DEDAN KIMATHI UNIVERSITY OF TECHNOLOGY

Souvenir Graduation Ceremony Magazine

2013



DEDAN KIMATHI UNIVERSITY WILDLIFE CONSERVANCY



About the Conservancy
Set in a 140-acre piece of land and the only conservancy in kenya owned and managed by a university



What we offer
Camping, guest rooms and cottages accommodation
Guided nature, birds and game walks with experienced rangers.
Education and research
24-hour customer care



Why visit Dedan Kimathi University Conservancy?
You are guaranteed of enjoying the gifts of nature in an environment where traffic is not an issue and hence you are treated with this rare chance of learning, watching game, and sleeping and walking no with no disturbance.



Location
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Contact person
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Souvenir Magazine Graduation Ceremony

For Dedan Kimathi University of Technology

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Message by the Ag. Vice Chancellor DeKUT, Prof. P.N. Kioni

It is with great pleasure that I welcome you to this souvenir graduation magazine issue of Dedan Kimathi University of Technology. The Magazine offers you, through the eyes and experiences of the many staff who have written the various articles, a sneak preview of our University set-up and the many academic and related services provided.

Undoubtedly, our focus on technology, in its broad interpretation, comes through these articles. Thus, besides the applied science, there is also a good measure on our business related programmes. Ours is a deliberate effort to contribute to impart technological know-how and thus to contribute to national development by providing the requisite human resource for Kenya's industrial development. In this regard and as exemplified in the content of this colourful and informative magazine, Dedan Kimathi University of Technology has developed academic programmes that are in line with the country's economic blue print, *Kenya Vision* 2030.
We commit ourselves to being relevant and responsive to the country's immediate and future needs as aptly engraved in our vision of becoming a premier university of technology excelling in quality education, research and community service.

Our motto "Better life through Technology" is not mere rhetoric; history bears us out. Nations that have embraced technology have had fast economic development, and hence an improvement in the wellbeing of the people.

Lastly, I invite you to join me in congratulating graduands of our first graduation ceremony since we were granted a University *Charter* on 14th December 2012. This issue of our magazine is dedicated to the graduands and as I wish them the best in their future endeavours, I urge them to maintain strong links with their *Alma Mater* and be good ambassadors of this university.

Enjoy the reading!



GRANTING OF THE CHARTER Raises Status to Full-Fledged University

By Paul M. Jinaro

Dedan Kimathi University of Technology was the first among 15 former constituent colleges to be upgraded to full public university status in the latest round of elevations by the former Head of State.

Granting the *Charter* at the university's grounds, former President Kibaki noted that the new *Universities Act* 2012 provides for a robust environment and equal playing field for the accreditation and quality assurance of university education in the country.

"The new *Universities Act* 2012, which was passed by our Parliament and appropriately received my assent, marks the beginning of a new chapter in the history of higher and tertiary education in our country," former President Kibaki said.

The new law, the former Head of State said, has empowered the government to embark on the process of establishing 15 new fully-fledged public universities in the country.

He pointed out that the law has also strengthened and mandated the Commission for University Education to ensure that access, equity, relevance and high quality of higher education is made available to all qualified Kenyans.

The former Head of State emphasized that provision of relevant education will ensure that the country's higher education system produces high-quality human capital that will form the backbone of the achievement of *Kenya Vision* 2030 and many ideals of the new *Kenya constitution* 2010.

He challenged universities and other research institutions to find ways of translating research findings into innovations that would develop useful goods and services for uplifting the livelihoods of Kenyans. Said the former President:

> "That way, our people will appreciate that science and research are useful tools for development that will, in turn, accord them greater support."

Commending the Dedan Kimathi University of Technology for adopting the name of one of the country's gallant freedom fighters and heroes 'Dedan Kimathi', Kibaki urged the university to live up to its name by being an institution of higher learning dedicated to developing



patriotic, selfless and transformative leaders whose primary aim will be to promote peace, national unity and integration.

He assured the immense throng that was present at the Charter ceremony that Kenya is fully committed to utilizing science, technology and innovation for the benefit of her citizens saying the many world-leading innovations coming out of the country in the areas of mobile banking, financial transactions and other ICT applications are testimony of the country's commitment to encourage innovation in science and technology.

Kibaki commended Dedan Kimathi University of Technology for striving to orient its academic programmes towards science and technology education and training.

> "Since you have now become a fully-fledged university, we expect that you will continue the drive towards making science and technology education your core specialization," the former president said.

The former Head of State encouraged the university administration to continuously benchmark with the best universities in its areas of specialization in the region and globally, and to remain a truly world-class university that ensures the relevance and global competitiveness of its graduates.

He also paid glowing tribute to the founding members of the institution for their commitment and hard work that contributed to the transformation of the Dedan Kimathi Institute of Technology to a fully-fledged University.

Speaking during the occasion, former Vice-President Kalonzo Musyoka noted that the awarding of the Charter is an honour to freedom fighter and hero Dedan Kimathi, and others like him whose dream was to actualize a free and development-oriented country.

Other speakers included former Higher Education, Science and Technology Minister Prof. Margaret Kamar, former Special Programmes Minister Esther Murugi and Commission for University Education Chairman Ezra Maritim.

During the occasion, the former President received a memento in recognition of his service to the university, including being the Chairman of the former Board of Trustees of the Kimathi Institute of Technology.

The former Head of State also presented the instruments of authority, which included a mace, logo and seal, to the University administration.



"The new *Universities Act* 2012, which was passed by our Parliament and appropriately received my assent, marks the beginning of a new chapter in the history of higher and tertiary education in our country,"

HUMBLE HISTORY
That Led to Exceptional Growth!

By Catherine Ngare



Dedan Kimathi University of and Technology (DeKUT) is a successor to the former Kimathi University College of Technology (KUCT) that existed between 23rd August, 2007 to 14th December, 2012, which was itself a successor of the Kimathi Institute of Technology (KIT).

The KUCT was a constituent college of JKUAT from 23rd August, 2007 to 14th December, 2012. The institution started offering degree programmes in 2006 as an accredited center for JKUAT. It ran JKUAT degrees under the supervision of JKUAT Senate. There were about 20 degree students in the initial group of 2006.

Kimathi Institute of Technology (KIT) was founded in the 1970's, and began as a Nyeri District community initiative to serve as a technical base from which the community would advance technologically to keep pace with the rest of the world and serve the community's needs. It espoused the spirit of self-reliance and determination engrained in the community and demonstrated in the national struggle for Kenya's independence, which was epitomized by the freedom fighter Dedan Kimathi after whom it was named.

DeKUT was awarded a *Charter* on 14th December, 2013 by the former President, Mwai Kibaki. This followed the commencement of the *Universities Act,* 2012.

DeKUT is located some six kilometers from Nyeri Town along the Nyeri-Nyahururu road. It is sited on expansive grounds covering 864 acres.

Student Population

The student population at DeKUT has grown tremendously since 2008, from the initial 514 students when the institution admitted the first and second cohort of Joint Admission Board (JAB) students in 2008 to the current 4,660 students.

Graduation

The first graduation was held in August, 2011 to award

diplomas and certificates to about 241 students. The first group of 130 undergraduate students graduated in June, 2012 at JKUAT. The second group of 253 undergraduate students graduated in November, 2012 at JKUAT in various disciplines.

The first group of PhD students has completed their studies and is awaiting the inaugural graduation for DeKUT to be awarded their degrees. The third group of students will be graduating at Dedan Kimathi University of Technology grounds in the inaugural Graduation Ceremony. A total of approximately 440 students (both undergraduate and post-graduate students) expect to graduate.

