



An Overview of KING FAHD UNIVERSITY OF PETROLEUM & MINERALS KFUPM



Topics



Background and Campus



Graduate Studies



Research Opportunities



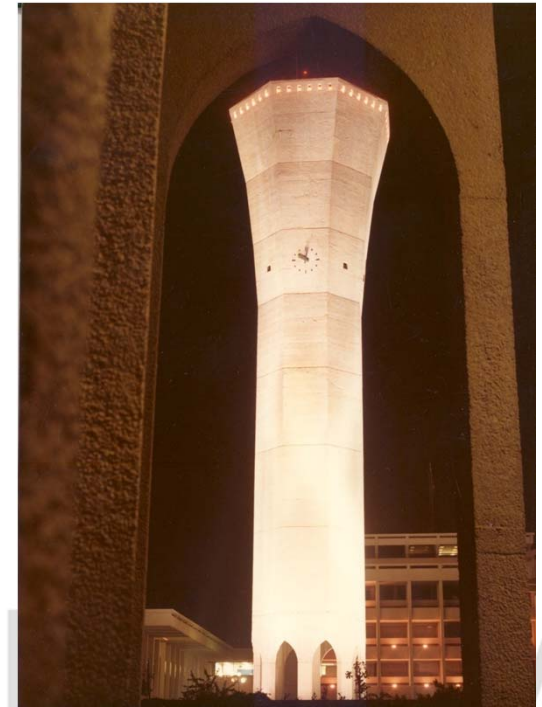
KFUPM Initiatives



KFUPM Future



Scholarship Opportunities





Background and Campus Life





KFUPM ... Then and Now



College of Petroleum and Minerals, 1963



- A college
- 2-year technical college
- 76 students
- 14 faculty members

KFUPM now...



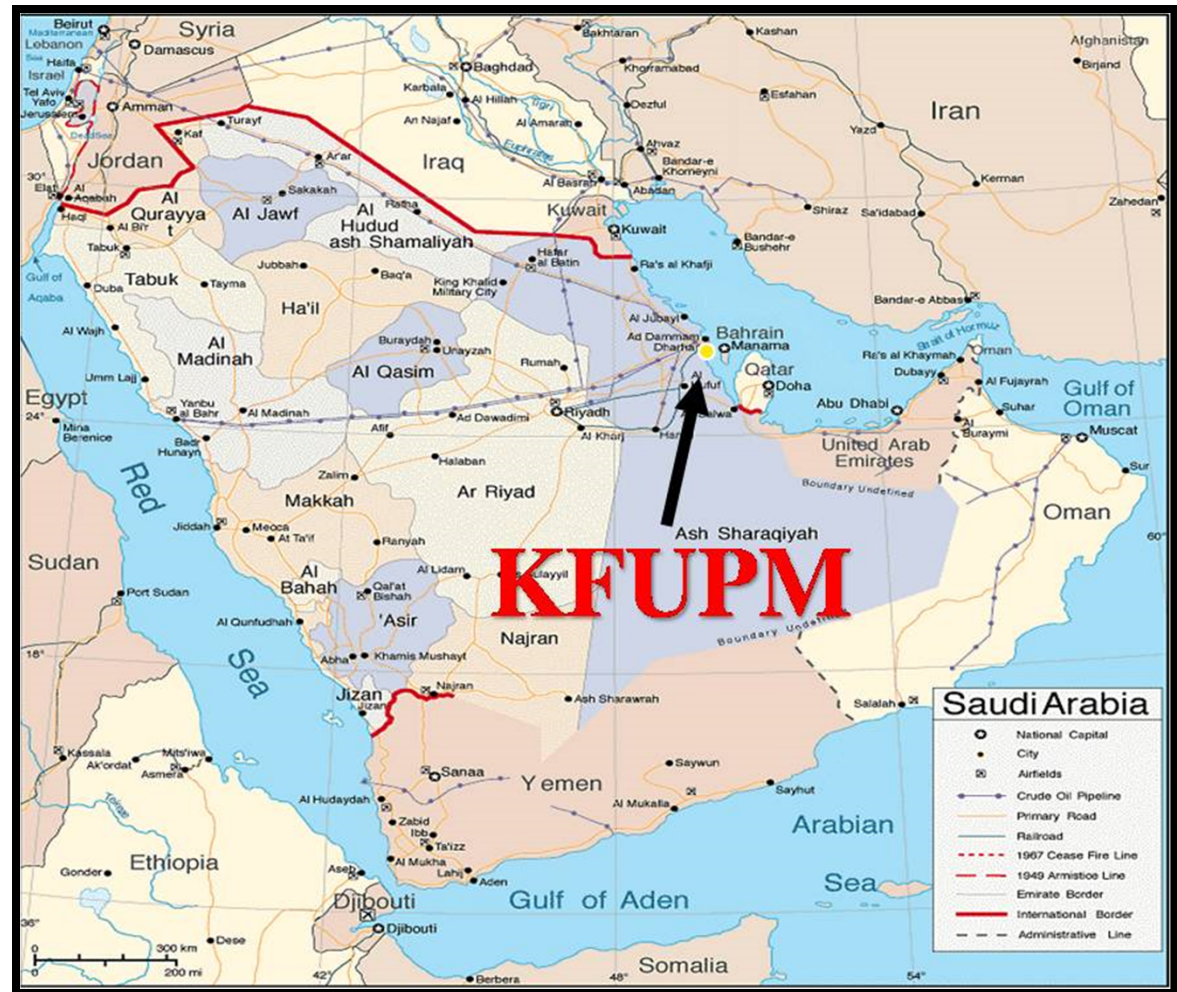
- 7 Colleges
- BS, MS, and PhD
- 9000 students
- 950 faculty





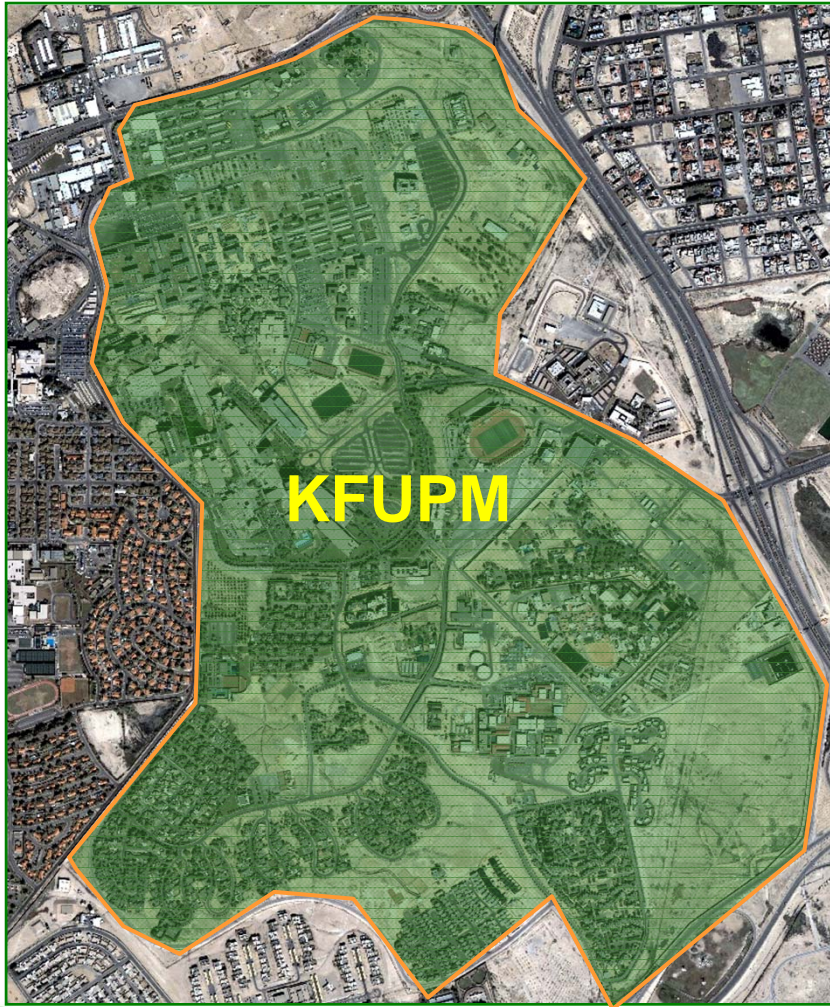
A prominent location

In the heart of
Saudi Arabia's
oil fields and
industrial cities





KFUPM Campus



Facts & Figures

- Area of more than 4 km²
- 20,000 people
- 1,200 Units - faculty Housing
- 4000 Rooms - Student dorms
- Sports & other amenities
- Medical center
- Community center

