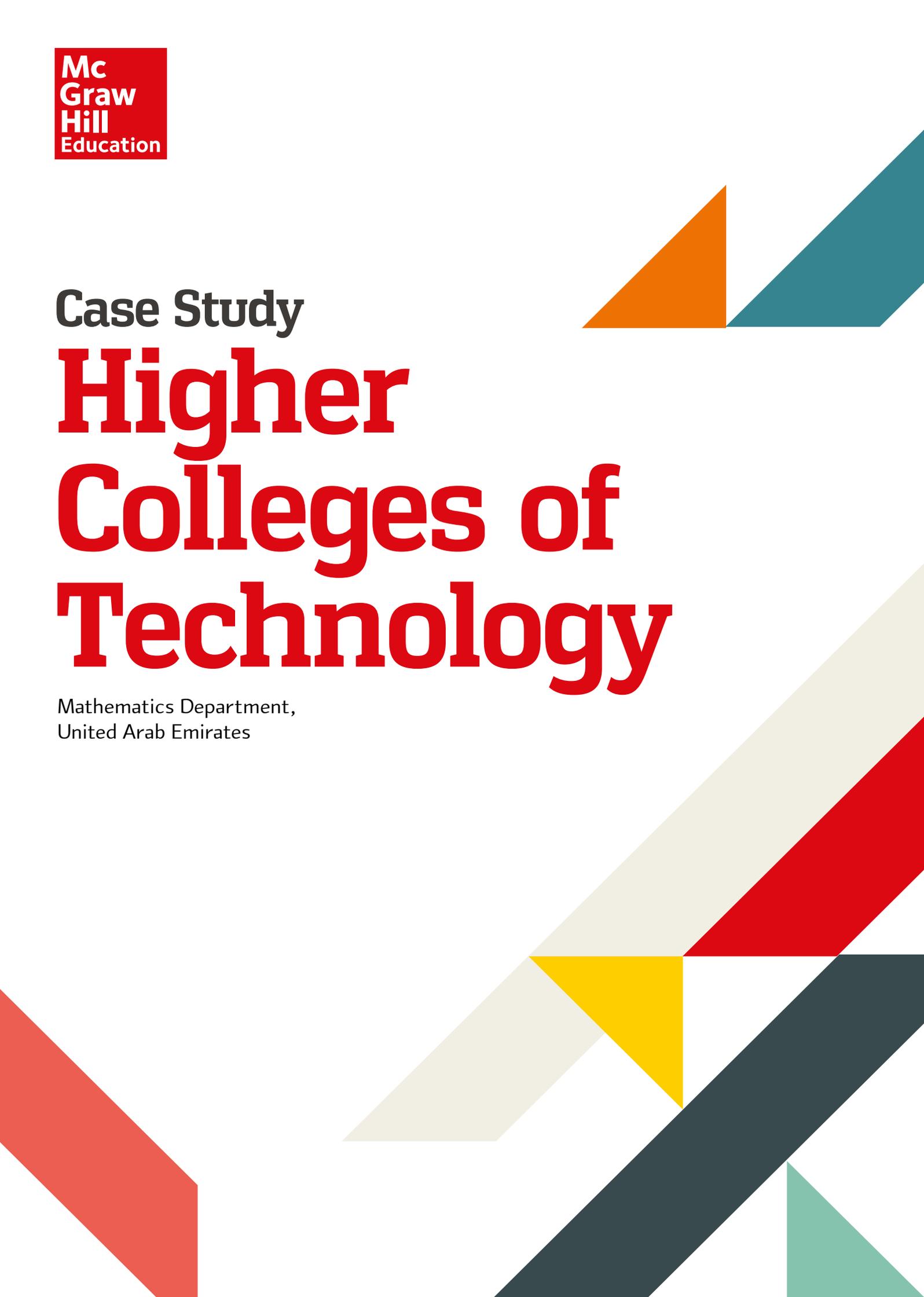


**Case Study**

# **Higher Colleges of Technology**

Mathematics Department,  
United Arab Emirates



# About the University



Ziad Rafhi, Maths lecturer at HCT

The Higher Colleges of Technology (HCT) is a federally-funded university based in the United Arab Emirates (UAE). Established in 1988, it is the largest educational institution in the country with 17 modern, technologically-advanced campuses across the UAE – a total community of approximately 24,000 students and 2,000 staff. **The Mathematics Department at HCT caters for the needs of the different English-taught courses, particularly those in the Engineering Technology & Science Division.**

## The Challenge

In September 2013, His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, launched the world's largest mobile learning initiative. More than 14,000 students were equipped with an iPad, and HCT had key requirements for digital content that all publishers had to meet. This included the need for all course material to be delivered through Blackboard, tagged to HCT's learning outcomes, with any content not required for that course omitted.