It espoused the spirit of self-reliance and determination engrained in the community and demonstrated in the national struggle for Kenya's independence, which was epitomized by the freedom fighter Dedan Kimathi after whom it was named.

Alumni Association

The launch of the KUCT Alumni Association took place on 18th February, 2012 with about 62 members registering. An Interim Committee of four nominated persons was put in place and is currently looking into recruitment strategies of increasing the number of alumni members. The university will establish an Alumni Association Secretariat to support the Association's activities.

Expansion of the University

In order for the university to increase access to education, and in recognition of the needs and constraints of employed people, DeKUT opened the Nyeri Town Campus and the Nairobi CBD Center.

Nyeri Town Campus

Nyeri Town Campus was established in April 2010 to offer evening and weekend programmes. The campus has about 600 students in different programmes.

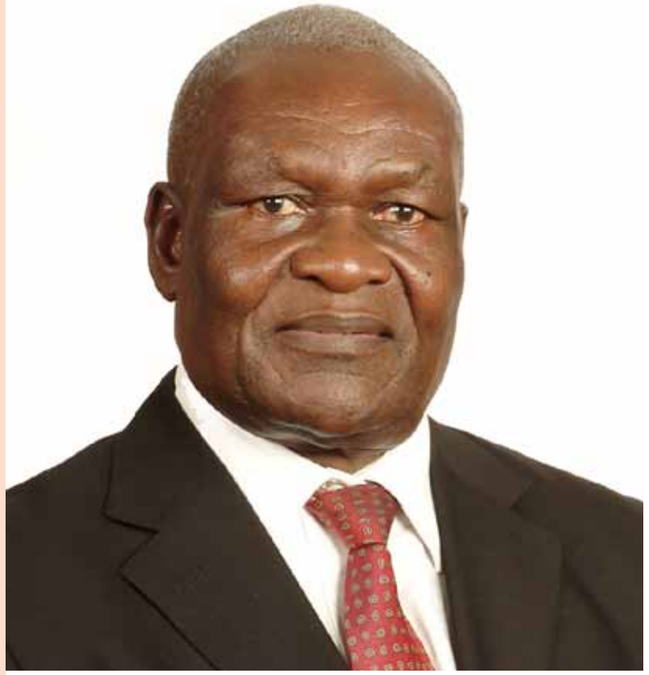
Nairobi CBD Center

Nairobi CBD Center opened its doors to the public in January, 2012 with a total population of 41 students during the first intake. The major milestone was the first intake of PhD, with a group of 24 students. The total population for Nairobi stands at about 97 students distributed among different programmes.

History speaks for itself in the Dedan Kimathi University of Technology. That is why one should never despise humble beginnings.



PROFESSOR KEYA
DeKUT's First Chancellor



Renowned Educationist, Scholar and Education Administrator, Prof. Shellemiah Okoth Keya, became the pioneer Chancellor Dedan Kimathi University of Technology when the university was chartered.

Prof Keya, born on 22 Sept 1941 at Angino, Homa Bay County, attended primary and secondary schools in Kenya and graduated with B.Sc. Agriculture from Makerere University, after which he proceeded to Cornell University for his M.Sc. and PhD degrees. Currently he is Professor of Land Resources Management and Agricultural Technologies at the University of Nairobi and part-time Consultant/Chief scientist with Africa Harvest Biotechnology International. In his over 40 years of career development, he rose from the rank of lecturer in 1970s to Professor in early 1980s and served in three public universities: Makerere, Moi and Nairobi.

The Dedan Kimathi University of Technology, which has been a constituent college of Jomo Kenya University of Agriculture and Technology (JKUAT), was elevated to full university status by Former President Mwai Kibaki recently, making it the 8th national public university in the country.

Achievements of Prof. Keya:

1975-1988: As Chair of Soil Science Department, Dean Faculty of Agriculture and Principal College of Agriculture and Veterinary Sciences, University of Nairobi, he was instrumental in the planning, execution and expansion of facilities to cater for the increased number of students from 250 in 1976 to 1,200 in 1987. These ranged from administrative, library, laboratories, hostels, staff houses, farm structures, lecture theatres, equipment, water, power, roads, sports, transport, vehicles and field stations. The development was funded by the Kenya Government, World Bank, the Swiss Government, the Netherlands and other donors.

1989-1994: As Vice Chancellor of Moi University, Eldoret, he was the Academic and Administrative Head responsible for the construction and development of the then newly established second university in Kenya. During his tenure the student population increased from 900 in 1988 to 9000 in 1994.

He oversaw infrastructural development that entailed the creation of the second medical school, faculties of Agriculture, Fisheries, Law, Education and the Chepkoilel Science campus and Maseno Univesity College.

The growth of the university called for construction of buildings especially administrative blocks, staff houses, primary schools, water and sewerage facilities, road infrastructure, farms, large student hostels, the Margaret Thatcher Library, and a Student Centre, to mention but a few. The funding was by-and-large from the Government of Kenya and he was accountable for both capital and recurrent expenditure running to over two billion shillings.

1996-2003: As Executive Secretary of Science Council of the Consultative Group on International Agricultural Research, he was responsible for 18 international research centres with an annual budget of $600 million and he undertook annual review of their recurrent budgets and resource allocation.

2004-2008: As Director of Research/Deputy Director General of an International Center for Rice Research located in Cote d, Ivoire he was managing an annual research budget of US $ 15 million.

Following turmoil in the host country, he undertook the relocation of the Center to another country; a move that involved the construction of offices, laboratories, research farms and support facilities to international standards.

With such vast experience in institutional development and organization as well as his immense academic prowess, Professor Keya is well-suited to hold the reigns of this newly elevated Dedan Kimathi University of Technology, and the sky is the limit regarding the heights in academia and scholarship to which he will raise it.

INNOVATIONS:
The Role of Dekut's Research Division in the *Kenya's Vision* 2030

By Dan Ong'or



Since time immemorial, innovations have transformed life. In the 1440's, the Germans invented a printing press and changed the ways of documentation with later improvements, and this innovation spread to most parts of Europe. The compass was improved in China in the same century and has been used worldwide since then.

In Kenya, innovations have been recorded in areas of tools fabrication, energy devices, textiles, and information and communication technology, among others.

Innovation has been defined as the development of new values and processes through which solutions are found that meet new requirements and customer and market needs in value-adding new ways. Innovations are expected to lead to development of better and more effective products, processes, services, technologies, or ideas that are readily available to markets, government, and society. These may also be commercialized to accrue benefits to the innovator.

Innovation management is a form of management that ensures optimal use of human creativity, skills and knowledge in developing innovations and facilitating their use and protection for mutual benefit of individuals, institutions and firms.

The basic criterion in an innovation is novelty, which should provide some unique characteristic on the product or service. This makes innovation different from invention, which refers more directly to the creation of the idea or method itself.

Innovation differs from improvement in that it refers to the notion of doing something different rather than doing the same thing in a better or different way.

Innovations can be transformed into tangible assets that generate income. This is achieved when they are patented or registered as copyrights, which make them legal entities that can be traded. When such steps are taken regarding the intellectual property behind the innovations, they become important assets for individuals, institutions, firms and countries.

They contribute in driving economic growth and helping firms to remain competitive especially when they continuously roll-out more innovations. Therefore, safeguarding the innovative capacity of the manufacturing and service industries is of utmost importance for institutional managers, politicians and managers.

