

**ENGINEERING EXPO IV SPRING 2018 SOE**

Department	Senior Design Project Titles 2018
<b>CBE</b>	1. <i>Bacteria Removal from Water Reservoir for Agricultural Needs</i>
	2. <i>Conversion of Lignocellulosic Biomass from Lumber Mill Waste for Ethanol and Xylitol Production</i>
	3. <i>Conversion of Cheese Whey to Biofuel by Ultrafiltration and ABE Fermentation</i>
	4. <i>Chemical Carbon Capture from Natural Gas Power Plant</i>
	5. <i>Dealcoholization of Beer Through Reverse Osmosis</i>
	6. <i>Renewable Energy by Producing Fecal Char &amp; Methane Gas from Wastewater Sludge</i>
	7. <i>Design of a Manufacturing Facility for the Production of a Stem Cell Therapy for the Treatment of Spinal Cord Injuries</i>
	8. <i>Methanol Production Using Algae Biomass</i>
	9. <i>Alternate Technology for Sour Water Stripping</i>
	10. <i>Atmospheric Carbon Dioxide Extraction through a Solar Updraft Tower</i>
<b>CE</b>	11. <i>NM 159, MP 8.0 to MP 8.7 near Mogollon, NM</i>
	12. <i>Oak Street Exit (MLK Street) on I-25 Closure</i>
<b>ECE</b>	13. <i>Cyber Firefighter Project</i>
	14. <i>Fiber interferometer as a plasma diagnostic</i>
	15. <i>Observational Telescope</i>
	16. <i>Adaptive Auto-Tuning of Computations on Heterogeneous Environments</i>
	17. <i>Smart Surgical Tools: K-wire Driver</i>
	18. <i>Smart Surgical Tools: Surgical Screwdriver</i>
	19. <i>Visible Light Communications Performance Analysis for Different Modulations</i>
	20. <i>Design and Fabrication of a Multi-modal Cell Stimulator for Neural Tissue Engineering</i>
	21. <i>Solar Splash</i>
	22. <i>Sensor-driven fixed-wing drone positioning</i>
	23. <i>WebGL-based Wide Area Motion Imaging (WAMI) viewer</i>
	24. <i>Prototype water disinfection system</i>
	25. <i>Utilizing Genetic Algorithms to Optimize FPGA Placement</i>
	26. <i>Object Recognition on Drones (ORD)</i>
	27. <i>Advanced Robotics Applications for Engineering Education</i>
	28. <i>Wi-Fi Data Collection and Prediction</i>
	29. <i>Design and Fabricate a 50 volt 1 microsecond pulse box and calibration method</i>
	30. <i>Energy Harvesting</i>
	31. <i>Bridgewire Simulator</i>
	32. <i>Wireless sensor interface</i>

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	<b>33. Auto Camera Calibration</b>
	<b>34. Advanced FPGA Development</b>
	<b>35. Gunshot Detector</b>
	<b>36. Small Autonomous UAV Navigation in Cluttered Environments</b>
<b>ME</b>	<b>37. MEMS: A step towards the miniaturized technical world</b>
<b>NE</b>	<b>38. INsTAR - A particle bed Nuclear Thermal Rocket</b>
	<b>39. The GaPow Project: Transportation and Installation of a Portable Nuclear Micro-Reactor</b>
	<b>40. An Advanced Deep-Space and Surface Nuclear Power Production System</b>