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A world-class campus



Unique
architecture
&
state-of-the-art
infrastructure

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KFUPM



A multi-cultural vibrant community



A large world-class campus (65+ nationalities)
yet small enough to build close relationships



A passion for knowledge



KFUPM



A city on its own



Faculty campus
accommodation



Student campus dormitory



A healthy environment

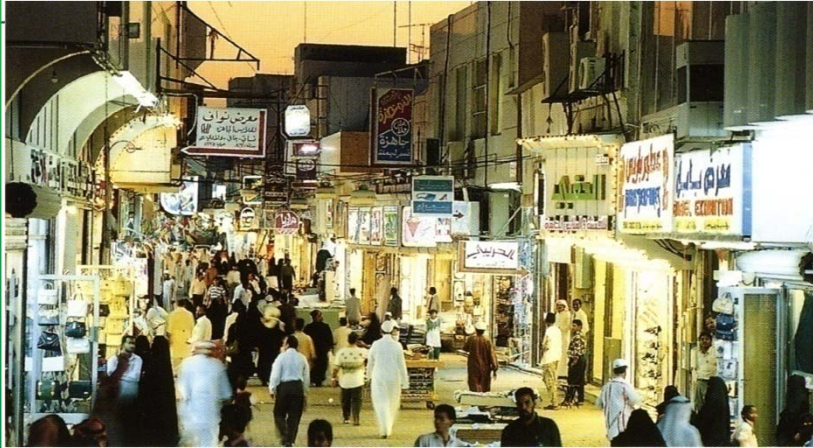


On-campus
sports facilities & medical care





Nearby attractions



Traditional Middle Eastern souks



Modern malls



Tranquil seafront



A 30-minute drive to Bahrain



Smart Campus

- State-of-the art IT
- Wireless campus
- ERP system
- Student and Registration systems
- e-Learning and online courses
- e-Library
- Smart classrooms



Your secure, personal gateway to information and services at KFUPM.



Achievements of KFUPM Students

- 1 Awards in national and international competitions: (Microsoft, Intel, Petroleum and Geology Societies, ...)
- 1 Highest number of participations and awards among Saudi Universities in the annual Student Scientific Conference.
- 1 Several patents
- 1 Cultural and sports awards.
- 1 Volunteers > 2500 every year.





Achievements of KFUPM Alumni

- ① Hold leading positions within government and industry both locally and around the globe (e.g. Aramco, SABIC, IT industry,...)
- ① Pursue higher studies at reputable schools
- ① High demand in Career Day from major employers.
- ① Average of 6 job offers/graduate
- ① About 20% of senior students are sponsored by companies.