In agricultural production and natural resources utilization, innovations help spur production levels and improve

Souvenir Magazine Graduation Ceremony

farm income. Increased creativity in agricultural production systems and development of new plant varieties and innovative propagation techniques is contributing to improvement in farm yields. In the Information and Communication Technology sector, new ideas and products have led to faster provision of services especially in the money transfer and banking sectors.

The Economic pillar of the *Kenya Vision* 2030 has identified the manufacturing sector as key in Kenya's development process in national, regional and international markets.

Innovations in this sector will result in production of unique products and services that will spur growth in the economic sector. The focus on training of engineers and technicians in this sector has also been emphasized in the *Vision*. This therefore makes the emphasis on mentoring of students and staff to generate innovations at DeKUT a key contribution in attaining the expected *Vision* outputs.

DeKUT's strategy in enhancing innovation for industrialization

As part of the purpose of establishing the Dedan Kimathi University of Technology to promote research, training and technology transfer, the university focuses on the promotion of innovations through its various programmes and at the School of Engineering.

Staff and students are therefore mentored in operational processes of innovation and emphasis is also placed on the student's ability to analyze and re-design tools and equipment, processes and services for maximum effectiveness and efficiency.

The University has a division of Research, Technology Management and Community Linkages with research and innovations management as one of its core mandates and has created an Innovation Committee to strengthen the participation of staff and student in idea-generation. Training for staff capacity on innovations management has focused on patents management and the process of patenting and copyrights management.

The Community Linkages Section of the Division has established mechanisms of ensuring that information available on innovations are shared with communities. Communities may also initiate creative ideas and innovations.

Innovations and business:

Innovators have an idea which can be developed into a tangible product or process and they create new product from new technology, services, product attributes, or unique combinations of resources, which successfully penetrate the market, create a market niche and build customer franchise. They can be incremental or radical innovations which require behavioural change from customers and users of the products.

Many firms try to keep pace with innovations in the business environment. Common practice in today's business environment involves the external acquisition of technology in close collaboration with customers, suppliers and competitors.

Open-innovation pays attention to other forms of new business development, including entrepreneurship and new venturing, that is, how established firms spin-off promising business initiatives.

Developing successful innovations involves many challenges especially for institutions and incubator programmes.

Innovation today requires collaboration between universities, industrial research agencies, manufacturers, suppliers and even consumers as group or individuals.

The DeKUT has not been left behind in seeking strategic collaborative alliances to augment innovation and has therefore entered into Memorandums of Understanding and Agreements with such strategic partners in areas of Mechanical Engineering, Tool and Equipment manufacture and remanufacture development of new IT programmes in health and services sector, among others. The positioning of the university in innovations generation and contribution is now squarely defined and will ultimately raise the caliber of engineers from this university!

Written by Mr. Dan Ong'or . He graduated with a Bachelor of Science degree from Egerton Univeristy, Kenya, and thereafter with a Post-Graduate Diploma in Education from the Kenyatta University. He then proceeded to complete his Master of Science degree in Flensburg, Germany. He also has a Post-Graduate Certificate in Bioenergy and Climate Change from Edinburgh in the UK. He is currently the Assistant Registrar of the Division of Research, Technology Management and Community Linkages (RTMCL.)



DeKUT UNIVERSITY LIBRARY Striving to Achieve its Mission

By Fredrick Otike

"The world of books is the most remarkable creation of man!"

Nothing else that he builds ever lasts as long: Monuments fall, nations perish, civilizations grow old and die out, and after an era, new races are born, grow and build. But in the world of books are volumes that have seen this cycle happen again and again as the books live on; still young and fresh as the day they were written; still telling men's hearts of other men who are centuries' dead. (Clarence Day).

Libraries facilitate the transformation of knowledge stored in books into thought. A library therefore exists to provide information essential for the purpose of an organization. This information makes research possible in every department of intellectual life.

The question is whether in fact man's cultural advancement came as a product of the knowledge preserved in the form of libraries or whether cultural advancement produces libraries? Another question is whether we have libraries because the country needs them or if they exist due to individual's effort? Which one came first, libraries or cultural progress? What is more clear however, is that as soon as man came into existence, he started creating culture and when libraries came into being, they preserved man's knowledge, thus facilitating creation of culture and improving on the succession of culture. Some have described the library is an arsenal of liberty.

Dedan Kimathi University of Technology library's primary responsibility is to assist students and staff in the process of transforming information into knowledge. It has striven to be the centre of information and knowledge to the community.

The library currently boasts a vast collection of about 26,000 volumes of hard-copy books that can be accessed by the community within and outside of the university. This collection of resources has grown in less than two years and enhances education and the promotion of research. The library is fully-automated and uses commercial software called *Mandarin* and this enables it to offer effective, efficient and prompt service delivery to students and staff. Currently, the library catalogue can be accessed from any computer within the university.

The library also has access to over 500,000 (five hundred thousand) e-books and e-journals which can be accessed both within the campus and off campus.

E-books and their importance to DeKUT students and Staff

With the advancement of technology, libraries are changing from being merely warehouses to becoming information portals with the use of e-resources. E-books are easy to access and provide hyper-connection with other books. They are also less likely to be lost, stolen, or damaged.

E-books also offer instant service and assistance to library users. E-resources reduce frustration and dissatisfaction by library users. It is therefore as a result of these challenges that the Dedan Kimathi University of Technology has invested so much in ensuring that library users can have access to e-books, which can be accessed on and off campus.

E-book technology is just beginning to be explored. Due to the space limitations faced by many libraries, e-books appear to be an efficient means to store and organize information. Thousands of books can be stored in just one computer that can be accessed by many people. They provide users with up-to-date content and are being more frequently accessed than regular book collections especially for non-resident students and staff in institutions.

Dedan Kimathi University of Technology Library is user-centered therefore students and staff members are always advised and encouraged to express their information needs to the library as they are the beneficiaries of these information resources.

The writer of this article is the Head Librarian at the Dedan Kimathi University of Technology

E-LEARNING

By Paul Kihara



E-learning, also referred to as computer-based training (CBT), Internet-based training (IBT) or Web-based training (WBT), includes all forms of electronically-supported learning and teaching, including educational technology.

The information and communication systems, whether networked or not, serve as specific media to implement the learning process.

E-learning often involves both out-of and in-classroom educational experiences via technology applications and processes such as Web-based learning, computer-based learning, virtual education opportunities and digital collaboration. Content is delivered via the Internet, intranet/extranet, audio or video tape, satellite TV, and CD-ROM. It can be self-paced or instructor-led and includes media in the form of text, image, animation, and streaming video and audio.

In the Dedan Kimathi University of Technology, the e-learning set up can be described as a blended learning which is used to support classroom delivery.

The DeKUT E-learning Centre has developed and availed to on-campus students a blended learning portal that provides several resources such as course notes, past papers, e-books, e-journals, e-library catalogues, the Encyclopedia Britannica, free online courses (links to EDX and Coursera) and over 150 open-course wares.

The Centre has also trained over 3000 users (students and lecturers) on how to use the platform of e-learning providing user-support with respect to the portal and issuing of projectors and the video-conferencing facility as part of its day-to-day operations.

As part of the preparations towards establishing a DeKUT Centre of Open Distance and E-Learning (CODEL), the Centre has drafted supporting documents such as the proposed, *E-learning Policy and the Content Development Contract.*

Benefits of E-learning

Online-learning is an education solution for individuals who cannot fit into the normal classroom setting due to barriers of space, time and age. Online access is also seen as a solution to geographic location obstacles. Through it, students are able to download all materials needed for their classes including lecture notes, assignments, and additional study materials.

