

## Professional Biography

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After working in industry for 25 years as a mechanical design engineer I felt compelled to reach out and find a way to pay it forward.

I began my time at Southwest Christian HS as a volunteer for the robotics team, and had served in that role for four years when I was offered a position on the faculty to create and teach Engineering and Professional Technology courses which I've been doing since the fall of 2014. The courses introduce the students to CAD (two semesters), Engineering Theory, Automated Systems Control, Residential Construction and Metalworking. As part of the development of the curriculum I've written four textbooks for use in the engineering courses. In after school hours, I've served as the coach for the robotics team in the spring and have added a "just for the fun of it" design and build project group in the fall. The extra-curricular programs have produced a patented design and a patent pending design. In the summers I've worked with students to build service orientated projects and State Fair entries earning 3 blue ribbons. One of which also earned the best of the blue ribbons, the sweepstake ribbon. Recently I agreed to team up with Humanity Alliance, which serves 4000 meals a week to the needy. With the students' help, we will develop automation devices for meal preparation. Within only one week of the announcement of our school's involvement, members of our community have stepped forward to fund the development of the automation devices. This means Humanity Alliance will have the addition of the systems without any added stress to the organization's financial challenges.

During the COVID lockdown we were given opportunities to think about how learning and serving changed. Not to be stopped, over the summer we took advantage of our skills and designed and fabricated face masks, face shields and a communion serving tray. All of which were received gratefully by health care clinics and churches.

When the 2021 FIRST Robotics season was postponed, we designed and built electric powered Go-Karts and competed against each other for nothing more than bragging rights.

The work we're doing at Southwest Christian has attracted the attention of other high schools in the region and we've been visited a number of times by administrators and technology educators as they develop their own engineering and technology-based curriculums. A couple of these high schools have expressed an interest in using my curriculum and textbooks in their own offerings. Dordt University has visited us and reviewed our course offerings. Dordt has included an interview with me and three of my students in a promotional video they use to promote their own technology programs.

Respectfully submitted, Gary Shelton