Fall 2018 was a busy semester at NMSU. There were some amazing donations made, some great equipment acquisitions, a new class added to the curriculum and we congratulated 4 graduates of the program.

We are now starting the second year of the 3 year commitment from NMPS to NMSU to provide $100,000.00 a year to help the Geomatics Program get back on its feet. We continue to thank the PNM Foundation for the 2018 $100,000.00 donation and for the 2019 $100,000.00 donation which has already been received. Also thank you to the companies and individuals who made donations last year. The Geomatics Department is privy to the list of donors but are not allowed to make them public. We hope you continue to support the program and if you have not made a donation and would like to please use the coupons below. A big thank you to Matt Nawrocki of Vector’s Inc. for his recent donation to NMSU. Last April at the NMPS Conference Golf Tournament Mr. Nawrocki issued a challenge to Mark Marrujo the Golf Tournament Director for 2018. He said he would match any donations we could get by the end of the year up to $10,000.00. Thank you to all of the donors who helped meet the challenge and Mr. Nawrocki added his donation. Thanks to everyone who played in, sponsored or purchased hole sponsorships at the golf tournament which brought in $15,000 for the FYSD (Four Year Surveying Degree) account. New Mexico Gas Company made a $10,000.00 donation to the NMSU Geomatics Fund. We also received a $10,000.00 grant from NCEES.

As much as we enjoy watching the donations come in we really enjoy using the money to improve conditions within the program. Through the Trimble University Partnership Program and Vector’s Inc. we were able to acquire 2 R8 receivers, both have rover modes and 1 has the base mode in it, 2 TSC3 controllers, an S5 3” Robotic total station, all of the accessories necessary for their operation and 10 seats of fully loaded Trimble Business Center. Retail value $125,000.00 and NMSU paid $38,000.00. We also purchased a Faro FOCUS 5 3D scanner from Faro Industries, retail value $62,000.00 for $20,000.00. We are also having $25,000.00 worth of audio visual equipment installed in EC3 245 for classroom instruction and to produce high quality online courses. The equipment includes an 86” touch screen TV, computer, sound system, teach desk, mic system w/ echo cancel, camera system and control system.

After our visit and report to the PNM Foundation the Director of the Foundation told us about a grant request from Grant County to survey a 2.2 mile stretch of a county road to determine right of way for improvements as part of the Continental Divide Trail System. PNM was not able to fund the $50,000.00 request but asked if we might be able to partner with them and reduce the amount to complete it. We saw this as a great opportunity and created a new class SUR 452 so the students could participate. The funding was dependent on the markets and ultimately there was no money at the end of the year. We talked to Grant County to see if we could still help somehow but they said they had found funds in the new fiscal year and already had the project completed. So now we had a class with 8 students signed up (one of them being an online student from Albuquerque) and no project. We decided to reach out to Dona Ana County
surveyor Ben Carter (NMSU alumni of the program). We explained the proposed PNM project and asked if he thought Dona Ana County could help us with a project. They did have a project for us. We will be surveying a new 3500 foot right of way for a secondary access road to the Townsite of Chamberino. The road will run through 10 properties and cross 2 Elephant Butte Irrigation District right of ways and connect to a NMDOT highway and a platted road within the townsite. We will produce a right of way survey and legal descriptions for the takes and remaining portion of the properties. EBID right of ways will be determined for bridge permits. We will also provide the county with topography so they can design the new road. The semester began January 16th and the students are deep into deed research and preparing to go to the field.

We have also been very active in promoting the profession of Surveying and Geomatics to Middle Schools, High Schools, Community Colleges as well as STEM groups like PLTW (Project Lead the Way) and EYH (Expanding your Horizons). Last fall we coordinated with Zia Middle School teacher Adrian Gaytan and staked out the school name, school logo and painted them on the football field prior to the last home game. That activity lead us to meet and reach out to other schools in the area including Arrowhead Early College HS where there are opportunities to coordinate with teachers to include Surveying/Geomatics into their school lessons and possible hands on activities.

This year in 2019 we have participated in 2 EYH activities. One of them was in Albuquerque at the UNM Engineering Building and the second one was at the NMSU Horseshoe. Both classes started off with some basics about the activities that surveyors perform daily (the fun stuff of course). For the UNM class we had an activity where we compared measurements from a tape, total station and 3D model. The students were also introduced to pacing and leveling by current NMSU student Mikaela Hicks and NMPS Past President Chris Pappas. At NMSU we were able to take the students to the Horseshoe and we staked out the letters EYH 19’ using GPS Rovers and a Robotic Total Station similar to letters in a football endzone. Mikaela and NMSU alumni of the program Roberta Paz were involved also. The young ladies caught on fast and really enjoyed the activity. I overheard a few of them saying “This is what I want to do”! We have recognized that the efforts we have made thus far to promote Surveying/Geomatics have made an impact and we have just begun.

We are excited for the opportunities to expose and present more students of all grades to Surveying/Geomatics. When we start a class and ask if they know what a surveyor is we will not get any responses but by the end of our time together they will have a different answer to that question. Whether they decide to pursue a career in Surveying/Geomatics or not they will have had a fun experience exploring and learning about our awesome profession.

We encourage all of you statewide to reach out to your local schools and student groups to promote Surveying. This year we are planning to create activities that can be done by all surveyors across the state. We will provide the template of what has worked for us as a guide that can be downloaded from the NMPS website.
We would also like to thank the following people who took the time to give presentations to Dr. Wurm’s ET 490 class “Geomatics Senior Seminar & Senior Project”. The presentations were given in person and online as a webinar.

Mr. David Wheeler NGA - gravity surveys with relative and absolute gravimeter demonstrations
Mr. Glen Thurow (NM BoL), licensure process, discussion of current events in New Mexico
Mr. Thom Maestas – BLM Cadastral Survey operations and opportunities
Mr. Bill Stone -- “GPS on benchmarks”, new datums in 2022
Mr. Chris Medina – Private practitioners view and small business pros/cons

Thanks to Bob Green of Vector’s Inc. for spending several days on campus giving a class, “SX10 Traverse, Terrestrial Scanning and Office Processing Lab”.
- Total station traverse techniques explained
- Reviewed scanning theory, spatial vs geospatial registration
- Set project control points tying into local NMSU monuments REILLY and BROMILOW
- Scanned with panoramic photos the NMSU Clock Tower and surrounding area
- Downloaded scan data into office software
- Performed quality control checks of point cloud data
- Used point cloud data to create 3D surface model, generate CAD points and linework
- Exported data to Google Earth

We look forward to the rest of the semester, the 2019 NMPS Conference and the golf tournament.