Some learners prefer a 'pull' as opposed to a 'push' learning style that is provided by a CODEL. Since all

classes are online or distance, students will not have to attend classes in designated classrooms, which makes scheduling of events in their life much easier and convenient.

Lecturers who teach our online courses or distance-learning are often the same lecturers you would get if you took the face-to-face course!

Tuition at online and distance schools is typically less costly compared to that of a traditional school. According to the Communications Commission of Kenya, the Internet penetration rate in Kenya stands at over 6.5 million up from 5.4 million during the 2010/2011 financial year. This actually represents an estimated number of 17.38 million Internet users in the country. This reflects the fact that there is sufficient technology power to support distance and e-learning in the country.

During rainy season, cold weathers and thunderstorms, individuals tend to cancel classes, but with e-learning, a student can study at their own convenience at home as long as they have Internet access. This option is therefore especially useful for students who are on a tight study schedule.

How DeKUT e-learning Portal (MOODLE) is structured:

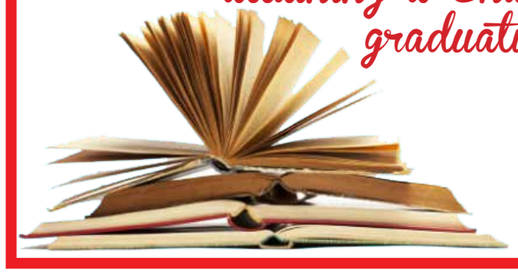
The different schools have course categories which include specific units. Classes have been assigned to their respective cohort and every student belongs to a specific cohort. Cohorts are enrolled at every start of the semester and students are automatically or manually added to their respective cohorts. Lectures can add the necessary materials to the unit they are teaching and can edit what is in the portal by use of user names and passwords. Students can download materials from the e-learning portal and the administrators also have rights to update the materials to their relevant units. All students and lecturers have accounts that they can log into. When students log in, they only see the units they are doing in that semester. When lecturers log in, they only see the units they teach.



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Congratulations to DeKUT for attaining a Charter and for its first graduation ceremony



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INSTITUTE OF FOOD BIORESOURCES TECHNOLOGY

By Dr. Beatrice Mugendi

The Institute of Food Bioresources Technology at DeKUT was established to promote appropriate technologies and value addition in food processing, which in-turn increases the quality of food and nutrition security.

The Institute offers training in Food Science and Technology in the Food Technology Centre. It also offers consultancy and extension services. In line with Kenya Vision 2030, the Institute focuses on education and research, industry linkages, and consultancy and technology transfer. Graduates from the Institute are equipped to address the continually changing market demand for novel, nutritious, safe and convenience food products. They are trained to develop new technologies for value-addition with a focus on coffee, dairy, meat, fruit, vegetables and traditional crops and transfer the same to the relevant sectors. The strategic research areas/themes in the Institute include:

- Coffee technology
- Post-harvest technology
- Food process engineering
- Food safety and quality assurance

The Institute is in the process of establishing a Model Coffee Technology Centre that will serve as a reference point to the Kenyan coffee sector, as well as address value addition for the entire coffee-value chain through training, research and technology transfer.

Vision

To be a premier Institute of Food Bioresources Technology in academic excellence, research, innovation, product development and technology transfer for food and nutrition security.

Institute mission

To educate undergraduate and graduate professionals in Food BioResources Technology, who will apply research, innovation and value-addition and entrepreneurship skills to provide a safe and high quality food and foster economic development.

Constitution of the Institute

The Institute comprises of three divisions, namely:

- Department of Food Science and Technology
- Food Technology Centre comprising of various processing units for coffee, tea, dairy, fruit and vegetables. The Centre will generate income and will be used for transfer of technology,
- Consultancy, Linkages and Extension Unit.

Current programmes

- Bachelor of Science in Food Science and Technology

Planned Postgraduate Programmes:

Masters programme in Food Science and Technology.

- MSc. Coffee Technology
- MSc. Food Processing and Engineering
- MSc. Food Safety and Quality Assurance

PhD Programme:

Food Science and Technology.

COFFEE CUPPING LABORATORY

Dedan Kimathi University College of Technology (DeKUT) has a fully equipped modern coffee cupping laboratory that was developed through collaboration with African Wildlife Foundation (AWF) and Starbucks Limited, a leading organization in specialty coffees. The laboratory was established to serve the coffee sector through value-addition, consultancy and extension services.

The laboratory's Liquorers are certified by the Coffee Board of Kenya. They offer advisory services to farmers on coffee quality, train on Coffee Technology and Cupping in addition to offering short courses for the coffee sector.

PURPOSE OF THE COFFEE CUPPING LAB:

- To promote production, processing, trade and consumption of high quality coffee
- To raise profitability of coffee as a business at all levels.
- To increase awareness about coffee quality through informed analysis of the coffee cup.

SERVICES PROVIDED:

a) Coffee Cupping services to coffee farmers:
b) Short courses:
c) Tailor made courses as per customer requirements such as: Business plan development, dry mill proposal development and coffee marketing.

CHARTER AWARD
Ceremony























IMPRESSIVE INFRASTRUCTURE A Boost to Scholarship!

By Violet Murungi

Dedan Kimathi University of Technology boasts of ultra-modern physical facilities that befit its aspiration to excel in technology and education. Such facilities provide an environment that caters for student and staff needs.

The University is growing and its latter-day architecture houses key facilities that require particular mention including the Resource Centre Phases I and II, which house administrative offices, teaching and support staff offices, lecture rooms, laboratories, an auditorium and the university library. There is also the Advanced Design and manufacturing Training Centre (ADMATC) which is the hub for training high-calibre Engineers. Also located in the ADMATC are the Water and Chemistry Laboratories.

The refurbished Chancellor's Guest House that is home to the Institute of Tourism and Hospitality Management is attractively structured and has both a training wing for students taking Tourism and Hospitality Management programmes, as well as a commercial residential facility for guests.

Close to the Chancellor's Guest House is the Kimathi Wildlife Conservancy located at the far northern end of the university. A modern and expansive catering facility, with impressive architecture ensures that students can now enjoy their meals in a lovely set-up.

The University is currently constructing an Academic Block which will host an auditorium, a boardroom, administration and academic offices, a food science laboratory, lecture rooms, computer laboratories, and seminar rooms.

The University has well developed internal road networks that link the Northern end and Southern end of the University.

The University is supplied with water from Nyeri Water and Sewerage Company (NYEWASCO), as well as from Njeng'u-Nyaribo Community Water Project. The University also extracts water through pumping from Muringato River for large-scale irrigation and farming activities. There is a 10-kilometer sewer line with two arms connected to the northern and southern ends of the university. The two arms are fully functional discharging into three oxidation ponds: the aerobic, facultative and maturation ponds.

The University has also established various centers aimed at addressing the research, innovation and development mandate of the University.

The University has well developed internal road networks that link the Northern end and Southern end of the University.

NOT TO BE LEFT BEHIND Mechanical Engineering at Dekut Attune with the *Kenya Vision* 2030

By Kimari M. Patrick

Kenya is going through major social, political and economic transformation. The changes can be attributed to improvements in governance and the existence of sound macro and micro economics government policies. To consolidate on the gains achieved so far and propel the country to middle-level income economic status by 2030, the government developed the *Kenya Vision* 2030, which is anchored on three pillars: Social, Political and Economic.

Under the economic pillar, the *Vision* sought to improve the prosperity of all regions of the country and all Kenyans by achieving a 10% Gross Domestic Product (GDP) growth rate by 2012. Within its *Medium-Term Plan* 2008-2012, six priority sectors that make up the larger part of Kenya's GDP (57%) and provide nearly half of the country's total formal employment were identified. One of the six priorities is manufacturing, which falls under mechanical engineering. At the Dedan Kimathi University of Science and Technology (DeKUT) different aspects of manufacturing such as plant layout, product design, product development and manufacturing process simulation, are and practised.

