

CTE helps define a career path

The beauty of career and technical education (CTE) programs are that they help students develop awareness of where their greatest interests lie, while simultaneously infusing career and college readiness skills. There are a rare few who know from an early age what career path they want to pursue, but for most—especially in an age of rapid change—it is an evolving process. There are, after all, so many choices, even within the same career cluster like health-care. CTE programs are designed by intent to fulfill both exploration and skill development outcomes. Exposure to all aspects of the industry via invaluable technical, project-based, and work-based learning experiences, supported by industry partners, and teachers with actual industry experience, are all key components.

What follows is just one example of how a high school student, on the quest for what comes next, found the answers he was seeking with the help of CTE. Andrew Istok graduated from Dakota High School in 2002 and went on to become a certified registered nurse anesthetist (CRNA). How he identified that goal and took steps to prepare for it is the story of CTE.

Following in his dad's and brother's footsteps, Andrew began high school by enrolling in the CTE Design Technology program and other courses intended to help prepare for a career in the engineering pathway. He concluded, however, that he did

not like engineering, but was fascinated with science. As a junior, he enrolled in the two-year CTE Medical Careers program which increased his awareness of different options. One of the guest presenters in his first year Medical Careers course was a CRNA. "I remember being absolutely intrigued by the firsthand account of this work," said Andrew. "It motivated me to dig more deeply and investigate both the path to becoming an anesthesiologist—which I discovered required 12 more years after high school, including medical

“Career Technical Education, or CTE as we call it, is an important part of preparing students to be both career and college ready. Since our stakeholders tell the story best, here are two related stories that demonstrate how students can achieve success with the help of CTE!”

— Claire Brisson, Director of Career Technical Education, Chippewa Valley Schools

school—or a nurse anesthetist, which was 6 years post high school with full-time nursing experience required prior to applying for a Master's program." Either path is a considerable, long-term commitment.

In addition to CTE Medical Careers, and other courses like Anatomy and Physiology and Advanced Placement (AP) Biology, Andrew also found time to enroll in the CTE Woodworking program his senior year—the latter of which he found personally gratifying, albeit not for the purposes of pursuing a career in that field.

It was largely due to experiences that unfolded as part of Andrew's second year in the CTE Medical Careers program that made a pivotal difference. These select, advanced students, participate in an intensive 7-month, 4-days/week clinical work rotation at Henry Ford Macomb Hospital (what was then called St. Joseph's Hospital, Macomb). Here they actually work in 7 different departments of the hospital, taking theory and classroom learning and putting it into hands-on practice by providing basic patient care services.

Clinical experience cemented Andrew's goals toward becoming a CRNA, but it was two opportunities in particular that had the biggest impact. One of Andrew's first rotations was in the in-patient

hospital pharmacy where he demonstrated excellent work ethic and skills. So impressed was the manager, that he was offered a job; the only obstacle was that he had to be 18 years old to accept it. However, just six weeks after completing the pharmacy rotation, Andrew turned 18, and was immediately hired.

Another of Andrew's rotations was with cardiology. He was invited to join the doctors and physician assistants in the emergency room to care for a patient who was in the midst of having a heart attack. Andrew had the privilege of observing the patient receive a heart catheterization which involves inserting a stent into the heart to remove the blockage. "As I observed this amazing procedure and the various medical professionals involved, I knew then, for sure, that I wanted to become a CRNA," Andrew remembers. Having his own wisdom teeth removed while under anesthesia also verified his choice.

So how did Andrew get from here to there? After graduating from Dakota High School in 2002, he enrolled at Macomb Community College and took three semesters of prerequisite nursing coursework. He then transferred to Oakland University and graduated with his Bachelor of Science in Nursing (BSN) in 2007. "Those 300 medical terms I learned as part of my high school CTE Medical Car-



Andrew Istok, at the Maricopa Medical Center in Phoenix, AZ where he works as a certified registered nurse anesthetist.

reers program really gave me a distinct advantage in nursing school", he recalls. "Learning and using the terminology over a period of time, instead of having to memorize them quickly in nursing school, was much more effective."

