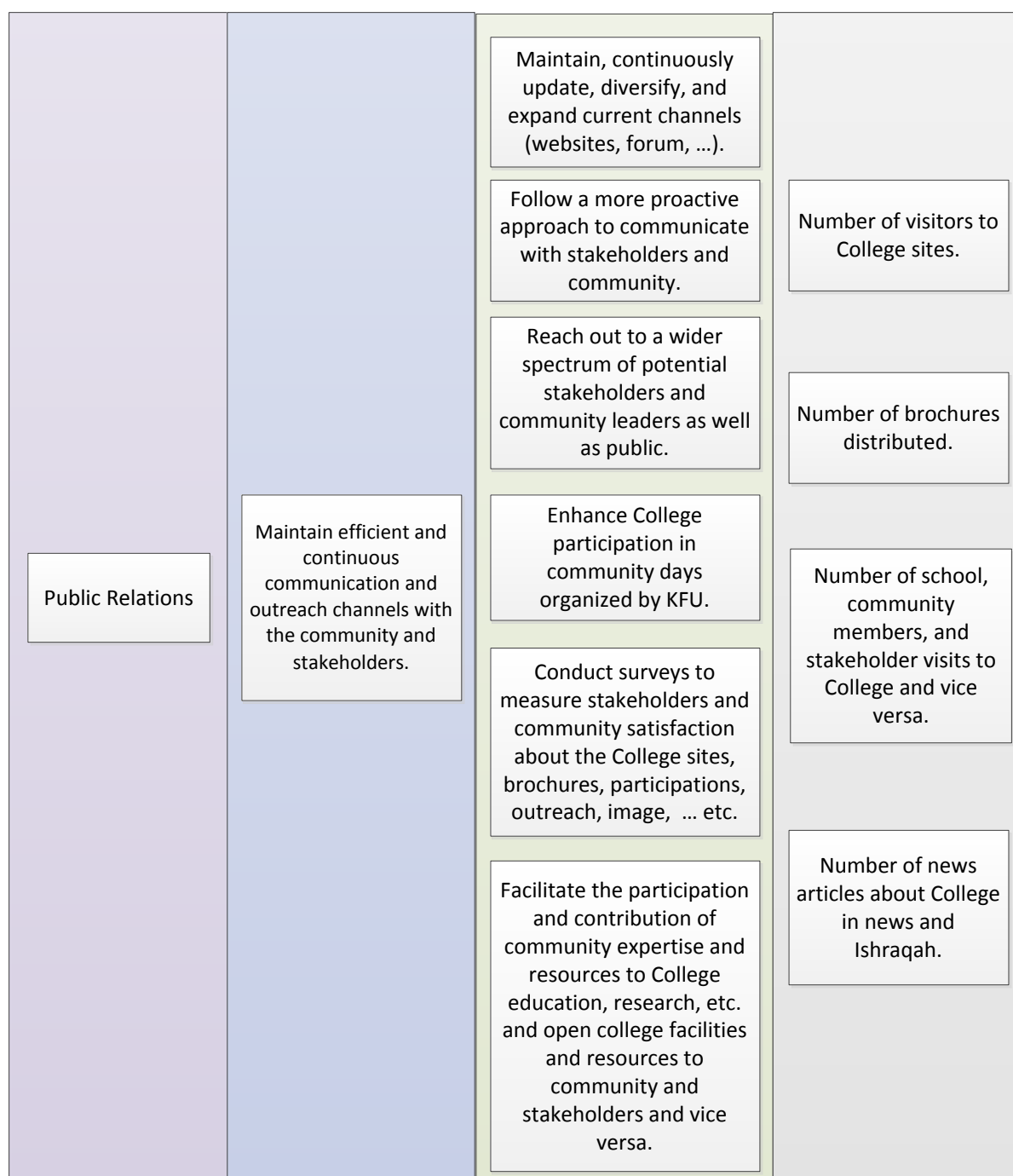


<div data-bbox="218 745 430 846">Research</div>	<div data-bbox="470 613 729 772">Keep up a good research record and activity</div> <div data-bbox="470 846 729 958">Finalize the college research priorities</div>	<div data-bbox="766 389 1077 598">Prepare a number of proposals for scientific chairs and centers of excellence that consider market demand and college priorities.</div> <div data-bbox="766 667 1077 772">Encourage faculty to get more research funds from KFU and externally.</div> <div data-bbox="766 846 1077 965">Motivate faculty to publish in high JIF journals.</div> <div data-bbox="766 1016 1077 1162">Encourage faculty to deliver more training courses and get engaged in consultation projects.</div>	<div data-bbox="1118 212 1370 405">Prepare and submit a sufficient number of research proposals Secure funding for a good proportion of them</div> <div data-bbox="1118 423 1370 577">Publish an acceptable number of articles in respected journals and conference proceedings</div> <div data-bbox="1118 595 1370 719">Number of awards, patents, and fellowships by staff</div> <div data-bbox="1118 736 1370 902">Extent of staff involvement on journal editorial boards, as reviewers, ... etc.</div> <div data-bbox="1118 920 1370 1077">Number of conferences, workshops, ... conducted by the College</div> <div data-bbox="1118 1117 1370 1352">Number of research projects and consultations that fall under community service or tackle a real problem in the community</div>
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<div data-bbox="218 1655 430 1756">Organizing and Systems</div>	<div data-bbox="470 1621 729 1789">Maintain and improve the existing structure and systems</div>	<div data-bbox="766 1532 1077 1655">Activate the career office functions</div> <div data-bbox="766 1688 1077 1812">Establish alumni office in the college</div> <div data-bbox="766 1845 1077 2002">Compile all KFU regulations that are relevant to college functioning and incorporate them in the College MIS.</div>	
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<div>Alliances</div>	<div>Maintain, implement and expand current alliances</div>	<div>Take the initiative and make plans to keep and implement current alliances.</div> <div>Search for and sign agreements with new carefully selected alliances that serve the College priorities.</div> <div>Utilize and take advantage of existing alliances with KFU in coordination with the Admin Units in charge.</div>	<div>Extent of implementation of current alliances agreements as expressed by number of events that implement agreements.</div> <div>Number of new alliances that serve the College strategic directions.</div>