The Mechanical Engineering Degree is one of the two programmes offered in the Department of Mechanical Engineering at DeKUT. The other is Industrial Engineering, which is offered at graduate level. The department has state-of-the-art workshops and laboratories equipped with modern equipment to support teaching and research activities by students and staff alike.

The Computer Laboratory has an entire Auto-desk Design Programme Suite, which makes it easier for our students and staff to design different objects in both two and three dimensions. The recent addition of an ANYSIS programme gives our students and staff a platform to carry out computational fluid dynamics (CFD) thermo fluid field and also simulations in stress analysis. In 2014, the first batch of graduates from the department will enter the job market.

Under *Vision* 2030, the objective of training of engineers and technicians is to raise the competencies, and the number of engineers required to make Kenya a competitive industrializing nation. At DeKUT we do recognize the importance of this objective to Kenya's current and future development and the significance of Mechanical Engineers' involvement in the development of new systems and technologies, to impact the economy. To this end, the department is investing substantially in building its physical and human resource capacity so as to ensure the mechanical engineering education our students are receiving is of high standard, modern and in tune with the current and future industry needs as outlined in the *Kenya Vision* 2030.

Currently the department is the host of a pilot small-scale bio-diesel production plant project which is a *Kenya Vision* 2030 flagship project at DeKUT. In this project, the department is collaborating with Numerical Machining Complex (NMC), the Kenya Forestry Research Institute (KEFRI) and Kenya Industrial Research and Development Institute (KIRDI) to deliver on different aspects of the project. The project is meant to come up with a small-scale (1 ton per day) bio-diesel extraction plant to be deployed in rural parts of the country with sufficient non-edible biomass resources, which can be processed into bio-diesel. Besides the biodiesel flagship project, the staff and students in the department are working in collaboration with their counterparts in electrical and electronics engineering and physical sciences, in a laser technologies project. Just like the bio-diesel project, the laser technologies project is a *Kenya Vision* 2030 project meant to build the country capacity in harnessing the power of lasers in manufacturing, medicine and other sectors of our economy. Current ongoing research work in this area is on utilization of lasers in precision metal cutting, an important process in manufacturing.

To build Kenya's capacity in construction and manufacturing, the *Kenya Vision* 2030 Secretariat is engaged in development of flagship projects under the manufacturing priority area. These include construction of

small and medium enterprise parks in all the 47 Counties and the development of mini and integrated iron and steel mills in the country. To contribute to the Secretariat's efforts, the mechanical engineering department in partnership with electrical and electronics engineering and mechatronic engineering departments are developing a locally manufactured electric motor.
The import of the project is that, the production machines and equipment such as lathe, drills, millers, shapers, grinders that will be used in the 47 industrial parks in the Counties will require electric motors to operate. Currently, motors used in the country are imported. Success of the project will be a big boost to the *Kenya Vision* 2030 manufacturing goal and will likely spin-off research and production activities in metallurgy, control systems, copper wire manufacturing and motor assembling equipment.

At Dedan Kimathi we appreciate the importance of practical training for our students in order for them to learn how products and systems are made and assembled. Students in engineering departments in other institutions often graduate without ever having disassembled and reassembled anything in the course of their studies.

Practical training in Mechanical Engineering at DeKUT is achieved at three different levels: through practical/lab sessions , through 12 weeks internal attachment at our workshops and laboratories in their 2nd year of studies, and through two 12 weeks industrial attachments in their 3rd and 4th year of study. The core-objective of the practical training is to build the students' ability to transfer engineering knowledge to rational problem-solving.

The DeKUT's Mechanical Engineering Department is therefore actively participating in achieving the *Kenya Vision* 2030 goal of transforming Kenya to middle income economy status by the year 2030 by training qualified human resource (graduates), and developing technologies, systems, equipments and machines.

The author is the Chair of the Mechanical Engineering Department in the Dedan Kimathi University of Technology

BALANCING THE GENDER EQUATION

By Wanjiku Wanjiru

Dedan Kimathi University of technology realizes both men and women are needed for society to change, and this has led it to establish the Gender Office. The office is situated next to the Deans of Students' office in the new mess.

The officer in-charge of the Gender Office is the Director of Gender and is appointed to the position by the Vice Chancellor DeKUT. The current Director of Gender is also an assistant lecturer from Institute of Geomatic, GIS and Remote Sensing (IGGReS). Dr. Wanjiku Wanjiru is the Deputy Director of the Gender Office.
The functions of the Director of Gender include:

a. Implement the *Gender Policy* to guide gender mainstreaming activities:
b. Undertake sensitization workshops in gender mainstreaming for employees and students. In the past one year the Gender Office organized seminars for all female students on moral and behaviour change. This kind of seminar took place in Naivasha, and another for members of staff in July, 2012.
c. Ensure compliance level with *One Third (1/3) Gender Representation Policy* on appointments, promotions and employment, committee representations as per the *Kenya Constitution* 2010. DeKUT is an equal opportunity employer, which encourages
d. Encourage female students to take up the courses which the society perceives to be male-dominated by offering scholarships to female students who excel in their studies.
e. Collects sex disaggregated data to guide in planning and programming in the University
f. Implement work place policy on gender based violence and sexual harassment.
g. Ensure affirmative action on gender responsive recruitments procedures.
h. Submit quarterly progress reports to National Gender and Equality Commission (NGEC)
i. Attend meetings on the awareness seminars for drugs and drug-abuse

The Gender Office also ensures equality to all persons as stipulated in *Article 27* of the *Kenya Constitution* 2010. The office works together with the Office of People with Disability and also ensures that the students and staff from marginalized communities are accorded equal rights. To perform its duties well the office has representatives from all the DeKUT schools and departments.

About the author
The writer of this article is the Deputy Director, Gender, at the Dedan Kimathi University of Technology

BENCHMARKED WITH THE BEST the Institute of Geomatics, GIS & Remote-Sensing

Deciding how to plan a town, use land, model the environment, plan a transport network and manage it, and where to locate a business can all benefit tremendously from geomatics and geoinformatics.

Architects, archeologists, crime simulators, pilots and marines know how important it is to use geomatics and geoinformatics to assess spatial dimensions, and to monitor and model, as well as in expertly manage natural resources. Geoinformatics is an important technology to decision-makers across a wide range of disciplines and industries. Many government and non-government agencies use spatial data for managing their day-to-day activities.

Variously referred to as Geomatic Engineering, Geospatial Engineering or Geospatial Sciences, it is a discipline focusing mainly on the data and information that is spatially referenced. It uses terrestrial, marine, airborne, and satellite-based sensors to acquire spatial and other data. It includes the process of transforming spatially referenced data from different sources into common information systems.

Geomatics is a new term for the older field of land surveying along with many other aspects of spatial data management. Following the advancements in digital data processing, the nature of the tasks required of the professional land surveyor has evolved and the term "surveying" no longer accurately covers the whole range of tasks that the profession deals with.

As our societies become more complex, information that is spatially referenced becomes more critical to decision-making. Geomatics engineers will be involved in a wide variety of information-gathering activities given that they design, develop, and operate systems for collecting and analyzing spatial information about land, oceans, natural resources, and man-made features. Traditional land surveying strand of geomatics engineering is concerned with the determination and recording of boundaries and areas of real property parcels, and the preparation and interpretation of legal land descriptions. The tasks more closely related to civil engineering include the design and layout of public infrastructure and urban subdivisions, and mapping and control surveys for construction projects.

