



Santiago Canyon College student Scott Givens learns land surveying with the school's industry-leading technology.

E3

Educate, equip, and empower our apprentices.

By Mark Counts, PLS

Recently I accepted the position of program facilitator for the Surveying and Mapping Department at Santiago Canyon College (SCC), Orange County, California.

At SCC we lead by three simple words. First we educate, then we equip, and lastly we empower. Think of it as E³.

First, we educate our students with what they need to know regarding the four core relationships of a land surveyor:

- 1) math,
- 2) mapping,
- 3) legal, and
- 4) people.

We strive to provide students with the knowledge base underneath the buttons on their data collectors and underneath the mouse clicks in their mapping software. We show them how state legislation and case law shapes the local paradigm through which

licensed land surveyors solve real-world challenges. We teach them the value of creating genuine business relationships predicated on good faith and integrity.

Secondly, we equip students with industry-leading technology from total station robots, to GNSS receivers, to survey mapping UAVs, along with all the mapping software

to process the data from the equipment.

Lastly, we empower our students to make sound decisions while they collect their geospatial data in the field, as well as while they process the data into value-additive products, such as corner records, records of survey, and ALTA surveys.

Supported by an amazing

group of passionate instructors, it is our charge and honor to help cultivate the buzz of excitement among our "apprentices." We are called to pass on to others that which was passed on to us. In simple terms, our task at the college is to further perpetuate the licensed land surveyor.

Let's face it: if we don't perpetuate ourselves today, there won't be anyone around to perpetuate our work tomorrow. So we endeavor to perpetuate the licensed land surveyor one equation at a time, one map at a time, one case at a time, and one apprentice at a time.

My Time with the Es

This leads me to reflect on my apprenticeship, in fact on my very first day on the job, reporting to a local land surveying firm. I was driving into the office at some terrible



dark hour in the morning and wasn't ready to be up for the day. The sun obviously wasn't either.

A legion of uncontrollable thoughts competed for my attention, plowing through my anxious mind. My uncle's warning had my focus as I pulled my silver hatchback into the rear loading area of the tilt-up office: "No matter what they say, Junior, you can't calibrate a plumb bob!"

I didn't even know what a plumb bob was.

Finally parked, I looked in my rear-view mirror. I saw young men and women schlepping water buckets, shouldering bundles of what

looked like long, skinny vampire stakes across the parking lot. I could hear playful banter as they were all goading each other with a warm, crude affection. It was dark and cold, yet that didn't seem to get in the way of them setting the trucks up for another day's work.

I stepped out of my hatchback and took in the panoramic scene. I was in the middle of a land surveyor's loading yard, and there was an undeniably crisp buzz of excitement surging among all the apprentices. I liked it!

After walking across the parking lot and catching an occasional head nod from the sur-

This oblique image of SCC campus was taken with the surveying school's drone.

rounding apprentices, I worked my way through the warehouse and crossed the office threshold, traveling deeper into this new and exciting world.

Once in the office, I took another panoramic mental snapshot, soaking up the scene. There were older men and women feverishly looking over plans, tediously punching keys on what looked like very large orange and yellow calculators. Three important-looking folks in the corner were discussing something about budgets, contractors, and "monuments." Something about issuing an extra for something called re-staking.

It was new. Everyone was

engaged. It felt important. There was a buzz. It felt as if I were getting into something larger than anything I had ever dared to explore.

And so it began for me, like other surveyors before me—perhaps even you. I somehow fell into this ancient profession, this intricate world of math, mapping, law, and people. Since that day, many surveyors have educated, equipped, and empowered me along the way.

Future Apprentices

I presume we can all agree that the land surveying community continues to shape-



change, evolve, and re-define itself in many new ways, day after day. I speculate that our predecessors pulling ropes in ancient Egypt might marvel at our world-measuring systems and data-management infrastructures.

As we continue to pass on our treasured, time-tested land surveying principles and best-practices at SCC (applied through modern technology), we often find ourselves marveling at the rapid rate of growth our industry has undergone in the last two decades.

I am proud to be a part of that growth. I am proud to have had a handful of land

surveyors who dared to care enough about me to invest their land surveying knowledge in me so that I could be a part of that growth.

I will be forever grateful for that first day on the

Student Teri Kahlen, PLS feels the power of the three Es.

job as an apprentice. I will always remember the hustle and bustle of loading the trucks with wood, feeling the chilled air on the back of my neck as the sun began to rise, and feeling the excitement that rattled me as we drove out of that parking lot for the first time to go on a land surveying adventure.

Please join us at SCC as we endeavor to pass on our experience and wisdom relating to the relationships of mathematics, mapping, legal principles, and people. If you know of anyone who may need a new adventure in life, please send them our way.

If, as you are reading

this, you feel a yearning to want to grow in your knowledge and passion for our profession, please reach out to us. If you are a licensed land surveyor, we ask you to join us as we spread the excitement, knowledge, and appreciation for the ancient profession of land surveying.

Remember, if we want to see land surveying continue to grow and evolve as we have seen it do for thousands of years, we need to be working together to educate, equip, and empower the apprentices of today so that they may grow into the licensed land surveyors of tomorrow. ■

If we want to see land surveying continue to grow, we need to work together to educate, equip, and empower the apprentices of today.