

CAROLINE ELIZABETH BALES

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SUMMARY

Recent M.S. graduate with 3 years of experience in biomaterials research, leadership, and education seeking a full-time position. Basic knowledge of device design, FDA regulations, ISO 13485, and compliance pathways. Skilled in Solidworks, MATLAB, and technical writing.

SKILLS

SolidWorks (Certified SolidWorks Associate No. C-ZAAF35SUGB), MATLAB, Microsoft Office, Six Sigma Yellow Belt Trained, Basic Laboratory Skills, Device Design, Statistics, Data Analysis, Literature Reviews, Technical Writing

EDUCATION

Master of Science in Bioengineering | Clemson University August 2019
GPA: 3.83/4.00

Bachelor of Science in Bioengineering | Clemson University May 2018
GPA: 3.76/4.00
*Calhoun Honors College | Departmental and General Honors
Graduated Cum Laude*

RELEVANT EXPERIENCE

Graduate Researcher | Clemson University Laboratory of Orthopaedic Design and Engineering
May 2018 – August 2019 | 10 hours/week

- Investigated the elution of vancomycin from titanium fracture fixation devices
- Collaborated with and led a diverse group of seven researchers from varied disciplines
- Mentored one undergraduate student
- Assisted in the execution of a 14-day *in vivo* study with seven rabbits
- Conducted Kirby-Bauer tests, histological analysis, surface profilometry, and SEM image analysis
- Performed literature searches and reviews to support my work
- Analyzed and evaluated data to draw conclusions
- Wrote and defended a thesis on my work

Applied Biomedical Design Team Member | Clemson University Department of Bioengineering
August 2017 – May 2018 | 10 hours/week

- Evaluated clinical needs through collaborations with physicians at Greenville Health System
- Worked with a team of four other bioengineering students
- Performed literature searches and analyses to investigate the clinical need and current solutions
- Designed, tested, and marketed novel positioning device for use in gynecological surgery
- Produced a complete Design History File along with DFMEA analysis and a mock 510(k) proposal
- Presented device to students, faculty, physicians, and industry professionals at design symposium

Bioengineering DeFINE Program Intern | Clemson University Department of Bioengineering
June 2016 – July 2016 | 37.5 hours/week

- Determined and evaluated clinical needs through collaborations with bioengineering students and physicians at Greenville Health System
- Shadowed in clinics and operating rooms in the OB-GYN and sports medicine departments
- Presented findings to students, faculty, and hospital professionals

Undergraduate Researcher | Clemson University Laboratory of Orthopaedic Design and Engineering
January 2016 – May 2018 | 10 hours/week

- Led my own project on the wettability of metallic implant surfaces
- Tested various samples using a profilometer, goniometer, and Instron
- Analyzed and evaluated data to draw relevant conclusions
- Performed literature searches and reviews to investigate prior relevant work
- Presented posters on my research at BMES 2017, BMES 2018, and SFB 2019
- Wrote and defended a thesis to earn departmental honors through the Calhoun Honors College
- Co-authored a paper published in the *Journal of Engineering in Medicine*

OTHER EXPERIENCE

ESL Teacher | Independent Contractor at VIPKid

September 2019 – present | 10 hours/week

- Teach one-on-one full-immersion English classes to students aged 6 to 12, focusing on vocabulary, grammar, phonics, reading, and writing
- Engage students in the online classroom and evaluate student progress through assessments
- Provide detailed written feedback to students after each lesson

Graduate Administrative Assistant | Clemson University Department of General Engineering

May 2018 – August 2019 | 20 hours/week

- Oversaw a group of 60 undergraduate teaching assistants (UTAs)
- Disseminated written information about policies and procedures to UTAs and faculty
- Streamlined departmental processes to more efficiently schedule UTAs and prepare for exams
- Assisted General Engineering professors with clerical tasks as needed

Math, Chemistry, and Engineering Tutor | Clemson University Athletic Academic Services

August 2016 – May 2019 | 8 hours/week

- Collaborated with a team of academic advisors and other tutors to create a supportive learning environment for a diverse group of student-athletes
- Guided discussions to improve a student-athlete's problem-solving skills
- Analyzed students' understanding of the material and adapted my teaching to their learning styles

Undergraduate Teaching Assistant | Clemson University Department of General Engineering

August 2016 – May 2018 | 10 hours/week

- Established and maintained relationships with 100+ students in freshman-level engineering classes
- Clarified lecture material for students in class and weekly open tutoring sessions

Waitress / Cashier | Aramark Chili's Too

October 2015 – May 2016 | 20 hours/week

- Recorded and tallied customers' orders and counted change
- Collaborated with a team of other waiters and cooks to ensure complete customer satisfaction

LEADERSHIP AND HONORS

Alpha Eta Mu Beta, National Society of Collegiate Scholars, Omicron Delta Kappa, Tau Beta Pi (Vice President, 2017 – 2018, and Alumni Outreach Chair, 2018 – 2019)

President's List (4 semesters) and Dean's List (3 semesters)

PUBLICATIONS

Stokes, M.D., Greene, B.C., Pietrykowski, L.W., Gambon, T.M., Bales, C.E., DesJardins, J.D. "The Use of Synthetic Ligaments in the Design of an Enhanced Stability Total Knee Joint Replacement." *Proc. Inst. Mech. Eng. Part H J. Eng. Med* (2018): 232(3), 282–288.

Two additional publications in progress.