Andrew continued working in the hospital pharmacy until he graduated from nursing school. After OU, he headed south and worked as an intensive care unit (ICU) nurse for one year and then transferred to the cardiac ICU where he worked for two and a half more years in open heart surgery. This valuable, collective combination of school and work-based experience made Andrew an ideal candidate to finally pursue the last step toward his desired specialty. He applied, and was accepted, to the Memorial Hospital of Rhode Island School of Nurse Anesthesia. He graduated from the intensive 29-month Master's degree program in December 2013.

With his CRNA certification in hand, Andrew sought a warmer climate and found a

great opportunity at the Maricopa Medical Center in Phoenix, Arizona. There, Andrew supports all areas of the hospital, but most recently he has worked in pediatric neurosurgery, orthopedics, and also obstetrics and gynecology. He is a member of a team which includes anesthesiologists who "supervise" and consult with him. His duties include talking to patients prior to their procedures, answering questions, and discussing plans regarding medication and known allergies. He monitors patients closely during every procedure in which he is involved in providing anesthesia, taking vital signs and working closely with anesthesiologists for the best possible outcome.

Andrew enjoys the variety and autonomy that this profession provides (not to mention the income). He is delighted with having his CRNA and being successfully employed in his desired field - a goal he set for himself over eleven years ago as a CTE student at Dakota High School. Congratulations Andrew!

Kudos to the Medical Academy!

In the previous story entitled CTE helps define a career path, Andrew Istok describes how his experience with the two-year CTE Medical Careers program was instrumental in shaping his career path to becoming a certified registered nurse anesthetist (CRNA). What has changed since Andrew graduated in 2002 is the expansion of the program into what is today's Medical Academy.

Medical Academy is a best practice model that integrates and blends academic and technical content to produce a synergistic advantage that surpasses what each content area could do alone. In this case, the partnership is between the two-year Medical Careers program and English 11/English 12. CTE teachers partner with English teachers to provide required 11th and 12th grade English for Academy students that makes intentional curricular connections (that is, English taught in the context of Medical) while meeting rigorous college prep requirements. English is still taught separately from CTE by English teachers, but all instructors collectively work hard to make the reading and writing have rich, contextual connections that teachers in both programs draw upon in their instruction. Additionally, the 12th grade English is delivered almost entirely online via Blackboard, giving students a real taste of what many college courses will require of them. Students in the Medical Academy also earn science credit in "Anatomy in Health and Disease" for the significant anat-



Dakota High School Medical Academy team, from left, Barbara Karchin, Career Consultant; Kristina Sobota and Tracy Tancredi, English teachers; Renee Bailey, Medical teacher; Carolyn Shappell, Manager of Volunteer Services at Henry Ford Macomb Hospital; Jennifer Miklasz, Medical teacher; and Claire Brisson, Director of Career Technical Education.

omy content that is already embedded into the curriculum.

Periodically the Michigan Department of Education (MDE), Office of Career Technical Education (OCTE) conducts an on-site audit of CTE programs. This process is called TRAC which stands for Technical Review Assistance and Compliance. In March of 2014, six CTE programs in Chippewa Valley Schools were selected for such an in-depth review. One of those programs was Medical Careers at Dakota High School taught by Renee Bailey and Jennifer Miklasz. The audit not only produced zero findings (that is, deficiencies or issues), but at the end of the 3-day review, Denise Teague, Curriculum Consultant from MDE/OCTE gave a

verbal summary of her experience visiting our program and we heard things like "best practice model for the state" and "exemplary." Denise also shared the following written summary:

"Thank you for taking the time to show me your Health Science/Medical Academy program at Dakota High School and Henry Ford Macomb Hospital. Meeting with hospital staff, hearing from students, and the conversations we had were valuable to me. You exceeded the goals of the visit by sharing an excellent example of what industry partnership can do for our students. The opportunities students have through the Medical Academy are amazing testimonies to your dedication and professionalism."



