

STUDENT MANUFACTURING DESIGN COMPETITION

**Held at the 2011 International Manufacturing Science & Engineering Conference
June 13-17, 2011, Corvallis, Oregon, USA**

INTRODUCTION

Original student designs that focus on manufacturing engineering and science are sought. Any design of a system, component, or process that can be used to promote the art, science and practice of manufacturing engineering is acceptable.

- Computer integrated manufacturing and robotics
- Machine tools, sensors and controllers
- Manufacturing systems management and optimization
- Materials processing
- New areas of manufacturing engineering
- Evolution of new materials and processes
- Software and hardware contributing to improvements in manufacturing productivity and throughout

OBJECTIVE

The purpose of the competition is to foster interest in manufacturing, provide the manufacturing engineering community with fresh new perspectives on design, and create a forum for students to share their new and innovative ideas.

ENTRY

A project may be entered in the competition by submitting a project description to the Student Manufacturing Design Competition Organizer. Entries must be received by April 1, 2011. Entries may be electronic if all materials are letter size (8.5 x 11.0 inches, or A4). One copy of oversize or nonstandard materials must be mailed and received by the deadline.

Finalists selected from the entrants (individual or group) will be expected to give an oral presentation of their project at the International Manufacturing Science and Engineering Conference (MSEC). The use of visual aids and demonstration of actual working models are highly encouraged. Each student team may apply for supplemental travel support, up to US\$500 per team. Additional information regarding travel support will be sent with the notification of being selected as a finalist for the competition.

Submissions should be sent to the student contest head for 2011:

Brad Kinsey
University of New Hampshire
Mechanical Engineering
33 Academic Way
Durham, NH 03824
Tel: 603-862-1811
Email: bkinsey@unh.edu

DESCRIPTION

The project description should consist of a 1,500 to 3,000 word report with supporting figures and/or photographs. Some items that should be included in the project description are:

- Project Title
- Names and permanent addresses of the participating students with one of the students indicated as the designated contact person
- The name and signature of a faculty sponsor complete with postal and email addresses, and phone and fax numbers

- Functional description of the concept/idea/model/system
- Design features and manufacturing engineering content and/or application
- A description of any tools, equipment and/or computer aided design procedures used, and how they enhanced the design process
- Discussion of the concept's practicality and how it improves upon existing designs that do the same or similar tasks
- Analysis in assisting design or understanding the manufacturing process
- A statement listing the percent contribution of the group members and any outside assistants (faculty, shop personnel, etc.)

Due to the deadline for the application (April 1, 2011) and the fact that such student design projects are often part of a senior design capstone project, it is understood that a working prototype will not necessarily have been completed by the time of the submission. Such projects will be judged based on the design and analysis of the concept.

ELIGIBILITY

Any graduate or undergraduate student who is registered in school full time through Spring of 2011 or beyond and is a member of ASME is eligible to participate. Both individual and group projects are welcome. Individuals may participate in several entries provided each entry is on a different subject.

JUDGING

Judges for the competition will be from both industry and academe. The first round of judging will be a panel review of the submitted project descriptions. The first round of judging will focus on the creativity, practicality, manufacturability, analysis integrity, and quality of the project description. Finalists will be selected on the basis of the project descriptions. These finalists will be notified by April 8, 2011.

For the final round of judging, the finalists will be asked to make a fifteen minute presentation with three to five minutes for questions at the annual International Manufacturing Science and Engineering Conference (MSEC). Travel expenses to and from the conference will be the responsibility of the student and/or faculty sponsor. A travel fund of up to US\$500 per team is available upon request. Judging for the final round will be based on the presentation as well as on creativity, practicality, manufacturability, and analysis integrity.

AWARDS

Cash prizes and awards will be presented at the Manufacturing Engineering Division's Banquet, which takes place at MSEC. A complimentary banquet ticket will also be provided to the finalists (one per team).

First Prize	\$1,000
Second Prize	\$750
Third Prize	\$500

SPONSORS

Past industrial sponsors of the competition include:

- Cummins Engine Company
- Eastman Kodak
- Eaton Corporation
- Ford Motor Company
- General Motors Company
- General Electric
- ITW
- Los Alamos National Lab
- Techsolve
- Toyota