The term geographic or geospatial information science (GIS) was coined to describe the growing field utilizing geospatial information systems (GIS). It has revolutionized many traditional disciplines such as geography, surveying and environmental science and has brought together scientists and practitioners from a variety of fields, resulting in the birth of Geoinformatics.

It involves the design and development of new systems and algorithms to analyze, interpret and graphically represent the acquired spatial data in formats useful to the end-users. Geoinformation technologies and their wide-ranging applications have grown rapidly with a range of employment opportunities. Both geomatics and geoinformatics include and rely heavily upon the theory and practical implications of geodesy. Geography and earth science increasingly rely on digital spatial data acquired from remotely-sensed images, analyzed by geographical information systems (GIS) and visualized on paper or the computer screen.

Branches of geoinformatics include; photogrammetry, remote sensing, web mapping, cartography, geodesy, geographic information systems and global navigation satellite systems. It is an inter-disciplinary field that combines techniques and methodologies from information sciences, computer sciences, cognitive sciences, telecommunications, and geomatics.

Aspects of geospatial technologies are of increasing importance in many areas of employment concerned with the landscape, for example in national and local government, in nature conservation agencies, in oil exploration and oil field management, in environmental consultancy, civil engineering projects and marine and coastal zone management.

In Kenya's quest to be a globally-competitive and prosperous nation with a high quality of life by 2030, applied technology is a critical component to meeting this market need. Both geomatic engineering and geospatial information science are technologies that can be applied to support a variety of aspects that support the Kenya Vision 2030 such as tourism, agriculture, and the protection and preservation of the environment, thereby enhancing the quality of life as outlined in the Kenya Constitution 2010 and in the draft national land policy.

Written by Dr. David Kuria; Mr. Eric Kathurima; Ms. Mary Macharia; Ms. Josephine Wanjiku; Ms. Caroline Gikwa; Mr. Bartholomew Kuria; Mr. Godfrey Makokha, Mr. Arthur Sichangi and Mr. Julius Ndwiga.



REACHING VISITORS WITH A SPECIAL TOUCH The Institute of Tourism and Hospitality Management

By Dr. F.K Waweru

Tourism and hospitality are fast-expanding industries in the world and important top foreign exchange earners for Kenya.

However, economic benefits from the tourism industry do not normally trickle back to the local communities, and there is need for a new approach to develop skills on sustainability of the industry through training, sensitization of local communities to embrace community-based tourism ventures. In order to meet this need, the Dedan Kimathi University of Technology (DeKUT) launched a Bachelor of Science Degree in Sustainable Tourism and Hospitality Management, and to establish a Kimathi University Wildlife Conservancy and associated hospitality facilities.

The Academic Department has been operational from 2011 and today has 20 and 94 students for diploma and degree programmes. The Conservancy has been completed and 60 of 9 animal species have been trans-located to it. These animals have now settled down and are already breeding. The hospitality facilities are under construction and will be used for practical study experience by the students at DeKUT.

The Institute of Tourism and Hospitality Management (IToHM) comprises the following sectors:-

- The Department of Sustainable Tourism and Hospitality Management.
- The Dedan Kimathi University Wildlife Conservancy.
- The Tourism/Hospitality business component of the Conservancy.
- The International Endangered Species Research Centre

The goals of the Institute of Tourism and Hospitality Management are:

- To streamline the management of the Conservancy and the academic department .
- To establish a vibrant income-generating enterprise for DKUT through tourism and hospitality ventures
- To establish a research facility to accommodate both local and international researchers on tourism, hospitality and ecosystem management in the Aberdares, Mt Kenya and the Laikipia area.
- To sensitize local communities to participate in community-based tourism enterprises.

Kenya's new tourism policy has put emphasis on the involvement of the local communities in tourism, and the diversification of tourist activities by developing new tourist destinations. To achieve this, the emphasis is directed to sustainable tourism development as the core-component in this industry supported by expansion in the hospitality service sector. There is inadequate skilled manpower in this sector but the future of tourism in Kenya needs product diversification, opening up of new tourist circuits, promotion of domestic tourism and development of skilled manpower.

The Institute of Tourism and Hospitality Management will use the already-established Kimathi University Wildlife Conservancy as a field practical training centre where the community and academics will work The Institute will work closely with the Mau Mau Education Centre.

The DeKUT BSc Degree programme in Sustainable Tourism and Hospitality Management will provide competence to service providers in this industry by training new entrants or upgrading skills of those who are already in the industry. Tourism is a complex industry governed by the laws of supply and demand. The training will therefore equip students with competence to take the client to appreciate the ecology, behaviour, and the tourism product's interrelationship with the environment.

University Management



Prof. P.N. Kioni, PhD, R. Eng. Ag.
Vice Chancellor



Prof. M.K Gachari Ag. Deputy
Vice Chancellor (Administration
and Finance)



Prof. Gerald Muthakia - Ag.
Deputy Vice Chancellor
(Academic Affairs)



Paul Mbote
Ag. Deputy Registrar
(Academic Affairs)



Mr. Andrew Muriuki - Deputy
Registrar (Administration and
Finance)



Joseph Ole Sarisar - Ag. Deputy
Registrar RTMCL



Anthony Wachira
Finance Officer

DEVELOPING A GREEN THUMB
The DeKUT Farm

Dedan Kimathi University farm was started in the early 1900s and helps the university generate income, as well as acts as a modern research facility.

The farm is effective for training students in biosciences, crop science, modern techniques in biotechnology, plant and animal genetics, and general animal production and veterinary science. The farm is run commercially and self-finances itself to function as a teaching and research resource. The farm is a 648 acre mixed farm of coffee, dairy and arable production.

Farm Workforce

The farm has 16 permanent workers, 4 contract employees and an average of 100 casual employees per day. The current farm manager is Peter Mwirigi and the majority of workers are engaged in the coffee unit (e.g. harvesting and pruning), while the rest are in horticulture, livestock and the maintenance of farm machinery and buildings.

Equipment on the farm

A variety of equipment is used on the farm including: Same tractors are used for spraying coffee to cutting and bailing hay for the dairy cows as well as plowing. There is also a disk plow, harrower, gyro mower, furrower, hay cutter, hay bailer, chemical sprayer, 3 trailers (1 dumping), chaff cutter and power saws.

Strategic Business Unit Plans

As part of a 3-year Strategic Plan, the three farm units have developed Business Plans to ensure sustainable and profitable production.

Irrigation system

The Farm uses different irrigation systems for sustainable and timely production including a centrifugal electric-based irrigation.
At the horticulture unit, two different systems are used for irrigation including a small portable petrol pump and three hydrums that are used to pump water to the horticulture section near the farm offices.

The University is currently in the process of procuring three sets of drip irrigation kits to significantly increase production and water wasted through evaporation and runoff. In addition, the farm is exploring the option of installing sub-surface drip irrigation at Kigunyo block for the 8,500 Batian seedlings that will be planted in April. This will form the basis for future installation of drip irrigation to all the coffee blocks.



Seedlings of Kales ready for transplanting

COFFEE FARM

The coffee farm dates back to the colonial era of White settlers. The first tree was planted at the farm in 1919.

The plantation, was purchased by the then Kimathi Institute of Technology (KIT) in the 1970's and was named the Dedan Kimathi University Farm in 2012 when the University attained a *Charter*.

Acreage

The total acreage of the farm is 648 acres with 302 acres under coffee; the dominant variety being SL 28 with a few Batian and Ruiru coffe trees. Coffee production has fluctuated because of adverse weather conditions and poor management.