Career Day

Started 30 years ago

More than 130 major companies participate in the Annual Career day



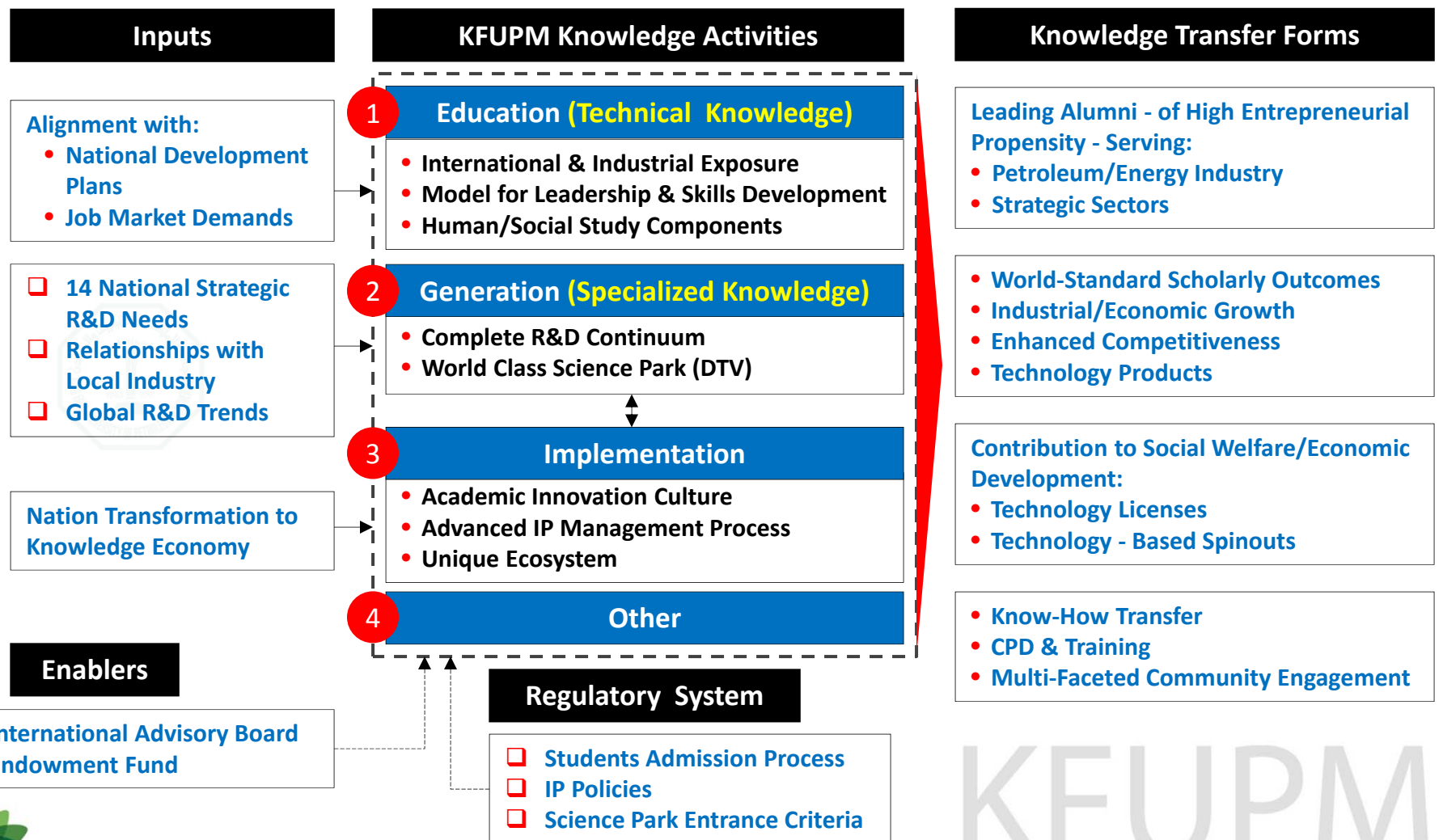


Graduate Studies at KFUPM





KFUPM's Knowledge Model

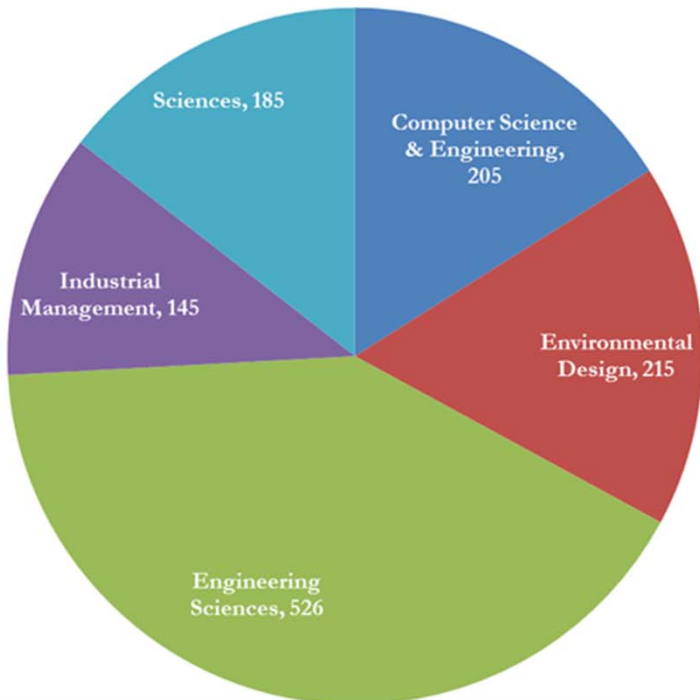


KFUPM

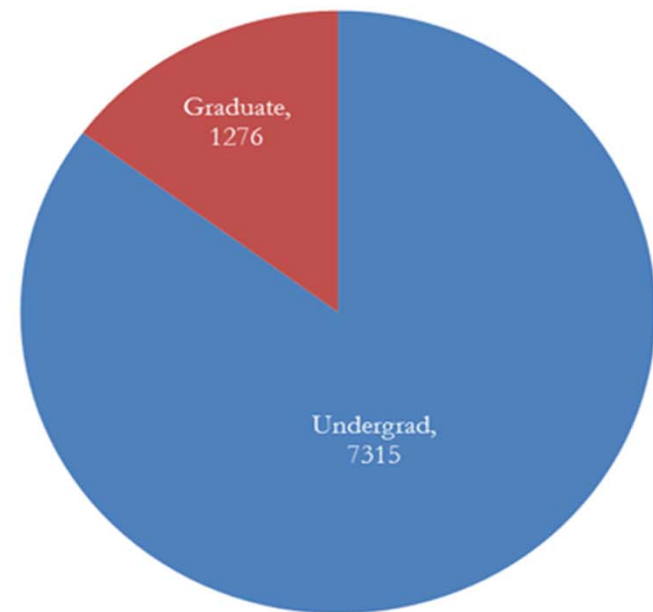


Graduate Student Enrollment

Graduate Students' Distribution



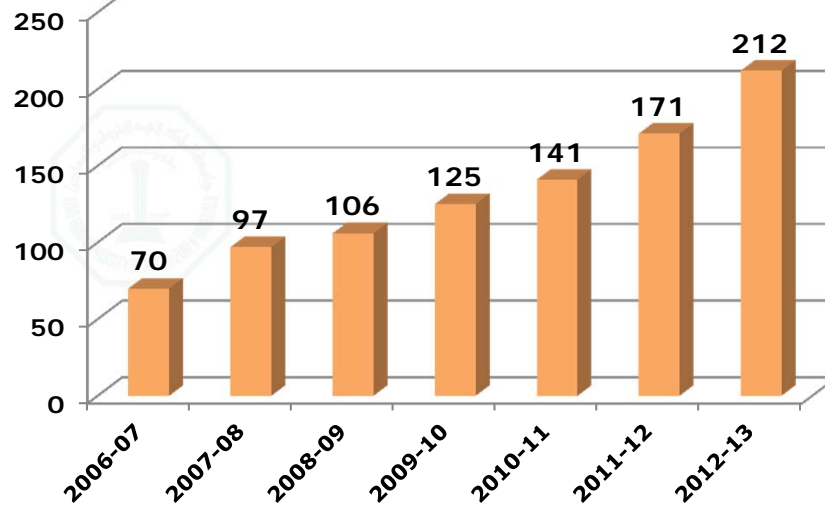
Graduate to Undergrad Ratio



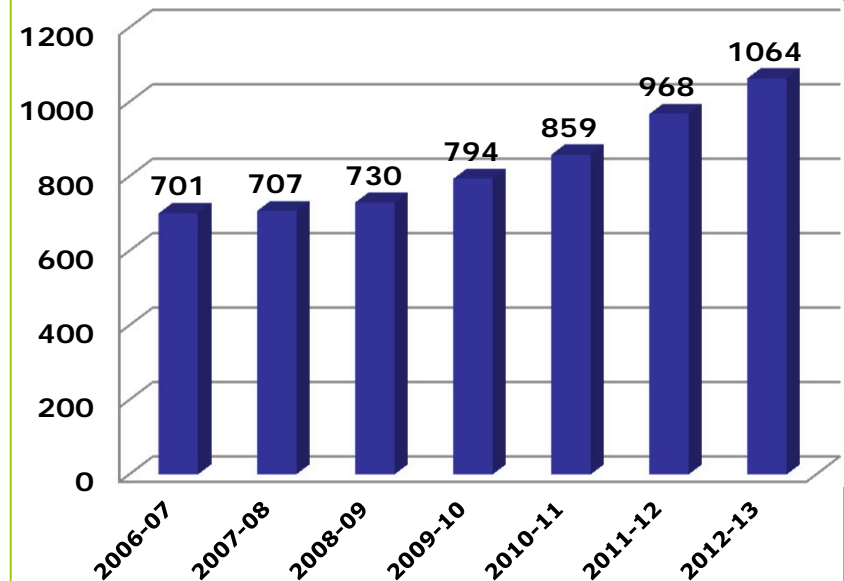


Growth of Graduate Student Body

PhD Enrollment



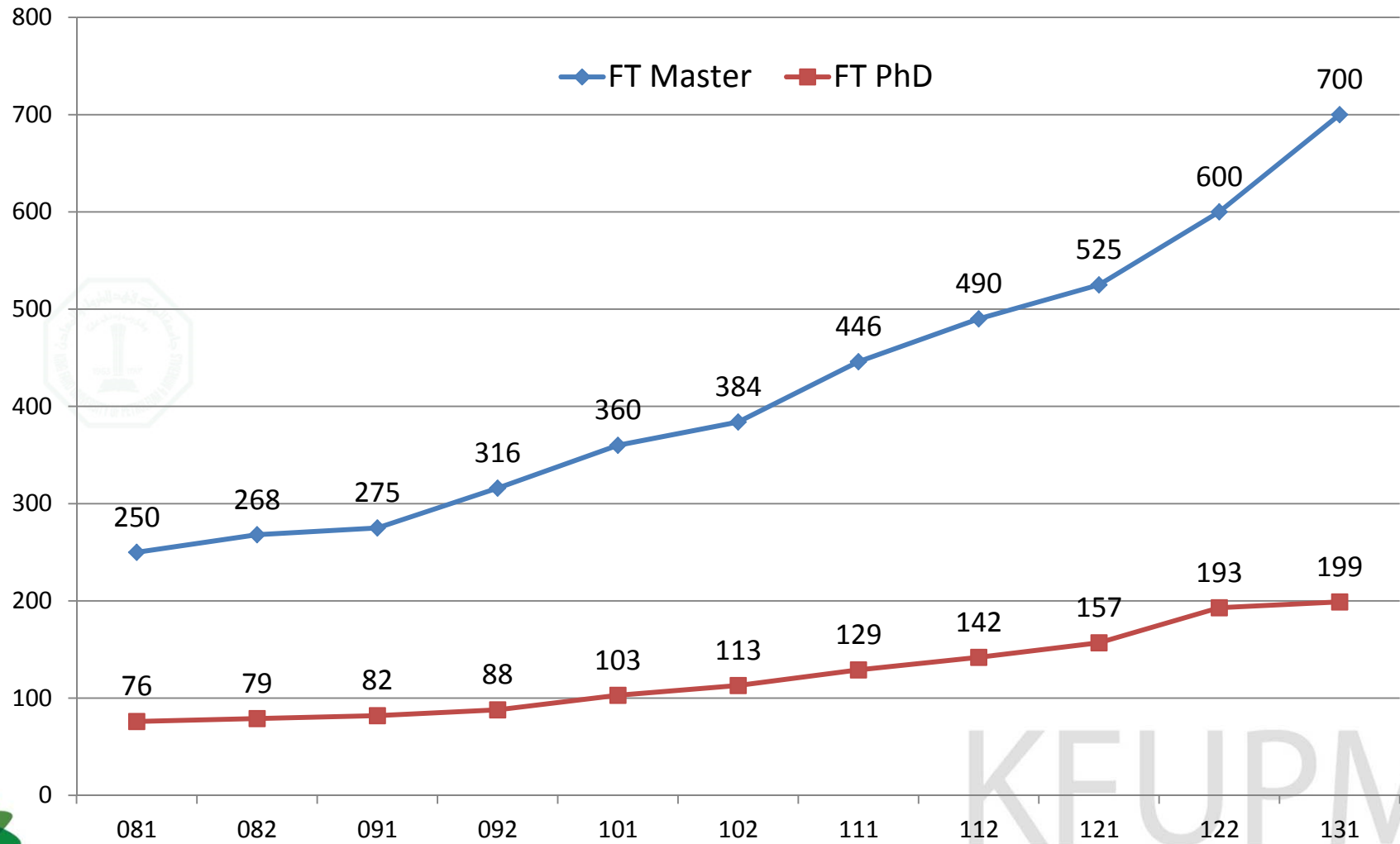
MS Enrollment



Graduate students represent about 14.5% of University students

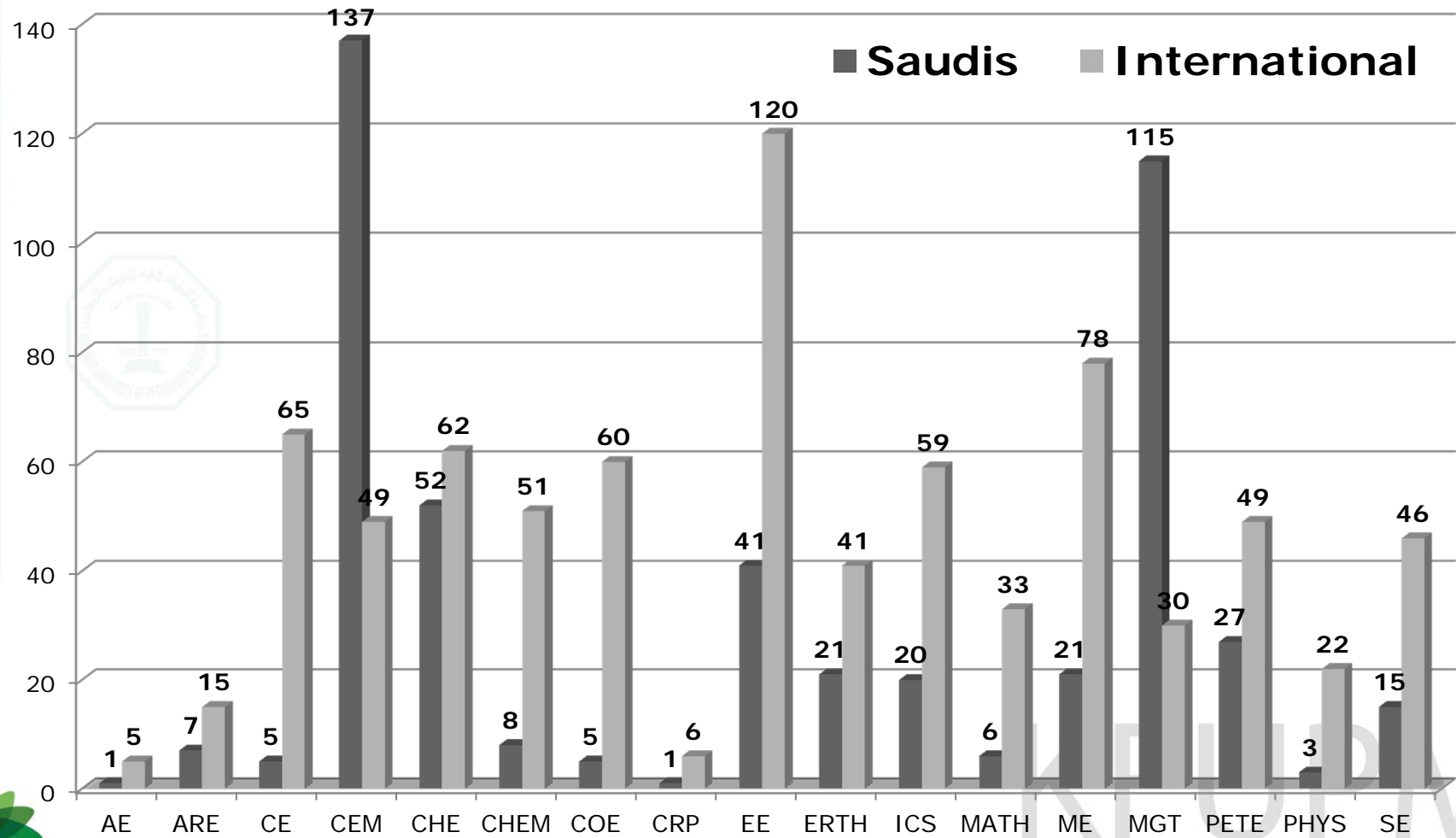


Growth in Full-time Master/PhD students





Saudi and International Students





Available Degrees

Aerospace Engineering	M.Sc
Architectural Engineering	M.Sc.
Applied Statistics	M.Sc.
Chemical Engineering	Ph.D., M.Sc.
Chemistry	Ph.D., M.Sc.
City & Regional Planning	M.C.R.P.
Civil Engineering	Ph.D., M.Sc.
Computer Engineering	Ph.D., M.Sc.
Computer Science and Engineering	Ph.D.
Computer Networks	M.Sc.
Computer Science	M.Sc.
Construction Engineering & Management	M.Sc.
Electrical Engineering	Ph.D., M.Sc.
Geology	Ph.D., M.Sc.



خمسون عاماً من الريادة والتميز
Fifty Years of Leadership & Excellence



Available Degrees

Geophysics	M.Sc.
Environmental Science	M.Sc.
Industrial Systems Engineering	Ph.D., M.Sc.
Security and Information Assurance	M.Sc.
Business Administration	M.B.A.
Mathematics	Ph.D., M.Sc.
Material Science and Engineering	M.Sc.
