NICHOLAS G. NORRIS

ngn8@nau.edu

To whom it may concern,

Graduating in December 2019 with a Mechanical Engineering degree, along with a minor in biology (mostly human bio) and mathematics. Considering my interest in bioengineering and the lack of a bio-engineering major, I began mixing my interests in device development and human anatomy to satisfy my curiosity. These interests and my ability to meld them together was seen by my professor Dr. Becker and he offered me a position in his lab.

In Dr. Becker's lab I was given the opportunity to attend medical device conferences, conduct research relevant to biomedical engineering, and even began publishing my first journal article. I have been working extensively on material characterization of different polymers and human vascular samples; moreover, I have provided help with a downstream particle imaging project and flow analysis of the Circle of Willis. Conferences were perhaps the most valuable and most fun. I was able to surround myself with information, exciting opportunities, new ideas, and interesting people. They gave me confidence presenting and at the Biointerface 2019 conference I took second place in the poster presentation contest. I was able to carry my research into my semester to come as well. My capstone has been positively impacted by my newfound knowledge base and technical skills. My skill with SolidWorks can be seen through my capstones' final model, as I was responsible for the CAD design of our mold boxes and final iliac bifurcation aneurysm models; moreover, I designed a structure to hold samples for an innovative lubricity test.

As the semester comes to an end, I excited to join an engineering company. My experience with the seven gore capstone mentors has been incredible. Capstone has given me the opportunity to apply what I have learned towards a real project. It has developed my skills and I had fun creating a model of an aneurysm in the right iliac of the iliac bifurcation. I have learned a great deal in my time in academia and I know that I have much more to learn in my future. It is my desire to continue my learning from a group of passionate engineers who will develop me into a better engineer and person. Moving forward I am interested in a career that will allow for a tight-knit culture and allow my biomedical interests and engineering education to flourish. I am aware that learning will come with the job and am excited to continue my education through my career to further both my interests and make an impact.

Respectfully,

Nicholas Norris

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Education

Northern Arizona University, Flagstaff, AZ

Graduating Dec. 2019

- Bachelor of Mechanical Engineering
- Minor in Biology (Emphasis on Human Biology)
- Minor in Mathematics

Flagstaff High School, Flagstaff, AZ

2009-2013

- Graduating class May 2013
- AP/Honors Coursework
- CAVIAT Program

Honors and Contributions to Science

JNIS Poster Publication "In Vitro Vascular Model Material Characterization"	July 2019
Biointerface Poster Publication (same title with more data presented)	September 2019
Corresponding Journal Article with poster information	October 2019
Associates Certification for SolidWorks	April 2019

Relevant Positions and Work

Biological Device Lab - 425 S Humphreys St, Flagstaff, AZ 86011
928-523-9011
April – Present
Supervisor: Dr. Timothy Becker
Research under Dr. Becker included: learning about data acquisition with LabView, imaging of downstream particulates within *in vitro* models, coding with Arduino, novel embolic devices, and other methods of aneurysm treatment; however, most of my efforts were devoted to the material characterization of polymers and human vasculature.
Hours – 540

Gore Capstone Team – S San Francisco St, Flagstaff, AZ 86011
Spring and Fall semesters of 2019
Client: William Reilly
I am the treasurer for my capstone team. I am also responsible for the final SolidWorks design for our iliac bifurcation model, the material characterization of the polyurethanes chosen, analysis of the data and, suggestion of the final material used for the model. I have effectively helped my team and completed all tasks assigned to me and more with reliable consistency.