

# Kyambogo's first structural engineering Masters graduate

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*Eng. Fredrick Daniel Tuliraba.*

Eng. Fredrick Daniel Tuliraba, 53, is the first Ugandan to acquire a Master of Science in Structural Engineering at Kyambogo university.

The announcement was made by the Dean, Faculty of Engineering, Dr. Micheal Kyakula while releasing the first batch of graduates who had fulfilled requirements for that award at the 15<sup>th</sup> Graduation ceremony held on 12<sup>th</sup> December 2018.

He said the two-year course introduced in 2016, admitted 24 students but 22 of them dropped out of the course along the way and only two students completed.

However, Eng. Fredrick Daniel Tuliraba is the only student who appeared at the graduation grounds before the chancellor to receive his Masters certificate where he was also the best student although no grading is done.

Eng. Faisal Kiberu was the other graduate who never managed to turn up to receive his Masters certificate on the graduation day.

## **Employment record**

Eng. Tuliraba started practicing Engineering in 1989 after completing an Ordinary Diploma in Building and Civil Engineering. Four years later, he upgraded to a Higher Diploma in Construction, in the then, Uganda Polytechnic Kyambogo.

Consequently, he upgraded to a Bachelor of Engineering Degree (Civil Engineering) in 2007 and later a Master of Science in Structural Engineering at Kyambogo University.

‘I worked with Steel masters Limited for a period of six (6) years (1989-1995) and during this period I gained wealth of experience in design and erection of concrete and steel framed structures, supervision of construction works and the development of Bills of Quantities and Work programs.

I have been working with Civil Aviation Authority-Uganda from 15th April 1996 to date which is now 18 years and rising through ranks of Engineering Assistant, Civil Engineering Technician, Technical Officer (Civil), Senior Civil Engineering Technical Officer, Senior Civil Engineer and Acting Chief Civil Engineer.’ Eng. Tuliraba said.

He further revealed that his career with Civil Aviation Authority has seen him preside over the development and implementation of maintenance programs.

Eng Tuliraba has a wealth of experience in Airport Engineering maintenance and design, preparation of Technical Reports, Bills of Quantities, Tender Documents, Bid Evaluations, Maintenance Budgets, Technical Specifications and Contractual Certificates using modern computer software as well as supervising the Technical Personnel under my jurisdiction.

He uses and applies the AutoCAD computer software for drawing; Abaqus software for structural analysis and Microsoft wares for reports.

Eng. Tuliraba is a Corporate Member of the Uganda Institution of Professional Engineers (UIPE) No. 901 and a registered Engineer with the Engineer’s Registration Board (ERB) No. 861.

He has been an Executive Member, and was an Honorary Secretary and Treasurer for Kampala Branch twice.

‘I was a Kampala Branch representative to Council in 2009/10 and a member to Council of UIPE up to 2012.

I was president of the Uganda Air Transport Safety Engineering Association (UGATSEA) at Civil Aviation Authority for the period 2015-2017.’ Eng. Tuliraba added.

### **Education background**

Born in Kaliro District, Bulamogi County, Namwiwa sub-county, Eng. Fredrick Daniel Tuliraba went to Namwiwa Primary School 1973 -1979 where he did his P.L.E.

In 1980 -1983, he went to Kitante Hill School for 'O' Level

In 1985 -1987 he attended Wairaka College for his 'A' Level,

In 1987, he enrolled at Uganda Polytechnic Kyambogo for an Ordinary Diploma in building and Civil engineering, which he acquired in 1989.

In 1991-1993 he acquired a Higher Diploma in building and civil engineering.

In 2004 – 2007, he acquired a Bachelor of Civil Engineering at Kyambogo University and in 2016 - 2018 He became the first Ugandan to acquire a Master of Science in Structural engineering at Kyambogo University.

### **Overview of the structural engineering discipline**

Structural engineering is one of the civil engineering disciplines in which structural engineers are educated and specialize to create the 'bones and muscles' that create the form and shape of man-made structures.

Structural engineers are required to assess, understand and calculate the stability, strength and rigidity of buildings and non-building structures.

The designs created are called structural engineering designs which are later integrated with those of other designers like architects and building services engineer to form the complex.

Structural engineers analyze, design, plan, and research structural components and structural systems to achieve design goals and ensure that the safety and comfort of users or occupants is realized. Their work takes account mainly of safety, technical, economic and environmental concerns, but may also include aesthetic and social factors.

Master of Science in structural engineering emphasizes the above aspects at an advanced level with the main focus of getting solutions to complex problems through research.

This program was introduced at Kyambogo university for the first time and as one of its kind in Uganda, in academic year 2016/17, to be undertaken for a period of two years.

The requirement for enrolment were Second class bachelor's degree in Civil & Building Engineering, Material Engineering, Structural engineering or any other related discipline from a recognized institution.

At its 15<sup>th</sup> Graduation ceremony held on 12<sup>th</sup> December 2018, Kyambogo University passed the first batch of graduates who had fulfilled the requirements for the award of Master of Science in Structural Engineering.

The course content included: Research Methods, Finite Element Analysis, Advanced Soil Mechanics, Advanced Structural Mechanics, Structural Dynamics and Earthquake Engineering, Non-Linear Analysis, Advanced structural Steel Design, Advanced Concrete Design, Maintenance and Infrastructure Management and Research of a topic of students choice.