Mechanical Engineering	Ph.D., M.Sc.
Petroleum Engineering	Ph.D., M.Sc.
Telecommunication Engg.	M.Sc.
Physics	Ph.D., M.Sc.
Medical Physics	M. Med. Phys.
Software Engineering	M.Sc.
Systems and Control Engineering	Ph.D., M.Sc.



Graduate Programs Requirements

① MSc Programs:

- ① 24 Credit hours → 8 Courses
- ① MS Thesis – Acceptable contributions to the field of research
- ① Optional one research-based course

① PhD Programs:

- ① 30 Credit hours → 10 Courses
- ① Pass the Comprehensive Examination
- ① PhD Thesis – Substantial contributions to the field of research
- ① Optional two research-based courses

Acceptance rate is less than 25%



Features of MS & PhD Programs at KFUPM





- ① Excellent coursework equivalent to excellent international universities.
- ① PhD research usually results in high quality publications
- ① Generally, expectations of MS students are very high in terms of research outcomes
- ① Diverse student body from countries around the world
- ① Research-based courses introduce students to research early
➔ finish earlier with more publications
- ① Some students may spend one semester at our collaborating schools if thesis research is on related area

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KFUPM Expectations

MS students' typical degree progress:

-  Pass at least 3 courses every semester
-  Finish all coursework within 3 semesters at maximum,
-  Submit thesis proposal within 3 semesters at maximum,
-  Complete the program with 5 semesters at maximum