"I visit many programs state-wide and your program impressed me. The collaboration you share with Ms. Miklasz in preparing students for their future career goals is an example of excellence. The Medical Academy model meets the current needs of our students and offers the best possible advantages we can provide students in secondary career focused education. The ability to earn academic credits and apply that knowledge is something we hear our state and national legislatures speaking more and more about."

"Imagine, if all Michigan students could benefit from a program like yours—true partnership and mentoring with related industry personnel, hands-on learning for technical skills, and, the ability to communicate face-to-face in a professional environment that leads to career and college readiness. Well-done!"

Carolyn Shappell from Henry Ford Macomb Hospital says, "AWESOME!!!! But not surprising to us - Henry Ford Macomb Hospital loves the Medical Academy."

Frequently we are privileged to receive feedback from alumni who reflect on their experience as part of the Medical Academy. In this case, a parent wrote to Medical instructor Renee Bailey. We know that Renee and her colleagues in the Medical Academy (Jenny Miklasz, Kristina Sobota and Tracy Tancredi) do an exemplary job of preparing our students, but it brings great joy to us all when someone takes time to validate this: "I just want to thank you for

Chippewa Valley Schools Career Technical Education

Chippewa Valley Schools offers Career Technical Education (CTE) programs at Chippewa Valley High School and Dakota High School. These programs are designed to prepare students for a broad range of employment opportunities and continuing education. Follow-up studies continue to find that the most successful high school graduates were those who took a college-prep program and a Career Technical Education program of study. CTE programs are staffed by teachers with related business and industry experience that enhances the learning process with real-world relevance. CTE programs are offered in these areas:

CTE PROGRAMS	PREREQUISITES
Automotive Technology Business (3 pathways) • Business Management • Accounting & Finance • Information Technology Construction Trades Design Technology Family & Consumer Science Graphic Design Culinary Arts Marketing Mechatronics & Robotics Medical Academy Teacher Cadet Woodworking/Cabinetmaking	Some CTE programs are taught at one high school only, but programs are available to students at both high schools. A complete program of study in a CTE area usually involves a sequence (or multiple) courses. Advanced courses often have the preceding course as a prerequisite. For these reasons, students should plan early to include CTE as part of their high school experience.

All CTE programs adhere to the District's policies of nondiscrimination on the basis of race, color, religion, national origin or ancestry, gender, age, disability, height, weight or marital status in all programs, activities, and employment. In addition, arrangements can be made to ensure that the lack of English language skills is not a barrier to admission or participation. Support services are available through Carl D. Perkins Education Act for students with special needs. Inquiries related to nondiscrimination policies should be directed to: Civil Rights Coordinator, Assistant Superintendent of Human Resources Chippewa Valley Schools, 19120 Cass Avenue, Clinton Township, MI 48038 Phone: (586) 723-2090 Nondiscrimination inquiries related to disability should be directed to: Section 504 Coordinator, Director of Special Services (same address) Phone: (586) 723-2180

all you have done for every Dakota student who has or is interested in the medical field. Without you it would be much harder for our students to get into medical programs in college. Luke's admissions director at the University of Detroit Mercy (Arthur Glinz) told me that he would take any student from Dakota that was in the Medical Careers program because of their background and previous success rate of past students. I also would like you to know that Luke has received scholarships and grants totaling over \$30,000 a year, every year for 4 years. The more people that know how worthwhile this program is, the better. Thank you so much for all

you do. Bill Stempien" I would like to add my thanks to Henry Ford Macomb Hospital for building upon the efforts of our dedicated teachers by allowing our students to have the best experiential learning possible! The Medical Academy is not only offered at Dakota High School, but it is also offered at Chippewa Valley High School, in partnership with McLaren Macomb Hospital, and taught by Medical Careers instructors Wendy Laramée and Katie Carolan with English instructor Michelle Clancy. Thanks to all of our teachers and partners, we continue to provide high school students with outstanding preparation for a career in healthcare.

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