



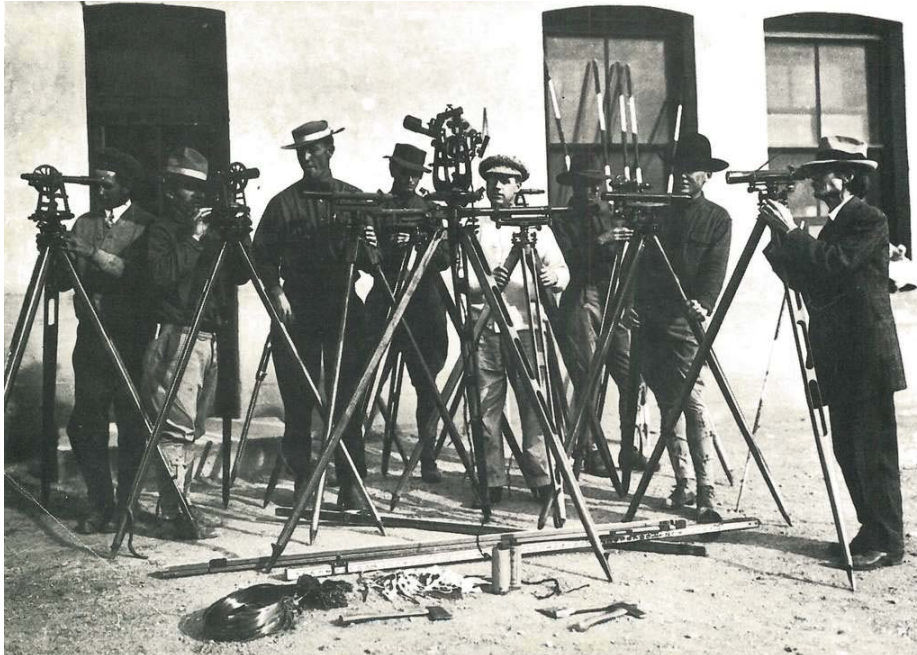
# New Mexico Professional Surveyors

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## Recommendations and Justification to Support Four-Year Surveying Engineering degree at NMSU

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Featured photo is of NMSU Surveying class of 1900

### **Introduction**

The New Mexico Professional Surveyors (NMPS) Association is strongly in support of the four-year Surveying Engineering degree program remaining at NMSU. As a professional society we are charged to protect the public and the profession. Maintaining the four-year degree in Surveying Engineering is paramount to that purpose. We the NMPS, would like to present possible ideas and recommendations that we hope will allow the university to keep the Surveying Engineering program.

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## Ideas and Recommendations

- **Financial Support:**

- The New Mexico Professional Surveyors (NMPS) is willing to grant the NMSU Surveying Engineering program money to help support the program.
- The National Society of Professional Surveyors (NSPS) is in the process of pursuing a federal grant for a program called Workforce development. This grant would support the continued education of surveyors throughout the United States. The amount for the grant they are hoping to acquire is 1-7 million dollars. The NSPS is very interested in helping to maintain the NMSU Surveying Engineering program and will be willing to discuss how they can help monetarily.
- The National Council of Examiners for Engineering and Surveying (NCEES) is willing to match any money the NSPS is able to grant.
- The New Mexico Department of Transportation has also shown interest in providing a grant for research into the accuracies of drone UAV/UAS technology and how this can support transportation projects.
- The Western Federation of Professional Surveyors also has shown interest in helping financially support the Surveying Engineering program.
- The NMPS Educational Foundation also has shown interest in helping financially to support the Surveying Engineering program.

- **Justification for keeping the Surveying Engineering Program at NMSU:**

- Surveying is a **very employable profession** as evidenced in the numerous letters from industry with factual information on the number of graduates previously hired and anticipated to be hired in the future. To our knowledge all graduates from the program are placed, and there is still a need for more in the New Mexico economy.
- The current four-year Surveying Engineering program is one of six schools in the US that offer this EAC - ABET accredited degree.

