

# #IAmAnEducationChampion Newsletter

Red & Yellow Creative School of Business has launched a free online AI course for all South African educators. We chat to Maxine Davy, Marketing Manager

**RSCE:** How was the curriculum for the "AI for Educators" online short course developed, and what considerations were made to ensure it meets the needs of South African high school teachers?

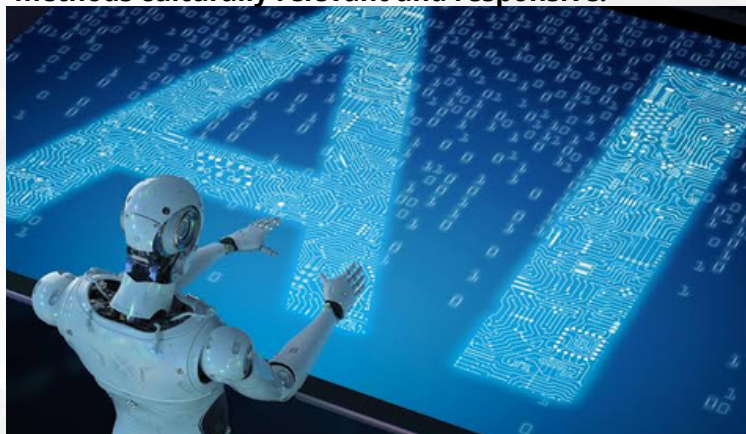
**Maxine Davy:** Developed by an instructional designer with recent experience as a high school educator, the curriculum leverages firsthand classroom insights to tackle specific teaching challenges and requirements. This course is structured to be completed within just 5 hours, making it a perfect fit for teachers' demanding schedules while providing a thorough introduction to AI in education. To ensure the course remains relevant and effective, a feedback mechanism is incorporated, allowing for ongoing adjustments based on participant insights gathered through post-course surveys. This process of continual refinement helps tailor the course to better meet the evolving needs of educators.

**RSCE:** Can you elaborate on the real-world AI applications in education that will be explored in the course, along with their benefits and challenges?

**Maxine Davy:** The course provides a snapshot of a variety of AI applications currently transforming the education sector globally and specifically in South Africa. We explore cutting-edge neuro-adaptive learning systems from China to initiatives like educational services delivered via WhatsApp, making learning accessible across South Africa.

**Benefits of AI in Education:** AI significantly streamlines tasks such as curriculum design and grading, allowing educators more time for direct student engagement. It also enables personalised, adaptive learning experiences tailored to individual student needs, promoting inclusivity and effectiveness.

**Challenges of Integrating AI in Education:** Integrating AI in education requires addressing ethical and practical challenges, including maintaining data privacy and preventing increased educational disparities. It's important to use AI to narrow rather than widen the digital divide, ensuring equitable access for all students. Educators must also stay updated on AI developments to keep their teaching methods culturally relevant and responsive.



**RSCE:** What ethical considerations were taken into account when designing the course content, particularly regarding the adoption and integration of AI into education?

**Maxine Davy:** The design of our course carefully considers the ethical dimensions of using AI in education, focusing on the profound impact it can have on teaching and student learning. Here are the core ethical concerns addressed:

**Bias and fairness:** AI systems can inadvertently perpetuate existing societal biases related to race, gender, or socioeconomic status. The course emphasises the importance of educators being vigilant in recognising and mitigating such biases in AI tools to prevent them from affecting educational outcomes.





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**Algorithmic transparency:** As AI applications such as personalised learning platforms and automated essay scoring become more common, it's essential that educators understand and communicate how these tools work. Transparency with students about AI's role in their education helps demystify the technology and clarifies how it assists their learning processes.

**Student involvement and literacy:** The course advocates for involving students in the decision-making processes related to AI use in their education. This includes soliciting their feedback on AI tools and making adjustments to these tools to enhance learning. Encouraging student participation fosters a sense of ownership and helps build AI literacy, empowering students to critically engage with the technology.



Techniques like the choice of words, their arrangement, and the overall structure of the request are explored. Educators learn to use frameworks, engage in systematic experimentation, and apply patience to refine their prompt-crafting skills.

Educators learn how to use ChatGPT for various educational purposes, such as:

**Lesson planning:** Generating creative writing prompts or simplifying complex topics for better student comprehension.

**Communication:** Assisting in crafting emails and other communications with parents and colleagues, ensuring clarity and professionalism.

**Resource generation:** Creating supplemental teaching materials or assessments quickly and efficiently.

**Interactive and engaging learning:** By integrating ChatGPT, educators can make learning more dynamic. The tool can be used to stimulate student creativity.

**Continual learning and resources:** The course provides additional resources for educators to explore at their own pace, such as links to podcasts, YouTube channels, and further prompt frameworks. This encourages ongoing professional development and mastery of AI tools.

### **RSCE: COULD YOU EXPLAIN HOW THE COURSE NAVIGATES THE CAPABILITIES OF CHATGPT AND ITS PROMPT ENGINEERING TECHNIQUES, AND HOW IT WILL BE BENEFICIAL FOR EDUCATORS?**

**Maxine Davy:** Educators are introduced to what ChatGPT can and cannot do, offering a foundational understanding of its limits and potentials.

The course emphasises the importance of crafting well-structured prompts to elicit the best responses from ChatGPT.

**RSCE:** How does the institution plan to ensure accessibility and enrollment for high school educators across South Africa, especially those in remote or underserved areas?

