**Emily Boggs**

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**Education**

* Lawrence Technological University
  + August 2009 to May 2013
  + Bachelor of Science in Biomedical Engineering, Honors Program
  + Cumulative GPA: 3.83
  + Summa Cum Laude

**Research Experience**

* 2012 Senior Project: Cellular response of HPDL fibroblasts to different surface modifications on PCL fibers
  + In-depth literature analysis of
    - surface modification and characterization
    - cellular response to different scaffold materials
    - cell characterization on modified surfaces
  + Human cell culturing and sterile technique
  + Operation of ESEM for cell and fiber characterization
  + Submission for publication anticipated in August 2013.
* Course-Related Lab Work
  + Biochemistry
    - Hands of practice of protein characterization methods, gel electrophoresis, chemical purification and quantification, and enzyme kinematics
    - Design and implementation of a novel biochemistry-based lab protocol based on literature research
  + Biomechanics
    - Study of human range of motion and motion capture for analytical purposes
    - Design and implementation of a novel range of motion study using motion capture equipment
  + Bioinstrumentation
    - Hands on design and construction of sensors, amplifiers, and signal processing equipment
  + Tissue Engineering
    - Design and fabrication of different scaffolds
    - Characterization of cellular response to different biomaterials
    - Study of tissue culture and mechanical and chemical influences
    - Design of a novel pulsatile flow bioreactor based on literature research
  + Anatomy and Physiology
    - Hands on use of EKG, respiratory, and neuromuscular stimulation equipment
    - Design and implementation of a novel temperature-based experiment

**Relevant Coursework**

* Engineering
  + Biomechanics
  + Biomaterials
  + Biotransport
  + Tissue Engineering
  + Medical Imaging
  + Bioinstrumentation
* Science
  + Organic Chemistry 1 and 2
  + Biochemistry
  + Nanotechnology
* Math
  + Differential Equations
  + Probability and Statistics

**Work Experience**

* Tutor, Academic Achievement Center, Lawrence Technological University
  + January 2010 to present
  + Tutored Lawrence Tech undergraduate and graduate students in math (up to differential equations), biology, chemistry (including organic), and physics
  + Lead students in tutoring both individually and in groups up to five
* Precourse Instructor, Academic Achievement Center, Lawrence Technological University
  + August 2010 to August 2012
  + Lead three nine hour total “refresher” courses for Lawrence Tech students in chemistry and calculus
  + Planned and wrote novel curricula including lectures, handouts, worksheets, and group activities
* Supplemental Information Instructor for Introduction to Biology, Academic Achievement Center, Lawrence Technological University
  + January 2012 to May 2012
  + Sat in and assisted students during lecture periods
  + Lectured and obtained practice material for occasional class periods
  + Lead biweekly study and review groups for students in the class
* Lab Assistant, Natural Sciences Department, College of Arts and Sciences, Lawrence Technological University
  + September 2010 to May 2012
  + Cleaned labs, recorded inventory, made stock solutions, prepared equipment
  + Worked with professors to prepare materials needed for labs
  + Assisted students with infrared spectroscopy measurements
* Teacher’s Assistant for Calculus 1, Math and Computer Science Department, College of Arts and Sciences, Lawrence Technological University
  + August 2012 to December 2012
  + Assist students during group workshop phase of class
  + Grade papers and record scores

**Honors and Awards**

* Lawrence Technological University’s Dean’s List,
  + August 2009 to present
* Tau Beta Pi, the National Engineering Honor Society
  + April 2013 to present
* Alpha Eta Mu Beta, the National Biomedical Engineering Honor Society
  + March 2013 to present
* Order of the Engineer
  + April 2013 to present
* Lawrence Technological University’s Lambda Iota Tau
  + April 2012 to present
  + Given to students with excellent academic records and exceptional interest in and contributions to student activities
* Lawrence Technological University Presidential Scholarship
  + August 2009 to Present
  + Given to incoming freshmen showing academic merit
    - 3.8 GPA or higher
    - ACT score of 30 or higher
  + For renewal, must maintain 3.00 GPA or higher and enrolled full time (12 credits or more)
* Hartung Scholarship
  + August 2011 to present
  + Given to select engineering students in good academic standing

**Computer Skills**

* Proficient in 2010 Microsoft Office programs: Word, Excel, PowerPoint, Publisher
* Experience with 2009-2012 AutoCad
* Experience with Vicon Nexus based motion capture systems.

**Professional Organization Affiliations**

* Alpha Eta Mu Beta, the National Biomedical Engineering Honor Society
* Tau Beta Pi, the National Engineering Honor Society
* American Chemical Society
* The National Society for Leadership and Success
* Society of Women Engineers

*References available upon request.*