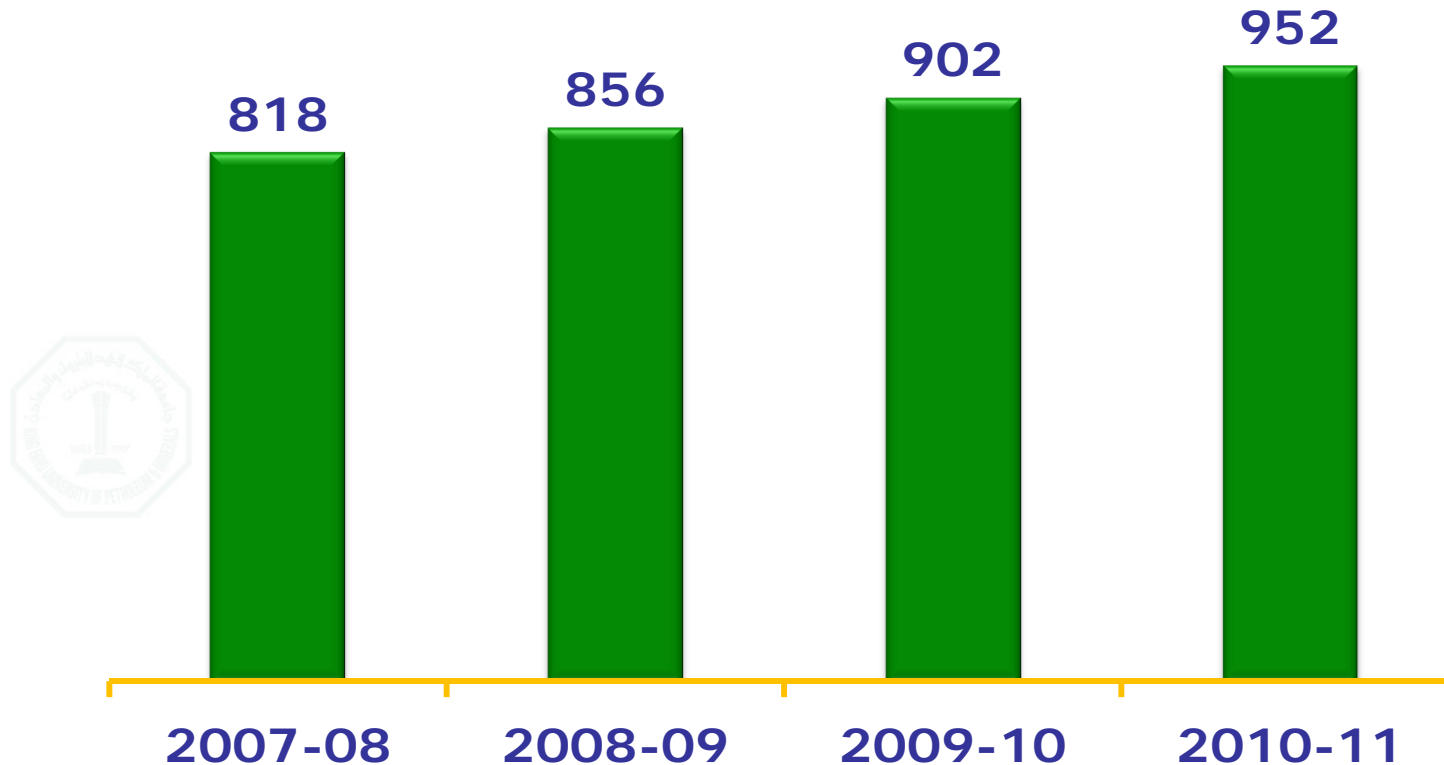
PhD students' typical degree progress:

-  Pass at least 3 courses every semester
-  Finish all coursework within 3-4 semesters at maximum,
-  Pass the comprehensive examination within 4 semesters at maximum,
-  Submit the thesis proposal within 6 semesters at maximum and
-  Complete the PhD program within 4 years at maximum

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Growth in Number of Faculty

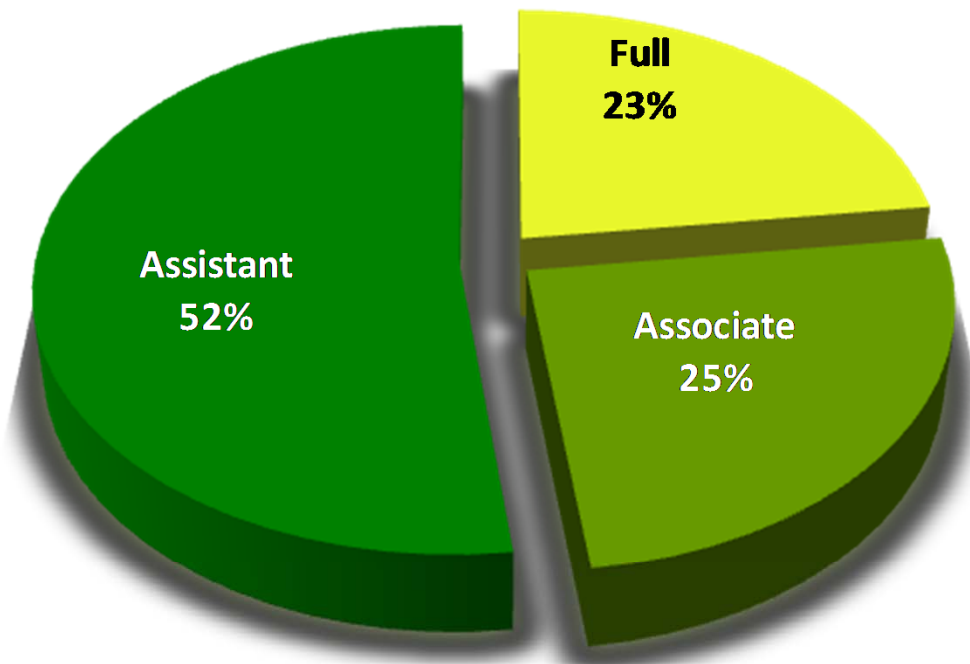


Faculty body has grown while maintaining the same overall number of students.



Faculty Distribution by Rank

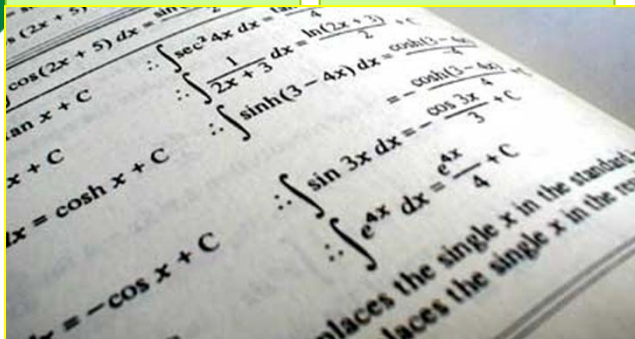
Academic Year 2011-12





Colleges and Departments

Engineering	Sciences	Industrial Management	Environmental Design	Computer Sciences & Engineering	Applied & Supporting Studies
<ul style="list-style-type: none"> • Aerospace • Civil • Chemical • Electrical • Mechanical • Petroleum 	<ul style="list-style-type: none"> • Chemistry • Physics • Mathematics & Statistics • Earth Sciences 	<ul style="list-style-type: none"> • Accounting • MIS • Finance & Economics • Management • Marketing 	<ul style="list-style-type: none"> • Architecture • Architectural Engineering • Construction Eng. & Mang. • City & Regional Planning 	<ul style="list-style-type: none"> • Computer Sciences • Computer Eng. • Systems Eng. • Software Eng. 	<ul style="list-style-type: none"> • Prep-year • Skills Development • Islamic & Arabic Studies • Physical Edu. • English Language • General Studies





Accreditation/Assessment

Accrediting Body	Programs Accredited	Year
(ABET)	All Engineering Programs	1993, 2001, 2007, & 2010
(Berkeley Team)	College of Science Programs	1996
(UNESCO)	Research Institute	1997
Association to Advance Collegiate Schools of Business (AACSB)	College of Industrial Management	2002 & 2013
Self Assessment	7 Programs	2003, 2005 & 2009



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Research Opportunities and Outcomes