**Maxine Davy:** The AI for Educators course is offered free of charge to all high school teachers in South Africa. This initiative aims to empower educators by removing financial barriers and providing equal access to this resource-rich training. The course will offer multiple enrollment periods throughout the year, along with self-paced options that allow educators to start and progress according to their schedules. Recognising the widespread use of mobile devices in South Africa, the course content is optimised for mobile access. This allows educators to participate in the course using smartphones, which are more commonly accessible than computers in many remote areas.



# CAREER PATHS IN AGRICULTURE

The Paradys Experimental Farm is 3000 hectares and all University of the Free State (UOFS) students have practical element for all their classes, especially for Agricultural Science students, from first year and all the way through. They learn theory on campus and come to the experimental farm to learn to implement what they learn practically. According to Dr Christopher Rothmann, Paradys Experimental Farm Innovation Manager, the farm started quite small and with time it grew quite exponentially. "Just a short while ago we had about 300 cows, 300 sheep-most of it has been sold off now as it is the end of the season and students are done with their practicals. We try to maintain just the amount we need in order to help the students", Dr Rothmann explains. He further mentions that when they have too much flock, it's sold because the experimental farm is managed as a commercial entity by the UOFS. "It's also a commercial farm and we have crops that we plant to sell, we used to have pigs; however, we don't have pigs at the moment because we're busy upgrading the facility. You have to balance the academic and the commercial element of managing the farm m". The farm also has a project with a private company as part of its learning and trying to capture all the value chain i. e. everything from where seeds are planted to taking out the crops and processing of the crops turning it into animal feeds. Students have to learn how to handle and feed animals.

## WOOL PROCESSESING UNIT

The majority of the quality wool is sold off but there one from the stomach, head and legs doesn't make the best commercial quality, it goes to the farm's wool processing unit, where it's squashed. The squashed wool is then taken through a recycling process and products such as bags, children's toys, carpets and clothes are manufactured from that unused wool. The wool processing unit employs 8-permanent staffs who are given skills in terms of how wool is processed and turned into commercial products. "Skills Development and Community Upliftment is very important in the heart of the experimental farm both for students and community", emphasizes Dr Rothmann. That's why we teach people how to be farmers (working with wool, shear sheep), giving them hands-on-experience and any value chain that you could see throughout Agriculture is what try to capture here, and then provide training. The experimental farm is able to take unskilled community members with or without matric for training because of it's core belief that skills don't require qualifications. The majority of the work in the experimental farm doesn't need any educational background, and Dr Rothmann says he's of the view that learning how to shear a sheep doesn't require Mathematics or any subject. "The whole point is that if you've got a good skill you can make a good career or create a good life out of doing that".



# CAREER PATHS IN AGRICULTURE

## CHEESE FACTORY

It's also another unit of the experimental farm which is involved in manufacturing, cutting of the cheese and there's also a processing unit inside the cheese factory. "We have a very large dairy cattle herd and at the moment they're in production. We've got full production house for the milk, the students or people that we train will learn how to use the machine, how to milk the cows and to analyze the milk", Dr Rothmann points out. The produce is turned into milk and cheese that is sold. Other UOFS division e.g. Marketing, Economics work together with the farm to help with the branding, product development, market analysis and building the business around it. UOFS Entrepreneurship students get involved as well because there's a lot of business in the farm and if you're in the Agriculture industry, you automatically become an entrepreneur. Therefore, a farmer needs both the Agriculture and Selling skills. For this semester, UOFS has 400 registered students coming through to the experimental farm every week.

## THE SCIENCE INNOVATION HUB

It's where Agriculture entrepreneurs and students (post-graduate, professors) are incubated for a specific period until they're ready to launch their businesses to the market. A lab unit is also under construction. "I find that most high school learners have always been interested in Agriculture as a career of choice, but they didn't know what it could be. The aim is to show students, learners or visitors to the experimental farm that Agriculture isn't just dust, we want to show them the whole value chain", says Dr Rothmann.

## PIG PRODUCTION UNIT

The construction of this unit is almost complete and will accommodate about 300 pigs. "We have an industry partner that sponsors our crops (maize & sorghum) which are used for research and animal feeding", concluded Dr Rothmann. A state-of-the-art milking facility which boasts high-tech equipment imported from New Zealand is able to facilitate milking production. From 6am, students are taught milking production, how machines work and can receive accreditation certificate which makes them employable to the industry. This allows students to get foot in the industry door and as they stay within the industry, they can acquire more skills to grow. According to Dr Rothmann, there's a lot of demand for professionals who can teach people how to farm, from an academic perspective and Agricultural Engineering is the next big career path that high school learners can explore



# CAREER PATHS IN AGRICULTURE

## FERMENTATION INSTITUTE

It's a versatile brewery that primarily serves the Agricultural industry, for example, research and development (R & D) for Agricultural products. Dr Rothmann explains that there would be biological products as the institute's public-private partnerships expands. "Some companies have large farms but don't have the capacity for R&D, that's where we start a partnership with them to offer that service. We take on those projects and commercialize them into products". This partnership is evident through the technological equipment that is showcased at the Fermentation Institute, which was sponsored by the industry.

The experimental farm is opened 24hrs because Agriculture as an industry is retail. There are students and personnel that specializes in Animal Nutrition and Nutritional Sciences who are able to work with the experimental farm to provide information such as; which animal needs what for feeding. There's also a Breeding Programme for students that teaches them how to cross-breed animals and genetic viability of their herds. The animal feeders gather data for student's projects and industry research. For example; if a company wants to know how a particular feed performs when feeding animals, the experimental farm conducts research and provide data results. Learnership programme shadowing is offered by the farm where someone will come in to work with a student for a week to see how they manage the experimental farm and how do they balance the researchers that they have to work with.