There was also a requirement to provide more uniformity across the institution – prior to implementation of the new system HCT lecturers were using their own content, which affected the standardisation of the teaching experience across the system.

## The Solution

Five different learning management systems were assessed by HCT before it decided on McGraw-Hill Education's digital solution, Connect® – a digital teaching and learning environment that saves students and instructors time while improving performance over a variety of critical outcomes.

An online teaching and learning space full of interactive digital tools for students and lecturers, Connect prepares learners for success by helping them to test understanding as they go, building confidence and knowledge every step of the way. Lecturers can easily assign exercises and assess and report on students' progress in this integrated online resource.

**Lecturers can easily assign exercises and assess and report on students' progress in this integrated online resource.**

Chosen for its personalised and flexible teaching and learning features, Connect also offers simplicity and ease of use; compatibility with HCT's Blackboard Learn service; and an efficient and easy-to-use reporting function, which supports performance evaluation and trend tracking. McGraw-Hill Education also offered the professional experience and technical support necessary for such a challenging project.

The company met the deadline so that by August 2013 HCT was fully transitioned to its online platform. McGraw-Hill Education representatives worked closely with the HCT's colleges to create support groups for the entire system. A series of workshops, live demonstrations and focus groups facilitated communication and focused on the faculty's needs and expectations in order to create a powerful learning environment.

## The Results

McGraw-Hill Education currently supplies HCT with over 30 custom Connect courses in Business, Engineering, Maths and Physics. Four Maths and Statistics courses utilise ALEKS® – a web-based artificially intelligent assessment and learning system – to bridge subjects such as algebra and critical thinking for those students joining with a weak maths background. ALEKS is the perfect tool to help bring students to the same level at their own pace, so that everyone is ready to start their Pre-calculus course.

One Maths lecturer at HCT, Ziad Rafhi, has re-written his three Calculus courses around Connect, with everything tagged to HCT's learning outcomes, and the reading, assignments and additional resources used by Mr Rafhi deep-linked and housed within HCT's Blackboard environment. This makes it very easy for students and lecturers to access their course and resources anytime, anywhere.

Because only one master course needs to be created, which the coordinator alone can access and update, it can be rolled out across the entire faculty, which saves time and also provides uniformity of content across the 17 campuses.

"Customisation is one of the most powerful features that Connect offers," said Ziad Rafhi. The choice of books and multimedia resources has never been easier and has enhanced the overall teaching and learning experience.

**"The adoption of McGraw-Hill Education's digital solutions remains one of our biggest projects to date and a strategic choice in our pursuit to advance e-learning in the country."**

For instance, when studying derivatives, students can find all the relevant resources, exercises, lecture slides and e-professor help in one section instead of having to navigate into different parts of the course.

"Course and assignment sharing, and e-book annotation are crucial to the delivery of mathematics courses. At a given location within the HCT system, we can have as many as 10 sections per course assigned to different faculty members. The Connect platform provides the flexibility we need to share or copy assignments and exchange notes in order to reduce workloads, particularly the time spent on preparation. In short, Connect and its features save us time and effort so that we can concentrate on our students and their progress."

Connect's reporting facility has also helped HCT with its accreditation process. For example, the learning outcomes of the different Maths courses are directly mapped to the criteria specified by the different accrediting bodies in the UAE and abroad. Collecting evidence of mastery and identifying shortcomings of students' learning is a couple of clicks away. When an area of weakness is spotted, the faculty relies on a variety of supplementary resources and exercises within the Connect platform to help bridge any gap in students' learning.

"The adoption of McGraw-Hill Education's digital solutions remains one of our biggest projects to date and a strategic choice in our pursuit to advance e-learning in the country," concludes Mr Rafhi.

Subject Area	<b>Maths</b>
Digital Product in Use	<b>McGraw-Hill Education Connect</b>
Featured Product	<b>Connect &amp; ALEKS</b>
Course Name	<b>Calculus I, II and III</b>
Course Type	<b>Foundation, Pre-calculus, Statistics, Calculus</b>
Credit Hours	<b>3 credits per course</b>
Textbook in Use	<b>Smith, Minton Calculus (4th Edition)</b>
Instructor Name	<b>Ziad Rafhi</b>
Enrolment	<b>1,000+</b>
Case Study Term	<b>2013-2014</b>
Outcomes	<b>Positive student feedback on engagement, improved grades and ease of use. Positive staff feedback on simplicity, flexibility, time saving, ease of assessment and accreditation.</b>