Research Funding Programs



Contract
Research –
Research
Institute



Internally
Funded
Research



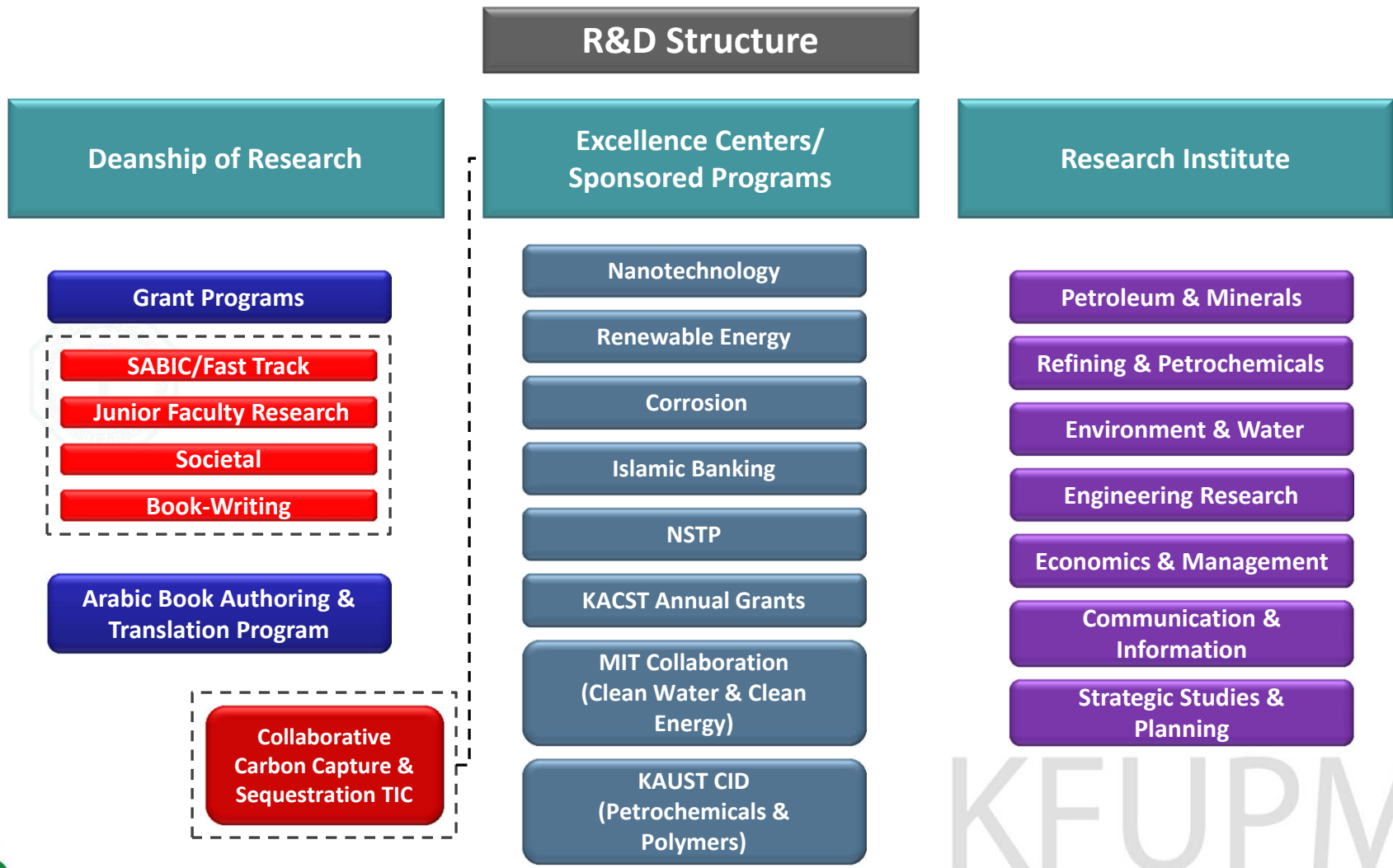
KACST
Research
Grants



National Plan
for Science,
Innovation
and
Technology



R&D Structure & Focus



KFUPM



National Plan for Science, Innovation & Technology

- King Abdul Aziz City for Science & Technology (KACST) developed the National Science, Technology and Innovation Plan (NSTIP), that focuses on the following technologies:
 - Water and Environment
 - Oil & Gas
 - Energy
 - Petrochemicals
 - Advanced materials
 - Environment
 - Nanotechnologies
 - Biotechnology
 - Information Technology
 - Electronics, communications, photonics
 - Space and Aeronautics Technology



Partnership with International Institutions

- **MIT:** Clean Water and Clean Energy
- **Stanford University:** Oil and Gas
- **California Institute of Technology (Caltech):** Refining and Petrochemicals
- **Cambridge University:** Oil and Gas
- **Georgia Institute of Technology (Georgia Tech):** Energy and Seismic Signal Processing
- **King Abdullah Univ. of Science and Technology (KAUST)**
- **Saudi Aramco** (the largest oil company worldwide)
- **SABIC** (Leading petrochemical company worldwide): Polymers and Petrochemicals
- **Few other focused collaboration programs under evaluation**

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Available Research Funding

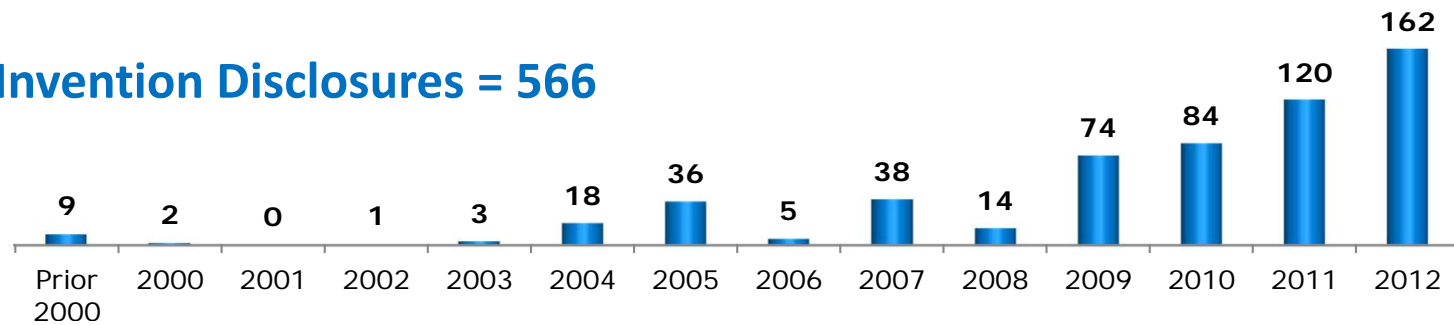
Venue	In SR Millions
RI	65
DSR	22
Centers of Excellence	130 (Over 5 Years)
KACST (Annual Program)	40
KACST (National Plan)	145 (Over 3 Years)

