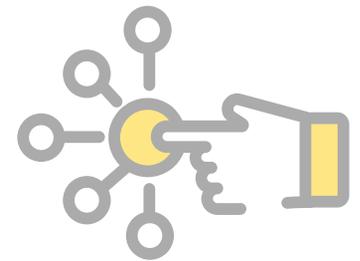


Montcalm Community College Biology Instructor Dr. Michelle Gibson, at right, works with MCC students Baleigh French of Grand Rapids and Tiffany Tammark of Belmont, at left, on the Anatomage 8.0 virtual cadaver table.



# Interactive **technology**

MCC students dissect virtual cadaver at the touch of a finger



By Shelly Springborn

**T**ia Chambers was a little disappointed that Montcalm Community College's human cadaver was replaced with a virtual version, but the disappointment didn't last long.

"The advancement in technology is amazing!" exclaimed Chambers, who is a student in MCC's Anatomy and Physiology II class taught by Biology Instructor Michelle Gibson, Ph.D.

"The fact that you can easily manipulate it to look at specific systems such as seeing just the muscular system, nervous system or skeleton has been a unique experience that has been beneficial to utilize alongside lecture and other study materials," Chambers said.

The MCC Foundation funded the purchase of the Anatomage 8.0 table to provide more opportunities for students. It features life-sized, head-to-toe specimens of four cadavers, showing three-dimensional veins, muscles, arteries, organs and bones that are fully dissectible and ready to explore with just the touch of a finger. This virtual experience allows students to be one-on-one with all the intricacies found within the human body at the convenience of a digital tablet. In addition, there are hundreds of animal cadavers – such as reptiles, amphibians, birds and mammals – which will aid in instruction in a variety of other classes at the college.

Dr. Gibson said the addition of this technology this spring is the first time in history that MCC students have been able to explore such diverse bodies, with four specimens cataloged in the system. Two females and two males include one with a brain tumor who died from lethal injection, one with gastric cancer who was pregnant, one who died of leukemia and one who suffered a heart attack.

"We only had one cadaver before," Dr. Gibson said. "Most often, our cadavers were female, and often didn't have their reproductive organs. They were also older – age 59 was the youngest cadaver we have ever had.

"To have cadavers of different backgrounds and younger ages is invaluable," Dr. Gibson said. "We are able to see a lot of different features."

For example, Dr. Gibson explained that previous cadavers, due to age and lifestyle choices, often had very little muscle definition, while the muscles in the digital cadavers of younger, more fit individuals are more well defined.

"It's amazing the conclusions you can make regarding lifestyle and habits from the shape of a person's body," Dr. Gibson said.

Chambers said while she had looked forward to experiencing the feel of a real human cadaver, she finds a lot of value in the virtual version.

"At first, I did feel I may have missed out a bit by not getting the hands-on experience, but the virtual cadaver has allowed for new experiences that can be visited and revisited as well as offering visual aspects of different body types and ethnicities," she said. "I did not expect to have this experience at MCC."

Dr. Gibson said in addition to being able to explore the specimens in great detail, the virtual cadaver also features options that simply are unattainable with a human body specimen.

"The day we were studying hearts, we brought up the circulatory system. We could see the heart, dissect it in layers, look at the anatomy of all the blood vessels and we also could see the blood flow," Dr. Gibson said. "These real-life physiological recreations allow us to explore the individual body systems function in a way that we cannot recreate on a real cadaver.

"We can see how the heart contracts to pump blood throughout the body and how muscles contract and relax during running," Dr. Gibson said.

Dr. Gibson also explained that once a cut was made to explore a lesson on a real cadaver, it never could be duplicated. That meant not all students could experience every aspect of working on a real cadaver.

"We just don't have those limitations with the Anatomage cadaver," she said.

In addition, the technology comes with a complete library of case studies which can be used as teaching tools to target instruction for students with varying interests.

"We have endless options to provide personalized learning for our students," Dr. Gibson said. "This really is the type of technology that is usually not available until a student moves on to the university level." ■

"We have endless options to provide personalized learning for our students."

– Dr. Michelle Gibson, MCC Biology Instructor