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- The four-year Surveying Engineering degree meets the higher educational requirement as outlined by the New Mexico Board of Licensure for Professional Engineers and Surveyors (NMBOLPES).
  - NMPS is concerned that if the four-year degree at NMSU is eliminated, the NMBOLPES may revise the educational requirements for qualification for licensure as New Mexico will not have an institution that will offer this degree.
  - A four-year program Surveying Engineering is still needed at NMSU to obtain professional licensure. A degree in engineering with a minor in surveying will only extend the training period to become licensed. The four-year program offers necessary courses to practice the surveying profession.
  - Reduced disciplinary action. Strong evidence is developing that a four-year degree requirement leads to reduced disciplinary action. This is public protection. A generally educated person maintains more confident communication with clients and associated professionals, leading to fewer complaints. Also, these graduates are better prepared for good business practices and ethical conduct. In a study of engineering and surveying disciplinary actions in Kentucky in 2002, engineers had one case for each 500 licenses per year. Surveyors, without a four-year degree requirement, had one case for each 100 licenses per year—a five-time increased rate.
  - A growing number of court/federal rules define the term professional as needing a minimum four-year degree. A 1992 Florida Supreme Court case declared that surveying was not a profession because of the lack of a four-year degree standard. Kentucky courts have also stated that surveying is not a profession because of the lack of a four-year degree standard. The U.S. Department of Labor recently decided surveying is not a learned profession because of the lack of a four-year standard for entry. In response to the above court decisions, the states of Kentucky and Florida now have four-year requirements.
  - Experience alone is not sufficient today. Today, the technical process of field survey measurement has become programmed and automated, which means that many technicians can perform functions without knowing the underlying theory. This leads to today's survey technicians being expert

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“button pushers.” Such experience is not adequate for professional preparation today.

- **Recommendations:**

- The NMPS is in full support of a name change to the Surveying Engineering program. The current title of the program is antiquated and does not represent the current state of the profession. The current name “Surveying Engineering” does not inspire thoughts of new technologies, and a change is needed. Some recommendations for a name change would be Geospatial Engineering, Geomatics Engineering, Geosciences Engineering, or just Geomatics. We believe these names incorporate more of the true nature of the modern surveyor. As a professional surveyor today we use geographic information systems (GIS) and more modern data collection methods like drones, UAV/UAS's, point clouds, photogrammetry, geodesy, GPS and lidar.
- NMPS is in full support of a restructuring that will make the program more efficient and economically viable. The professors should be teaching classes in the engineering genre and in the geography and earth sciences. There is a great opportunity here to create a program that is more encompassing of different disciplines. We believe a restructuring that incorporates some of the aspects of other disciplines will help boost enrollment and create a model that other universities will be excited to adopt while maintaining educational objectives and outputs for each of the affected programs. There is no need to have the professors teaching only surveying classes. There is a huge opportunity here to have some of the traditional surveying classes be incorporated into other programs, as some of their core classes are elective. Some examples are Statistics, Least Squares, GIS/LIS, Land Development, and many others.
- Possibility of online courses to provide distance learning. This will allow students from all over the state as well as out of state the opportunity to participate in the program even though they cannot physically be in Las Cruces on the main campus.

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- Promote the existing tuition agreement with the 13 western states offering the Surveying Engineering degree for in state tuition rate. This agreement is not widely known and has not been promoted to its full potential. This will allow NMSU to be attractive to students in the surrounding states.
  - Maintain ABET EAC (Engineering accreditation). This is a highly important item. NMSU currently is one of only six four-year accredited surveying engineering programs in the nation. This should be a highly marketable item and attractive to potential students from around the nation.
  - Market the degree. This is a lost opportunity to boost enrollment in the university. Provide recruiting and marketing opportunities above the current “build it and they will come” model. Develop recruiting strategies that market to and align with the prospective millennial student and the non-traditional working student.
  - We have information about how Great Basin College was able to turn their program around and now has 60+ students in a successful program. We know it can be done, as others in the country have made it happen.

## **In Conclusion**

The NMPS is willing to go to extraordinary measures to ensure the the profession of Land Surveying has an avenue for higher education (a four-year degree in Surveying Engineering). Also to keep education as a requirement for licensure. We offer the opportunity to partner with NMSU to ensure that the avenue for education currently provided by the university remains open. As stated above, there are avenues for funding that can be explored. It is very important to the surveying industry and the surveying profession as a whole for the continuation of this program. We urge you to consider the justifications, recommendations and financial support to work towards a plan to keep the four-year Surveying Engineering degree.