*** Figures represent direct funding only**

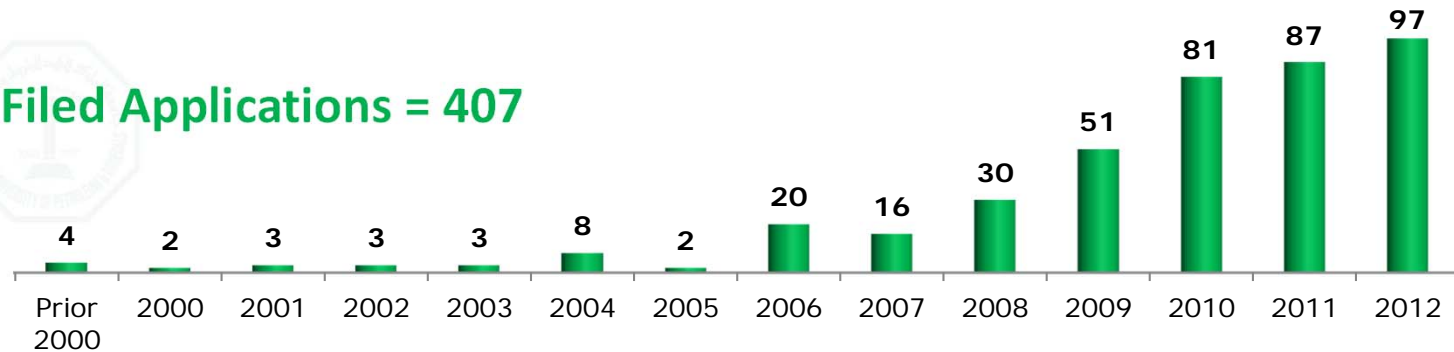


Growth of Academic Innovation Culture

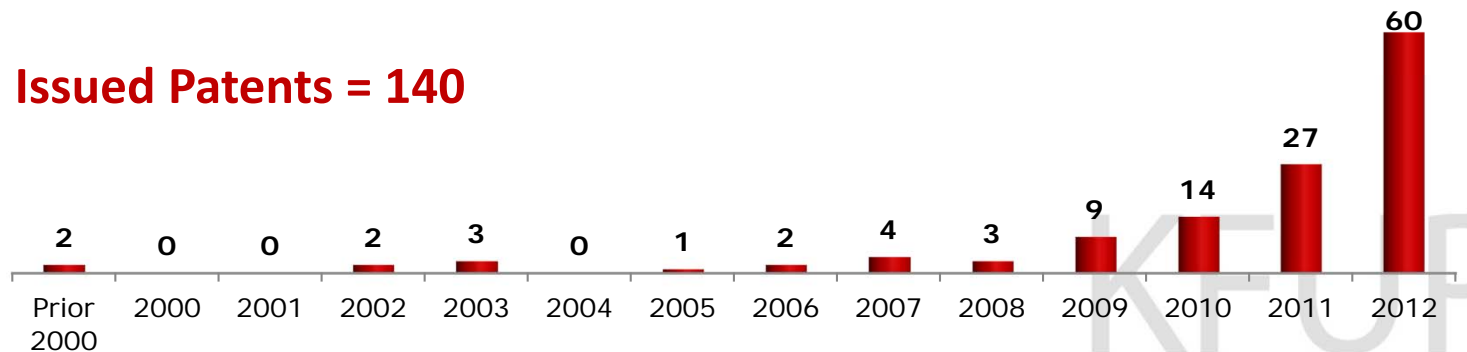
Invention Disclosures = 566



Filed Applications = 407

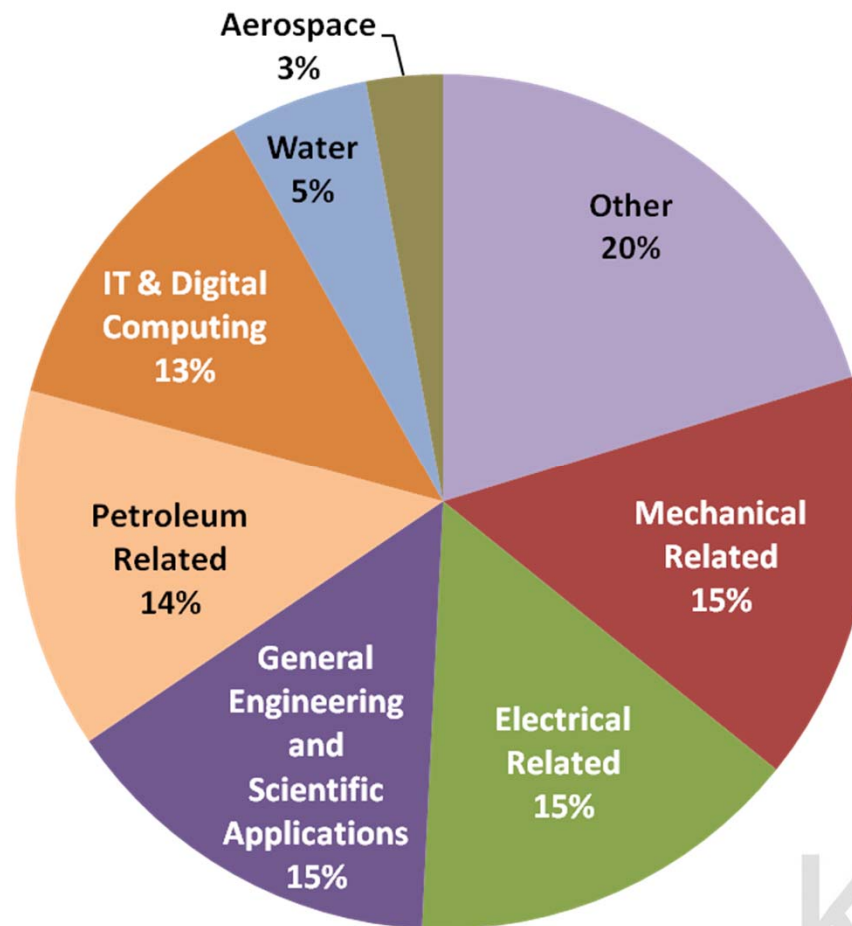


Issued Patents = 140





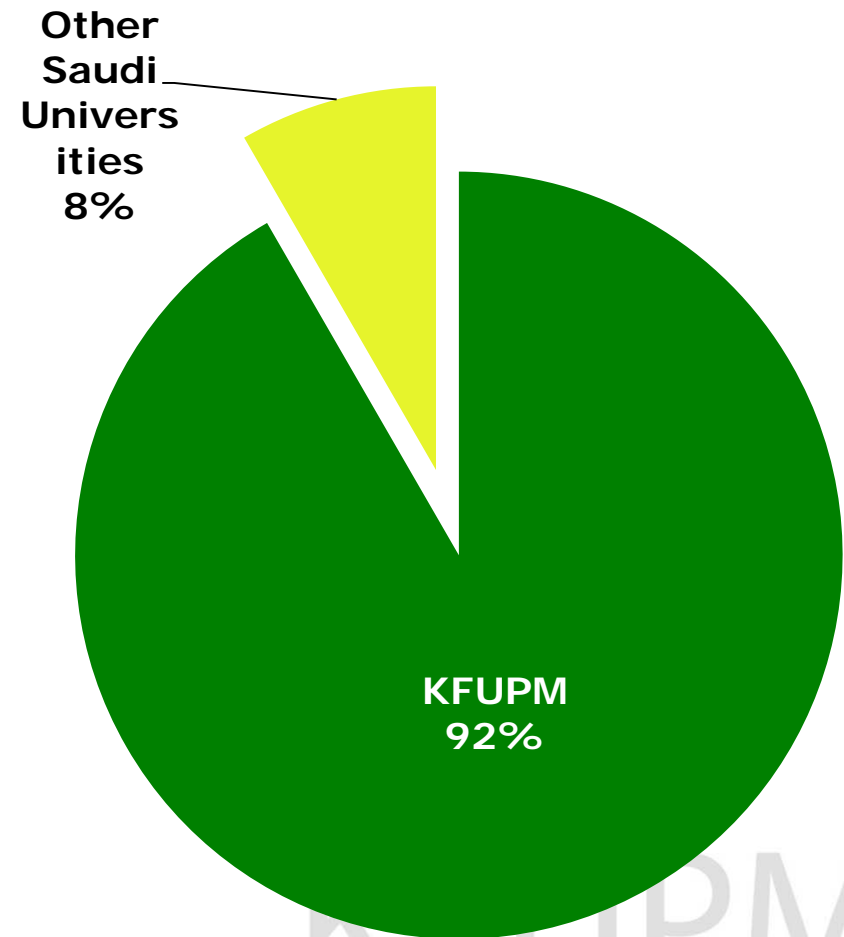
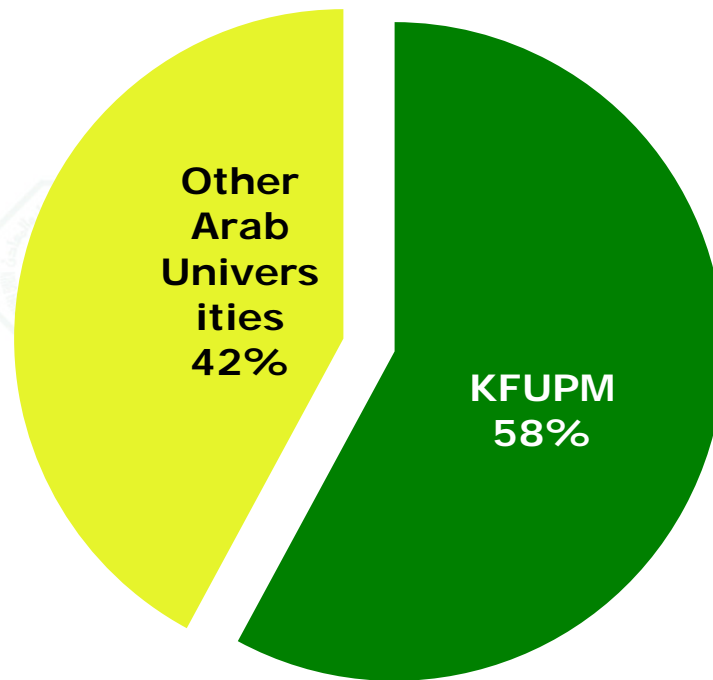
KFUPM's Technology Landscape (Categorization of Filed Patents)



