**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.*