



Strathmore University

@iLabAfrica Research Centre

Challenge Based Learning Programme

An Industry Led Challenge Based Innovation
Academy

@iLabAfrica Research Centre



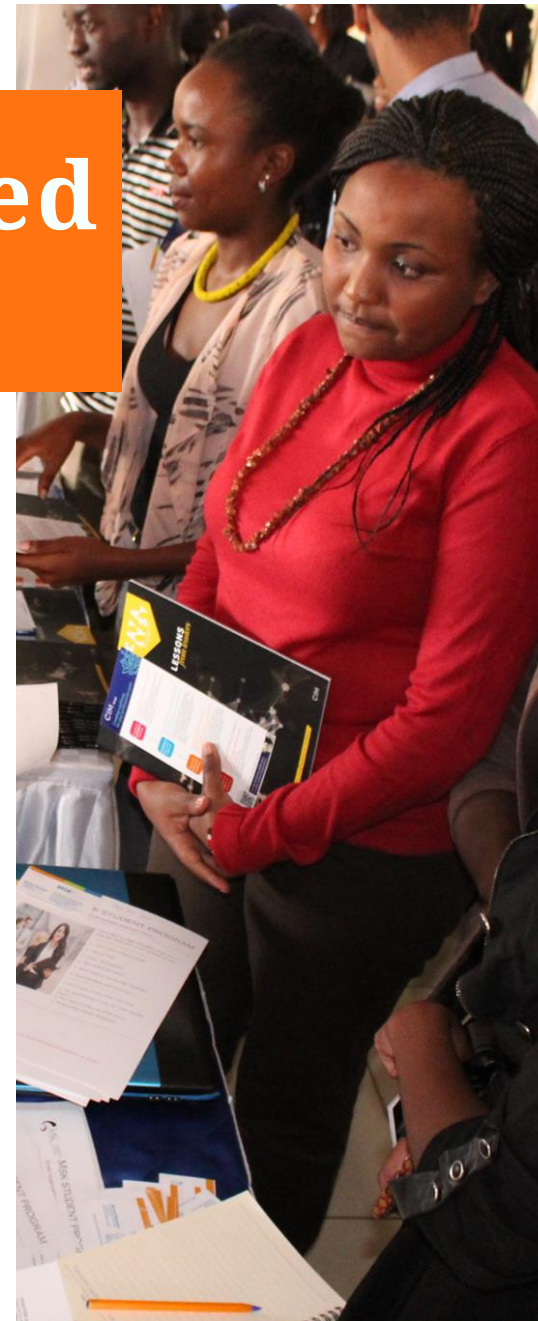
- A Centre of Excellence in ICT Innovation and Development based at Strathmore University.
- The research centre is involved in: interdisciplinary research, students' engagement, collaboration with government, industry and other funding agencies.

- **E-health**
- **Cyber Security**
- **Data Science and Analytics**
- **Internet of Things**
- **Digital Learning**
- **County Revenue Collection**
- **Executive Trainings and Short Courses**
- **IT Outsourcing**
- **Business Incubation**



What is Challenge Based Learning ?

- A **framework for learning while solving real-world Challenges.**
- It is a collaborative learning experience in which lecturers, industry mentors and trainers, and students work together to solve non-trivial business problems.





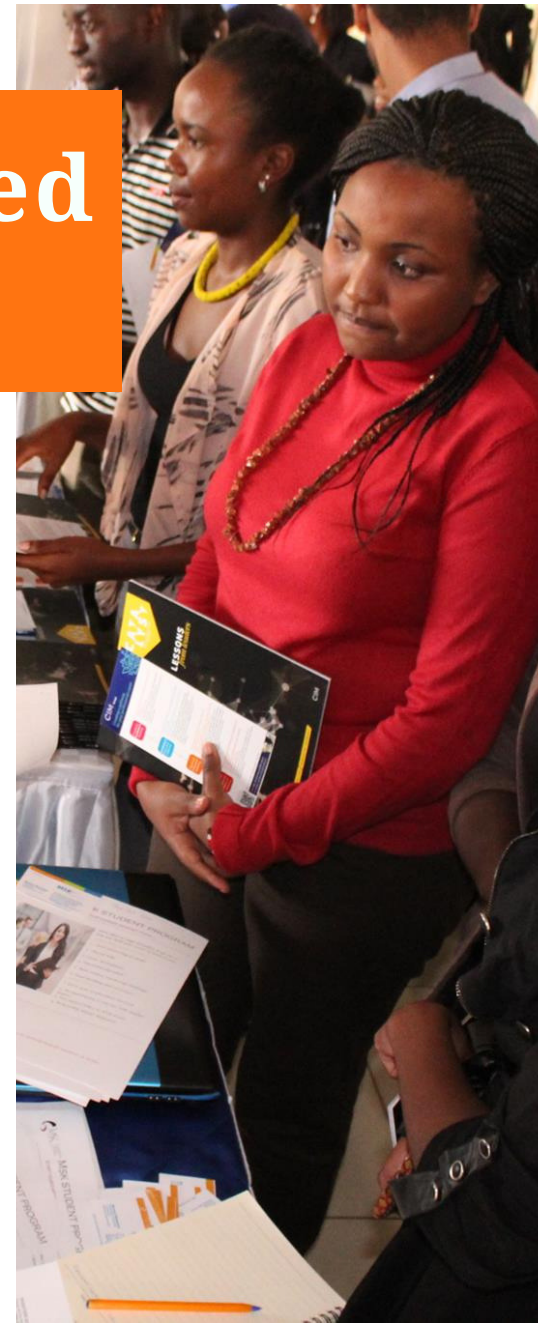
Current State of Affairs



- Technology is a progressively evolving phenomenon
- Companies have to constantly innovate
- Slow adaptation of University curricular to new technologies
- Heavy spending on in-house skill development, graduate trainee programs, Internal Research and Innovation unit or consultancy services
- Unavailable or inadequate certified local talent on international technologies
- Cost of flying in and maintaining expatriates

Strathmore Challenge Based Learning Programme?