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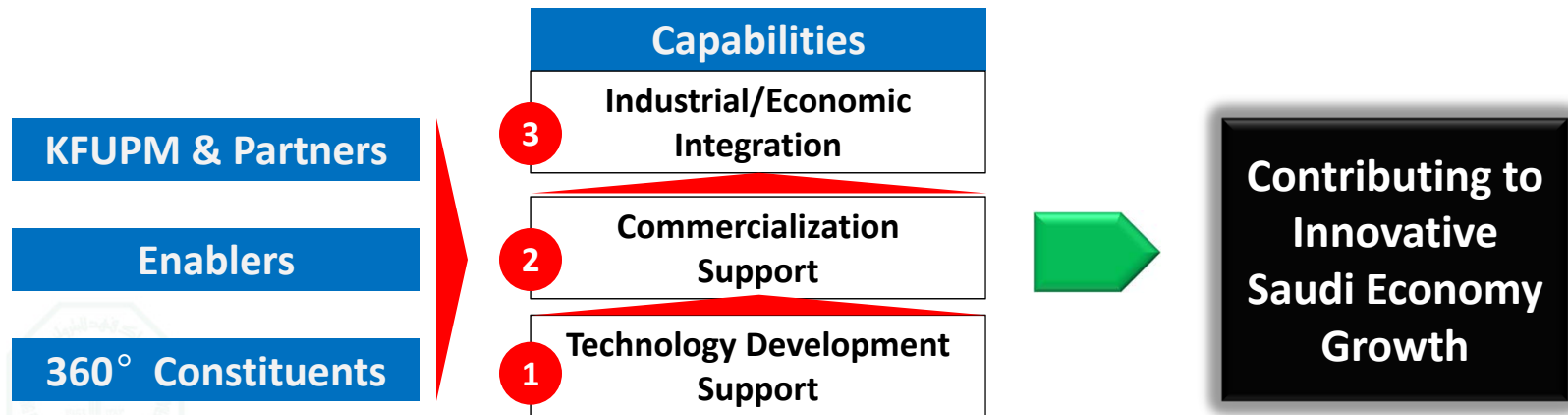


Distribution of U.S. patents assigned to higher education institutions in the Arab world





Innovation Ecosystem of KFUPM & Partners



- ❑ Unique Saudi Ecosystem for KFUPM-Partners evolving within and around KFUPM's Campus.
- ❑ Success will create innovation traction in the whole national knowledge system.
- ❑ Components could be replicated in other parts of Kingdom.



Examples of KFUPM Knowledge - Based R&D Outcomes

Collaborative Technological Research with Industries

HSFCC Technology



Demonstration Plant (Saudi Arabia)



Semi-Commercial Plant (Japan)

Partners: KFUPM, Saudi Aramco; JX Nippon

Licensors: Axens and Stone & Webster

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Examples of KFUPM Knowledge - Based R&D Outcomes

Developmental Research for Supporting Economy Growth

Petroleum Refining

Development of:

- petroleum desulfurization processes
- upstream petroleum processes for turning heavy oil into olefins



Petrochemicals

Development of:

- catalytic cracking technologies for the olefins industry
- new olefins for polyesters manufacturing



Polymers

- Additive technologies for plastics industry
- Innovative catalysts for polyethylene & polyolefin production



Water & Environment

- Recycling contaminated waters of petroleum refining processes for desert greening
- Technologies for curing contaminated waters of industrial processes





Examples of KFUPM Knowledge - Based R&D Outcomes

Online Systems for CO₂ Emission Monitoring

Development of online systems for detecting CO₂ emission sources and their magnitudes in the Kingdom of Saudi Arabia.

This will enhance the potential and the future planning for carbon capturing plans in The Kingdom.

New Materials/ Advanced Material Recycling Technologies

- Producing self-consolidated concrete utilizing oil ash.
- Producing high quality concrete using oil ash.
- Development of new corrosion resistant nickel based alloys.

Nano Scale Materials for Different Applications

Petrochemical

- Zeolite-based nanomaterials for selective production of propylene through catalytic cracking, robust methodology to deposit carbon nanofibers on 3D SiC foams for energy-related catalysis.

Medical

- Nanomaterials for chemical sensing, protein detection, and breast cancer diagnosis.

Water Purification

- Electrifying membranes consisting silver nanostructures for the fast and efficient inactivation of bacteria for water purification



KFUPM Latest Initiatives

KFUPM





International Advisory Board

International Corporations

- Saudi Aramco
- SABIC
- BP
- GE
- Schlumberger
- Chevron
- JPEL
- Booze & Company



& Leading Universities

- Harvard
- Stanford
- Georgia Tech
- Cal Tech
- Kyoto
- Purdue
- NUS
- Chicago
- IFP
- KAUST
- KAIST
- TUM-Germany





International Academic Partnership



Caltech



- Faculty and student exchange programs
- Research collaboration and support
- Programs and curricula Development
- Faculty and staff development programs

Objectives



Endowment Fund

- 1 Established in 2007
- 1 Managed by a highly qualified Board.
- 1 Currently, SR 700 Million in cash
- 1 Target: SR 3 Billion in the next 5 years.
- 1 Building a Business Park





King Abdullah Science Park at DTV

Partners Companies:

- Schlumberger, USA
- Yokogawa, Japan
- Intel Corp, USA
- Naizak, SA
- MSSAK, SA
- TENARIS, Argentina
- Al-Shoaibi Group, SA
- AR-PEC, SA
- UOP, USA
- General Electric GE



- Optimind, SA
- Amiantit, SA
- Baker Hughes, USA
- Sipchem, SA
- Honeywell, USA
- Halliburton, USA
- Weatherford , USA
- Rosen Insp., SA
- Siemens, Germany

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King Abdullah Science Park at DTV





KFUPM Future

KFUPM





New Vision

**To be a preeminent institution
known for its globally competitive
graduates, cutting edge research,
and leadership in energy fields.**

KFUPM



KFUPM 2nd Strategic Plan 2012-2020

Vision & Mission

Build an outstanding **faculty** with an appropriate ratio of Saudis

Position the University to be among the **best in petroleum** & related fields

Provide innovative & integrative **learning experiences** to produce globally competitive graduates

Make internationally recognized **advancement in knowledge** & significantly contribute to **technology development** & innovation

Engage in **outreach** activities that are valuable to the **community** and enriching to KFUPM

Ensure **financial sufficiency** and sustainability

Ensure responsive and effective **governance and management**

Enhance competitiveness through **image and brand building**

Vision & Mission

Strategic Goals

Enabling goals



Graduate Scholarship Opportunities





Scholarships Opportunities

Scholarship Positions

- **MS Level:** Research Assistant (RA) or Full-time student
- **PhD Level:** Lecturer-B or Full-time student

Areas

- All Sciences
- All Engineering
- Computer Engineering and Sciences
- Business & Management





Financial Benefits

- **Waived tuition** (60,000SR annually)
- **A monthly stipend:**
 - **PhD** (4025SR or 900SR)
 - **MS** (1725SR or 900SR)
- **Extra income from funded projects**
(Variable depending on activity)
- **Free textbooks**



- **Free medical care**
- **Free furnished bachelor housing**
- **Free housing for married PhD students**
(if available)
- **Round-trip air tickets at start & end**
- **Subsidized meals in the University cafeteria**



Admission in PhD Programs

- ① M.S. Degree (Thesis-Option).
- ① A GPA of 3.00 or higher on a scale of 4.00 in BS and MS.
- ① Three letters of recommendation from faculty who taught you.
- ① Completion of TOEFL with a minimum score of 79 (IBT). IELTS is also accepted with a minimum score of 6.5.
- ① TOEFL is waived if you studied for 2 years in an English-speaking country.
- ① Acceptable General Graduate Record Examination (GRE) score:
Quantitative: 720 (or 156), Analytical:4.0
- ① Satisfactorily meeting any additional departmental or university admission requirements.

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Admission in MS Programs

- ① B.S. Degree.
- ① A GPA of 3.00 or higher on a scale of 4.00.
- ① Three letters of recommendation from faculty who taught you.
- ① Completion of TOEFL with a minimum score of 68 (IBT). IELTS is also accepted with a minimum score of 5.5.
- ① TOEFL is waived if you studied for 2 years in an English-speaking country.
- ① Acceptable General Graduate Record Examination (GRE) score:
Quantitative: 720 (or 156), Analytical:4.0
- ① Satisfactorily meeting any additional departmental or university admission requirements.

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Graduate Studies Contacts

- For application material and further information, please use one of the following:
- Visit the website of the Deanship of Graduate Studies at www.kfupm.edu.sa/gs
- Send an e-mail to gs-admissions@kfupm.edu.sa
- Visit the Admission Office in Bldg. 59, Room 1045.
- Phone: 00966-3860-2800

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Thank you



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