Coffee nursery

The farm, in collaboration with Coffee Research Foundation (CRF) started a coffee nursery in 2012 with the objective of producing high quality coffee seedlings to be used for gradual replacement of the old coffee trees. The nursery has a capacity of 70,000 seedlings with the current seedlings totaling to 46,493 (main varieties are Ruiru hybrid and Batian).

Coffee rehabilitation

The economical lifespan of a coffee tree is 25-35 years. Most of the coffee bushes in the farm are over 50 years old. As a result, they have exhausted their maximum production potential. In addition, majority of the trees have died due to senescence and diseases such as *Armillaria meuea*. This has led to poor production per tree and therefore the need for entire rehabilitation by planting new improved varieties.
The farm has embarked on a rehabilitation programme which will involve the entire replacement of the old trees with new ones. The total area earmarked for this rehabilitation is 34,314m^2 . The seedlings are high quality Batian variety. This pilot project, if successful, will lead to the rehabilitation of the entire farm by the end of 2015.

Disease and pest control

Majority of the coffee diseases are fungal and are controlled by use of fungicides, insecticide and also by good husbandry practices. The common pests are the green scales, Kenya mealy bugs, berry borer, stem borer and leaf miners. These are controlled chemically. The farm encourages the use of predators in suppressing the pests as a form of biological control.



Brown eye spot disease

Marketing

Reputable milling and marketing firms are contracted for their services according to various milling charges.

HORTICULTURE SECTION

Horticulture in general involves intensive plant cultivation for human consumption and is diverse as it involves growing plants for food. It involves small-scale production and incorporates a wide range of fast growing and maturing crops.



Variety 'Kilele' in the greenhouse

DeKUT hopes to expand the area used for horticultural production from 35 acres to 60 acres in the next 3 years to involve greenhouse cultivation, contract farming and diversifying to organic farming.

The farm has two medium-size greenhouses for producing high-value crops that require intensive agriculture husbandry. These crops include tomatoes, cucumbers, squash (courgettes) and garden peas. The two greenhouses use the drip irrigation system, which enables fertigation and maximizes the uptake of nutrients and reduces water wastage by directing it directly to the root zone of the intended crop.

LIVESTOCK

The livestock section (started several decades ago after being bought from the White Settlers in the 1970's. Several Friesian cows were brought mainly from Loisoi farm near Mt. Kenya and Marula estates in Naivasha and the focus became more business oriented away from domestic production. To-date, the section has continued to grow and diversify with the introduction of pigs, sheep, goats and poultry for profitable livestock farming.

This article was developed by: Mr. John Gathirwa, the Assistant Farm Manager Mr. Kyle Holland - Business Development Officer, Mr. James Kwinga-Animal Health Technician and Mrs. Purity Thumbi - Horticulture Supervisor.

For additional information, please contact the Ag. Farm Manager, Peter Mwirigi (mwirigip@yahoo.com)

ACADEMIC PROGRAMMES

SCHOOL OF ENGINEERING

- Msc in Advanced Manufacturing and Automation
- Msc in Industrial Engineering and Management
- Bachelor of Science in Electrical and Electronic Engineering
- Bachelor of Science in Telecommunication and Information Engineering
- Bachelor of Science in Mechatronic Engineering
- Bachelor of Science in Mechanical Engineering
- Bachelor of Science in Civil Engineering

INSTITUTE OF GEOMATICS, GIS& REMOTE SENSING(IGGRS)

- MSc. in Geospatial Information Science and Remote Sensing
- Bachelors of Science in Geomatic Engineering and Geospatial Information Systems.
- Bachelors of Science In Geospatial Information Science(4 years)

SCHOOL OF SCIENCE

- Bachelors of Science Actuarial Sciences
- Bachelors of Science in Industrial Chemistry
- Bridging Mathematics and physics

SCHOOL OF BUSINESS

- PhD in Business Administration and Management
- Masters in Business Administration
- Master of Science in Economics
- Bachelor of Commerce
- Bachelor of Business Administration
- Bachelor of science in criminology and security management
- Bachelor of Purchasing and Supplies Management
- Bachelor of Sustainable Tourism and Hospitality Management
- Diploma in Business Administration
- Diploma in Purchasing and Supplies Management
- Diploma in Sustainable Tourism and Hospitality Management

SCHOOL OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

Bachelor of Business Information Technology
Bachelor of Science in Computer Science
Bachelor of Science in Information Technology (Stage I)
Bachelor of Science in Information Technology (Stage II)
Diploma in Information Technology
Certificate in Information Technology

DEPARTMENT OF NURSING

Bachelor of Science in Nursing-*Direct entry with* ***K.C.S.E results***
Bachelor of Science in Nursing-***upgrading programme for registered Nurse/Midwife***

INSTITUTE OF FOOD AND BIORESOURCES TECHNOLOGY

- PhD in Food Science
- Bachelor of Science in Food Science
- Diploma in Coffee Technology and Cupping
- Certificate in Coffee Technology and Quality Management

INSTITUTE OF TOURISM AND HOSPITALITY MANAGEMENT

- Bachelors of Science in Sustainable Tourism and Hospitality Management
- Diploma in Sustainable Tourism and Hospitality Management

INSTITUTE OF TECHNICAL AND PROFESSIONAL STUDIES

- Diploma in Clothing and Fashion Design
- Diploma in Furniture Technology and Interior Design
- Diploma in Building Technology
- Diploma in Metal Work, Welding and Design
- Certificate in Clothing and Fashion Design
- Certificate in Furniture Technology and Interior Design
- Certificate in Building Technology
- Certificate in Metal Work, Welding and Design
- ATC Level I (Intermediate)
- ATC Level II (Final)
- CPA Sec. I-VI
- CCNA I, II, III, IV

INSTITUTE OF GEOTHERMAL ENERGY, RESEARCH & TECHNOLOGY

- Msc in Geothermal Energy Technology
- Postgraduate Diploma in Geothermal Energy Technology

Members of the DeKUT's Council



Dr. Dulacha Galgallo Barako
Council Chairman



Joseph Kinyua
PS Ministry of Finance



Prof.Crispus Kiamba
PS MOHEST



Mr. Irshad Ibrahim



Mr. Justus Mutabari Mutiga



Eng. John Kisenga



Mrs. Mercy Mwatua



Mrs. Sophia Yiega



Prof. P. N. Kioni - Ag .
Vice Chancellor

WANTED!

INDUSTRIAL CHEMISTS

By Dr. Douglas Onyancha

REWARD

Highly Upwardly-Mobile Career

Industrial Chemistry is the branch of chemistry which applies physical and chemical processes towards the transformation of raw materials into products that are of benefit to humanity. The course equips graduates with knowledge of engineering, chemical processing, economics and industrial management.

Modern industries are using increasingly sophisticated chemical procedures; this has led to industrialists becoming more concerned about health hazards and safety factors. These industries need better-trained chemistry technicians, managers and practitioners. The function of an industrial chemist is to be able to handle industrial practices, processes and problems in various domains. Whereas the chemical engineer deals with the design and operation of plants and equipment of chemical industry, the industrial chemists are concerned with the management of the chemical industry by optimizing and monitoring the fundamental chemical processes.

Industrial chemists are employed in the process industry, fertilizer production industry, plastics industry, pulp and paper industry, tanning industry, consumer industry, oil and petroleum industry, textile industry, dyes and paints industry, cosmetics industry, cement industry, glass industry, pharmaceutical industry, government departments, parastatals, research and development institutes, production, biotechnology, quality control, process industry, water purification and wastewater purification engineering. The course is therefore exceptionally marketable but more students need to take up the course in Kenya.

