Chesterfield County High Schools use ASCENT Courseware to Teach Autodesk Software, Helping Students Achieve Autodesk Certified User Status

The Client:
Virginia’s Chesterfield County Public Schools’ eleven high schools teach students technical skills in addition to the usual K-12 curriculum. Their Department of Career and Technical Education joins with local business and industry leaders to ensure that the education students receive, includes the skills businesses require.

The Challenge:
State regulations in Virginia require students to graduate with Career and Technology Education (CTE) credits, which led to Chesterfield County’s CTE teachers working with the local community college to strengthen their teaching skills in 3D design engineering. As well, teachers in the program collectively determined that it would be better for students to learn 3D design using industry leading Autodesk software. “It’s valuable for students to graduate from high school with a solid understanding of how to use the architectural and manufacturing software that the industry actually uses,” said Phil Harding, CTE Department Chair and Instructor at Monacan High School, one of the schools in the Chesterfield County High School system. “We wanted to be able to offer a first-class program across all eleven high schools in the County.” The ultimate challenge for these educators was to effectively teach the Autodesk software programs to high school students in order that students could pass the Autodesk Certified User exam prior to graduation.

The Solution:
When Harding and a colleague attended Autodesk’s annual user conference, Autodesk University, they discovered ASCENT’s Autodesk Official Training Guides and in particular, found guides for the software products that they were teaching: AutoCAD, AutoCAD Architecture, Autodesk 3ds Max, Autodesk Inventor, and Autodesk Revit Architecture. “The books are self-guided and come with companion teaching materials, making learning easier for students and teaching easier for the instructors,” said Harding. “The turnkey nature of the ASCENT Instructor Tools and courseware was very attractive. We didn’t have to invent lesson plans or tests and that left instructors more available to help students design.”

Now every high school in Chesterfield County uses Autodesk Official Training Guides along with their chosen Autodesk software program.
The Results:

Standardization helps to reduce costs. Because all students taking 3D design programs across the county use the same ASCENT courseware, a single supplier reduces costs and order complexity.

Self-guided learning deepens student expertise. Prior to using the ASCENT self-guided learning materials, instructors spent a lot of time showing students step-by-step how to use the software. This meant that even if a student already mastered a feature, they would have to sit through the lesson. “Now, students can learn at their own pace and when they get stuck, I can help them through whatever they find tough,” said Harding. “Overall the books allow students to learn more and become more engaged with the software for longer. They sit down with the software and produce some amazing designs with no trouble at all.”

Autodesk User Certification achieved. The long-term benefit to students is that they are receiving an industry certification. On graduation, students have at least 2 years of software experience and, upon passing the exam, are Autodesk Certified Users. “Our next step may be to create an intern program with local businesses where they can put their skills to use in real world scenarios,” said Harding.

Better, faster time to design. “With ASCENT books, the pace that students can learn at is generally faster,” said Harding. “They can see what the screen is supposed to look like by looking at the guide and absorb the information better and faster. Because they self-direct, they can get deeper into the software.”

Real world experience in innovation.
The County received a grant to purchase a 3D printer to work with the software. Using their Autodesk Inventor skills, students designed an extension tool to help a disabled student reach his keyboard. This involved problem solving right from the get go and in the end, students were able to produce the physical tool using the 3D printer.

Using the ASCENT Instructor Tools and following the course materials himself, Harding says he is becoming far more confident in his own knowledge of the software, which makes him a better teacher. “As a result, we are able to tackle more interesting design problems, and after all, that’s what the industry wants – people who understand design and can use the tools available to problem solve.”