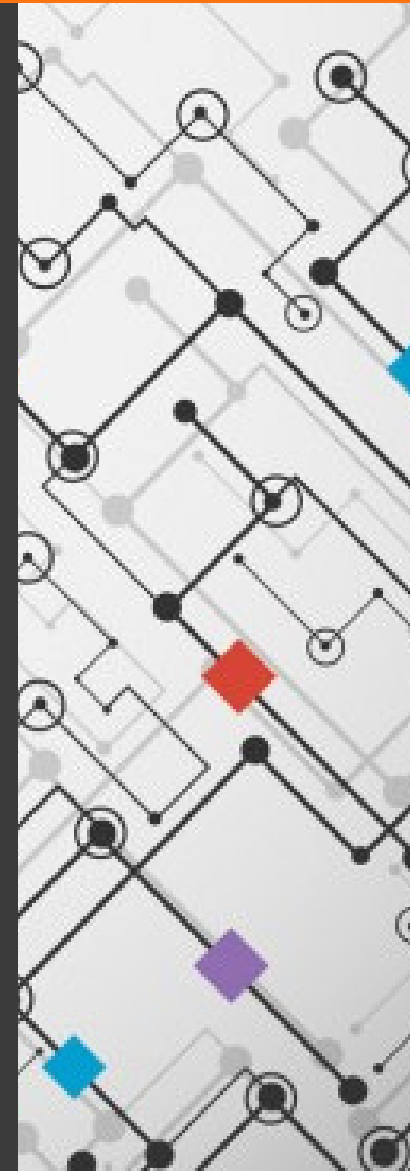
- A one year training program that **provides a sustainable pipeline of skills** for local enterprises and encourages certification of local talent on international technologies.
- The Programme **promotes innovation using current and new technologies to solve complex local problems.**





Objectives - Challenge based Learning Programme

1. To create a sustainable pipeline of skills for local enterprises.
2. To promote relevant technical training and certification in new technologies that would fill in current skills gaps.
3. To provide soft skills training to achieve all-round individuals.
4. To stimulate research and innovation.
5. To provide a deep engagement between industry and academia.
6. To focus on solving meaningful problems; the programme would be practical and aimed at solving real life challenges in industry.
7. To adopt a global outlook and provide world class talent engaging best industry local and international experts.



Stakeholder Involvement Chart

Programme Participants

- Profile:
 - Post-Graduate Student (multidisciplinary; 1st Class or 2nd Upper)
 - Company trainees/ current employees
- Successfully complete the program:
 - Solve a challenge
 - Complete certification exams

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Challenge Based Learning

Industry Partners

- Advertise the program to students, select students
- Guide partners in the selection of challenges
- Manage the programme and mentor students in the solution of the challenge
- Organise relevant trainings, progress assessments, accreditations and certifications
- Final Assessment of the systems/solutions developed.
- Provide Certificates to students on successful completion of the programme.

International Vendors

- Provision of training resources: course material (professional training and certification), trainers, tools and software licences to solve challenges
- Contribute to curriculum development
- Provide mentorship
- Provide real life challenges to develop PoC solutions

Local Firms

- Provide a real-life challenge(s)
- Sponsor a challenge
- Contribute to curriculum development
- Provide mentorship and necessary resources to the teams they sponsor

1

SESSION ONE (Duration - 3 Months)

- Technical foundation Training.
- Design Thinking Training
- Soft Skills Training

2

SESSION TWO (Duration - 6-9 Months)

- Periodic seminars provided by partners
- Formulation of Essential Questions, Activities and Resources to solve the Big Challenge
- Identifying a solution: Proposal of many viable solutions with prototyping, sketching and researching.
- Selection of one viable solution.
- Implementation and Evaluation
- Publishing Results and Reflection

Program Duration

Program Cost

1

PARTICIPANT COMMITMENT FEE

10% of course fee (Ksh. 500,000):

- Ksh. 50,000 per participant

2

CHALLENGE SPONSORSHIP

Ksh. 2,000,000 per challenge:

- 1 challenge -> Tackled by a group of 4 participants for 9 to 12 months

Partner-Student Engagement Model

Companies decide how to engage with the students they are sponsoring at their own discretion. Possible models:

1. Provide sponsorship only for the course.
2. Provide sponsorship for the programme and a monthly stipend/allowance.
3. Provide sponsorship for the programme and engage students as company trainees/employees.

Value Add to Stakeholders



PARTICIPANTS

- Certified on leading technologies.
- Experience in working on a real life challenge.
- Ready for market after 1 year of training
- Exposed to innovation, team work, real office setting, communication, brainstorming and presentation



PARTNERS

- Access to a steady pipeline of local certified talents on leading technologies
- Reduced cost of training local skills
- Solutions that are actionable and can advance your organization to the next level
- Opportunity to develop proof-of-concept solutions for local market



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- Reputable knowledge transfer center
- Research/Publish papers



Sample Challenge Thematic Areas

As a generic indication, local companies should select projects/challenges that use technology to improve their business. Some thematic areas may be related to:

- Cloud Computing
- Cybersecurity
- Data Analytics
- Internet of Things
- Storage
- Networking
- Data Centres
- Agribusiness
- E-Health

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