Man's ability to manipulate chemical molecules to solve problems affecting him, made chemistry man's servant.

Chemistry plays a central role in the modern world economy. In the last century, chemistry had a key role in diverse fields such as development of drugs in medicine, pesticides and fertilizers in agriculture, food technology, textile industry, energy, transport and electronics etc. The chemical industry has grown rapidly in the recent past in the developing countries and is crucial in providing employment to millions of people.

By 2010, the global chemical industry stood at $4.12 trillion and it continues to grow. A chemical industry may be described as a company that uses chemistry and manufactures chemicals. Their raw materials include oil, natural gas, air water, metals minerals, etc. The outputs of chemical industries are chemicals and their derivatives.

The author is the Head of the Chemistry Department at DeKUT, and holds a PhD from the Nelson Mandela Metropolitan University.



Oil refinery distillation towers

SPORTS AND GAMES

By Gathoni Ndungu Sports Officer

The university runs a vibrant Sports and games department. Modern facilities have been put in place to develop and nurture sporting talent.

The sports department ensures that students and staff have a chance to "let off steam" after a hard day's work.

The following are the registered sports clubs as at January, 2013:

1. Soccer
2. Volleyball (M)
3. Volleyball (w)
4. Basketball (M)
5. Basketball (W)
6. Hockey (M)
7. Hockey (W)
8. Netball (M)
9. Netball (W)
10. Softball
11. Handball
12. Cross country
13. Track and field
14. Scrabble
15. Chess
16. Karate
17. Taekwondo
18. Shorin RYU
19. Table Tennis
20. Tennis
21. Badminton
22. Swimming
23. Rugby

Major Achievement 2013

Our teams have participated in both friendly matches and league tournaments including the Rugby team which finished in the fifth position in Universities' league. Another good team is Hockey (Men) which plays in the National Premier League.

East Africa University Games (EAUG)

On February 6th to 13th, 2013 a total of 56 participants, two drivers and two officials travelled to the University of Dar es salaam in Tanzania for the 8th Edition of EAUG. Seventeen universities from Kenya, another 17 from Uganda and 7 from Tanzania participated in the tantalizing tournament.

S/NO	TEAM	POSITION
1	Volleyball (M)	3
2	Hockey (M)	5
3	Netball (M)	4
4	Tennis	Preliminaries
5	Table Tennis	Preliminaries
6	Badminton	Quarters

Our volleyball team finished third over all after defeating teams from Uganda, Tanzania and Kenya. The Netball men team was ranked 4th in East Africa universities.

Some tournaments outside university

1. Nyeri technical
   - Soccer - DeKUT 1 vs Nyeri stima 3
2. Kamwenja TTC
   - Hockey- DeKUT 0 vs kamco o
   - Volleyball- DeKUT 3 vs kamco o
   - Netball (m)- DeKUT 18 vs kamco 20
   - Netball (w) -DeKUT 14 vs kamco 21
3. Kagumo TTC
   - Netball (M) - DeKUT 19 vs Kagumo 08
   - Soccer (M)- DeKUT 2 vs Kagumo 3
   - Hockey (M) DeKUT 2 vs Kagumo 0
4. Kenyatta University
   - Soccer -DeKU 4 vs. K U 2
   - Netball (M) - DeKUT 22 vs. K U 32
   - Netball (W) - DeKUT 14 vs. K U 2 4
   - Swimming -won Relay
   - Basketball (M) - DeKUT 42 vs. K U 34

Tournaments Held within the University

1. Nyeri technical
   - Soccer - DeKUT 1 vs Nyeri Stima 3
   - Rugby- DeKUT 41 vs Nyeri TTI 5
   - Volleyball - DeKUT I vs Nyeri TTI 3
   - Netball (W) - DeKUT 26 vs. K U 09
2. Nyeri high scool
   - Soccer - DeKUT 1 vs Nyeri STIMA 3
   - Hockey (M) DeKUT 2 vs Nyeri 0

Rugby League matches within

1. DeKUT 11 vs. KEMU 09
2. DeKUT 13 vs. CUEA 10

Rugby - outside university
- DeKUT 15 vs Thika 38
- DeKUT 13 vs CUEA 10

DeKUT's First PhD Graduates 2013



Lilian K.M Mugambi



Anita Wachira

PhD in Business Administration and Management



Ofunya Francis Afande



Hannah Bula Orwa

FUNDAMENTAL STATEMENTS

DeKUT MOTTO
Better Life through Technology

DeKUT VISION STATEMENT
To be a premier technological university excelling in quality education, research and technology transfer, for national development

DeKUT MISSION STATEMENT
To provide academically stimulating, culturally diverse and quality learning environment that engenders research, innovation and technology development towards producing relevant human resources and leaders to contribute to attainment of national development goals

DeKUT PHILOSOPHY
To be as good as the best in the world

DeKUT CORE VALUES

- **Innovation**
- **Scholarship**
- **Diversity**
- **Reliability**
- **Teamwork**
- **Nature and heritage**

What to do when someone is having an Epileptic seizure.

By Dr. John Macharia Medical Officer DeKUT

1. Loosen restrictive clothing, roll the person on side to prevent aspiration, place a small pillow under the head and ease from a standing or sitting position to the floor.
2. Do not move the person unless he or she is in immediate danger.
3. If the person is unconscious, make sure nothing is obstructing the nose or mouth. When you are watching an epileptic attack you should stay very calm and try not to panic.
4. You should not place a finger or other object into the person's mouth to protect or straighten the tongue -- it is unnecessary and dangerous.
5. Do not perform artificial respiration during a seizure, even if the person is turning blue. Most seizures are over long before brain damage from lack of oxygen begins.
6. You should not try to hold the person still because you may injure the individual or yourself.
7. If the person has vomited, you should roll the person on his side so that any fluid can easily flow out of the mouth and not obstruct breathing.
8. If the person has a seizure, they may not hear you when you are speaking to them.
9. Do not give the person anything to eat or drink until the person is fully recovered.
10. Do not give the person medication by mouth until the seizure has stopped and he or she is completely awake and alert.
11. You should be calmly reassuring.
12. Stay with the person until recovery is complete.
13. If a seizure last more than five minutes get Medical Help.
14. It is important to monitor vital signs and neurologic status if you have the medical expertise to do so.

Raybells GARDENS
Eden Revived

- Unrivalled panaromic views
- Secluded Extensive grounds at three different levels ideal for differentiated activities
- Secure: Well fenced
- Acessible - 2km from town,All - tarmac along Nyeri - Ihururu road, behind Kenya Power depot
- Ample secure parking within compound & guarded parking along perimeter fence
- Adequate washroom facilites

FOR ALL OCCASSIONS:
Weddings, Corporate Functions, & Parties

Raybells RESTAURANT

If you are indecisive or unfamiliar with the various styles of Nyeri delights, then let the chefs call the shots and tantalize your taste buds with one of the distinctive delicacies or take aways. we can only say, you truly havent been to Nyeri if you havent been to Raybells
Opposite Osman Ally Kanisa road.

Raybells BUTCHERY

Raybells Butchery is a meat lover's and gourmet food fanatic's dream spot. Raybells provides traditional Kenyan cuts in meats. This means a lot if you are serious about eating premium quality beef, pork, fish sausages, goat & lamb. Oh, poultry as well-- The staff is so knowledgeable about how to prepare the meats,

FOR ENQUIRES OR RESERVATIONS: ALL 0722 790060, 0722 794555

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