

Important Dates

Winter break	Dec 19
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Fall Grades Due	Dec 26
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Winter Session begins	Jan 4
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Martin Luther King, Dr. Day Observed	Jan 15
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Winter Session Ends	Jan 24
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Scholarships

Zimmer Scholarship

Spring 2018 Deadline | Dec 20, 2017

The Zimmer Scholarship Program is intended to reward and encourage the scholarship of undergraduate students within the Department of Mechanical and Aerospace Engineering. Applicants should be current full-time students pursuing a BSME or BSAE Degree. An overall UB grade point average of 3.25 or higher is required at the time of application. The program includes support for academic year independent study or for a summer research experience. [Learn more.](#)

Yong Lee Scholarship

Spring 2018 Deadline | Feb 5, 2018

The Yong Lee Scholarship(163 KB) is now available for the Spring semester for an undergraduate student in the Mechanical & Aerospace Engineering Department, who demonstrates outstanding academic achievement and financial need. The scholarship will be given to a student pursuing a B.S. degree who is a junior (in at least their 6 semester) in either the AE or ME undergraduate degree program. [Learn more.](#)

Internship

Advanced Manufacturing Internship Program

Mechanical Dynamics & Analysis, Ltd. (MD&A)

MD&A are seeking candidates from the University of Buffalo for MD&A's Advanced Manufacturing Internship Program. This goal of this program is to provide strong practical experience where students can apply the lessons learned in their academic studies to real world applications. Paid Internship. *See attached.*

To post to the weekly bulletin, contact Brittany Sandor at bsmetank@buffalo.edu

DEC 18 2017

ANNOUNCEMENTS

Continuing Students must Register for Spring 18 classes by **Dec 21**, or incur late fee.

New MAE Tech Elective

MAE 400 - Renewable and Alternate Energy
TR 9:30-10:50 am | Bell 340C
Dr. Shenqiang Ren

MAE Awards

Applications for the 2018 MAE Student Excellence Awards are now available [online!](#) Deadline to apply is February 13.

Materials Courses

Interested in studying Materials? See attached list of Spring 2018 Materials Courses.

 University at Buffalo
Department of Mechanical and Aerospace Engineering
School of Engineering and Applied Sciences

mae.buffalo.edu



Advanced Manufacturing Internship Program

Mechanical Dynamics & Analysis, Ltd. (MD&A) are seeking candidates from the University of Buffalo for MD&A's Advanced Manufacturing Internship Program. This goal of this program is to provide strong practical experience where students can apply the lessons learned in their academic studies to real world applications. This *paid internship* will also provide MD&A with summer employees who can work on projects that will help our overall productivity. Finally, it is a great way to develop a pipeline of talented individuals for future Advanced Manufacturing roles at MD&A.

MD&A is headquartered in Latham, NY, with Parts Division facilities in Danvers, MA, Clifton Park, NY, and Marion, OH. Additionally, there are repair shops in St. Louis MO, and Houston TX and a shop in in Euclid, OH where we repair and manufacture Bearings, Seals, and Hydraulic components. As a supplement to our Field Services offerings for Turbine and Generator rebuilds, MD&A is one of the largest third-party manufacturers of replacement and upgraded parts for steam and gas turbine generators, most of which in utility, power generation industry.

What is the Advanced Manufacturing Internship Program? The MD&A internship program will provide meaningful practical project based work either in our engineering group or in our parts manufacturing facilities. Although each year the projects will vary, fundamentally interns will help improve shop efficiency, assess opportunities to obtain greater productivity, or reduce costs. Examples may include projects as the assessment and implantation of shop floor scheduling, shop floor through put, real time costing of manufacturing, improving manufacturing techniques, etc.

How many openings are there? Needs will vary however we will seek out two (2) openings per year. Due to the nature of our business our busy times tend to be during spring and fall outage season. Due to this it may be necessary to have students visit our facilities during their spring or fall for 1-2 days to understand our shop flow and gain a full perspective in preparation for a summer internship.

Eligibility? We are looking for students who have some technical background and interests in manufacturing and the related sciences which could include statics, dynamics, materials, machine elements, manufacturing processes, machining, fabrication, logistics, or production planning. These positions are open to both undergraduate and graduate students.

What is the process?

1. Submit resume to MD&A. See contact information below.
2. If selected, a project will be assigned along with the location and tentative start date.
3. Intern will visit site during peak season paid for by MD&A (1-2 days).
4. Determine summer start date.

Who should I contact for more information? Please learn more about MD&A by visiting our website, www.mdaturbines.com then if you are interested in applying for the internship, submit your resume to Gene Vetter, Director of Human Resources, at gvetter@mdaturbines.com.

Spring 2018 undergraduate courses in materials

MAE 385 LAB – Engineering Materials Lab (1 credit) (8 sections)

Instructors: Professors Jason Armstrong. Furnas 621, North Campus

Involves experiments designed to illustrate the relationships among the processing, internal structure and properties of engineering materials, emphasizing metals and their heat treatment, microstructure and mechanical properties. Provides hands-on experience in metallography, heat treatment and mechanical testing. Includes laboratory report writing and work in groups. Pre-Requisite: MAE381. For MAE majors only.

MAE 438 LEC - Smart Materials (3 credits)

Instructor: Professor Chung (ddlchung@buffalo.edu). TR 2:00 PM – 3:20 PM. Park 440, North Campus

Introduces concepts and applications of smart materials, which refer to materials that can sense a certain stimulus and, in some cases, even react to the stimulus in a positive way so as to counteract negative effects of the stimulus. Strain/stress sensors and actuators are emphasized. Topics include intrinsically smart structural materials, piezoelectric and electrostrictive materials, magnetostrictive materials, electrorheological and magnetorheological fluids, shape memory materials and optical fibers. Pre-Requisite: MAE381.

MAE 489 LEC –Experimental methods in materials science and engineering (3 credits)

Professor Deborah Chung (ddlchung@buffalo.edu). TR 11.00 am – 12.20 pm. Talbert 112

This lecture course will cover experimental methods in materials science and engineering. These methods will relate to the characterization of material structures (using spectroscopy, microscopy and diffraction techniques), material properties (mechanical, thermal, electrical, electrochemical, etc.) and material processes (phase transformations, reactions, diffusion, etc.). Illustrations will be made using materials including metals, ceramics, polymers, carbons, semiconductors and composites. Pre-requisite: MAE381.

MAE 484 LEC - Nano/microtechnologies MEMS (3 credits)

Professor Susan Z. Hua (zhua@buffalo.edu). T R 12:30 PM - 1:50 PM. Norton 213, North Campus

Introduces advanced technologies that enable integration of micro-sensors and micromechanical components on the same chip to produce miniature devices called micro electromechanical systems (MEMS). The course covers physical principles and design rules that govern the performance of a device at small length scales. Discuss a large set of microfabrication techniques including photolithography, material removal processes, and additive technologies. Discuss the applications of MEMS devices in automotive, communication, energy, and BioMEMS in biomedical applications.



University at Buffalo

Department of Mechanical
and Aerospace Engineering

School of Engineering and Applied Sciences

MAE STUDENT EXCELLENCE AWARDS 2018

HONORING STUDENT
excellence

Now accepting applications

bit.ly/MAEawards

DEADLINE: FEB 13

AWARDS

UNDERGRADUATE RESEARCHER | YOUNG PROFESSIONAL
HUMANITARIAN | DISTINGUISHED LEADERSHIP | CHAIRS AWARD