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<div>Teaching Staff</div>	<div>Recruit and maintain a pool of qualified and loyal staff.</div>	<div>Maintain a sound planning policy for recruitment.</div> <div>Adopt measure to recruit distinguished national staff.</div> <div>Keep up the motivation initiatives proposed by the college (Awards, salary calculation formula, family spirit, ...).</div> <div>Conduct the regular evaluations of staff.</div> <div>Maintain the professional development of staff (orientation, workshops, conferences, ..).</div> <div>Employ and benefit from outstanding college graduates.</div>	<div>Number of new qualified staff joining the college</div> <div>Number of new Saudi staff joining college.</div> <div>Granting awards to outstanding staff as planned.</div> <div>Conducting all evaluations as scheduled.</div> <div>Number of professional development activities attended by staff.</div> <div>Number of employed staff (TAs, sponsored,..) who are college graduates.</div>
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For more information and comments

The College invites all to visit and brows its web site and also welcomes phone calls and personal visits.

Contact Information

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Vision

"The College of Engineering aspires to be recognized for supporting and sustaining the **success** of its community and stakeholders for realizing the Kingdom's development objectives and enrichment of humanity."

Mission

"The College of Engineering strives for providing quality services through *partnership with the community* by demonstrating commitment to

- quality education that prepares graduates through a project-based curriculum with broad basic engineering knowledge to be professionals and to pursue postgraduate studies and research.
- quality research that leads to better solutions to hot arid region issues with emphasis on efficiency as it pertains to cost minimization by working closely with industry and research centers."

Values

- Planning and continuous assessments and improvement
- Transparency
- Understanding the needs of customers
- Close relationship with customers that is based on courtesy, patience, appreciation, and continuous communication
- The eagerness to provide complete solutions
- Flexibility through employee empowerment and decentralization
- Continuous improvement and learning process
- Team work
- Commitment through compliance with procedures, regulations, and standards
- Initiative