



CHEERS: Mike Heydenrych shows the beer produced at Tuks.

PICTURE: HERBERT MATIMBA

Tuks is brewing something new

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Students at the University of Pretoria have an excuse to keep the beer flowing. The university recently opened its very own brewery.

The opening night was a small affair where they served cheese and American Pale Ale.

SAB Miller made R31 000 available for the establishment of the microbrewery. The brewery will be used for practicals that form part of the chemical engineering students' undergraduate curriculum.

Associate professor in the department of chemical engineering, Mike Heydenrych, said the lab would also be used for research projects. The construction of the microbrewery was part of a greater thrust by the department into the field of biochemical engineering.

The facility was designed by Heydenrych, Malcolm du Toit, senior trade brewer of SAB Miller, and Moritz Kallmeyer, owner of Drayman's brewery in Silverton. It was constructed over two months.

The vessels were made by Drayman's brewery while Heydenrych, with the assistance of two chemical engineering students, prepared the lab infrastructure. "The brewery is designed to make batches of 50 litres of beer which is the perfect volume to fill a standard keg," said Heydenrych.

He explained that the process started with a 120-litre hot liquor insulated polyethylene tank with a 3kW heating element that was used as a source of water for the brewing process, and allowed the water to be suitably treated to match the mineral profile of the beer style being brewed.

The next step was to mix the barley and

water at the right temperature to promote enzyme activity in a 50-litre stainless steel beer keg. The enzyme activity converted barley starches to fermented sugars. A sieve plate at the bottom allows the sugary wort to be drawn off, leaving the barley husks behind.

The beer was then boiled with hops in a 100-litre kettle, powered by a 3kW electrical element, typically for 90 minutes. The boiled wort was cooled by the counterflow chiller as it was pumped to the fermentation tank where yeast converted the wort sugars to alcohol.

After fermentation, the beer was transferred to kegs in the freezer to mature. The beer was then carbonated, and the process was complete.

Heydenrych said the beer could not be sold, but would be used at cocktail functions at the university.