

The Association of Mechanical Engineers

NewsLetter

Published by the Association of Mechanical Engineers, IIT Kanpur

"To conquer oneself is a greater task than conquering others."

<u>Gautam Buddha</u>



From the Department

Awards and Honours

Dr. N. S. Vyas has been asked to Chair the Automobile Technology Park under the Board for Smart Materials Research & Technology (B_SMART). The board includes two other parks - Aerospace and Bio-tech. The parks will have research facilities in different institutions and participating industries

Dr. A. Chatterjee will Chair a session entitled 'Digital Empowerment-Outcome of Desktop Revolution' as a part of the International Conference on Engineering Education and Research (ICEER) 2007, to be held in Victoria (Australia) in December 2007.

Upcoming Events

INCCOM-6 and International Conference on Future Trends in Composite Materials and Processing is to be organized from December 12-14, 2007 on the theme "Innovations in Composites for the New Century". INCCOM is the national conference organized by ISAMPE on composites. ISAMPE is the abbreviation for Indian Society for Advancement of Materials and Process Engineering which was founded in 1985 with the aim of fostering technologies related to Materials and Process Engineering. More details regarding the same can be found out at http://home.iitk.ac.in/~kamalkk/indexx.htm

Industrial tour for the third year students has been organized from 2nd of the December to 13th of the December in the industrial areas of Mumbai, Pune and Goa. The companies which are to be visited are L&T, Fluent India Ltd, Geometric Softwares, Tata Motors, BARC, National Institute of Oceanography and Western Shipyard. Apart from this there will be a meeting with the alumni's on 9th who will be having their get together in Mumbai on that day. 34 students along with 3 staff members will leave for the tour on 2nd of December.

Solar Innovation Program

IIM Ahmadabad and Ministry of New and Renewable Energy (MNRE) provide you the opportunity to win a Rs 4 lakh prototyping grant and a paid two month summer internship at IIMA. Be creative and conceptualize the use of Solar Energy to replace non-renewable energy sources.

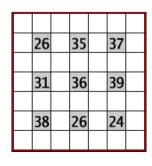
Realizing the growing importance of tapping the

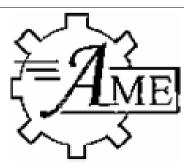
renewable energy resources CIIE@ IIM Ahmadabad has launched ambitious - Solar Innovation Program with the support from Ministry of New and Renewable Energy. Solar Innovation Program attempts to promote out-of-box thinking amongst students towards solving India's energy problems. Teams comprising of students and faculty are requested to forward their exciting ideas on utilizing solar energy and substituting it in our daily lives or solving an Engineering problem.

Top three ideas get 4 lakhs of funding for prototyping, 2 months summer internship at IIMA and chance to get incubated at IIMA. Last date for application is 15th December 2007*. For further details and application visit http://ciieindia.org/solarinnovationprog.php

Puzzle

Below is a very special grid, around each shaded number are 8 white squares. However, each white square should have a number from 1 to 7. Once filled in, these 8 numbers will sum to the shaded number. In addition, once completed correctly, no white row or white column will contain a duplicate number. For example the top row may be 5 6 4 2 3 1 7, etc.





Departmental course Structure!

It has been a long time since our department has undergone a major course structure change. The *déjà vu* associated with some of the courses turns them more uninteresting for the Students as well Faculties so the necessity of a change is more strongly felt. Moreover whereas the other departments and our department in other IITs have a more flexible course structure while ours is a comparatively rigid one. AME did a survey on a spectrum of students to know about their ideas about the issue and any suggestion that they might offer.

Suggested Alternatives

After talking to some of the students AME arrived at common consensus about some unnecessary burdens prevalent in the course structure. Less number of electives specifically open elective was a most quoted one. Even in the present situation the choice of OE has been restricted not to include HSS and Economics courses which eventually defeats its major purpose of being an OE.

Another important aspect pointed out was the late inclusion of departmental courses in the course template. In fact other Institutes have a more uniform structure of courses. In IIT Delhi right from the first year at least one departmental course each semester is included. IIT Kharagpur has similar structure along with the option of choosing from 2 courses spread over two semesters. More on IIT Kharagpur, Mechanical Engineering course structure can be found out at http://www.webteam.iitkgp.ernet.in/academic/ugcore.php?BranchCode=BTME1. Late exposure to departmental courses retards the efficiency and interest of Students and the flavour of the courses in two ways. Firstly students don't get a feel of the department till 5th semester and they lack competence in Internship Interviews on this part. The second year students who mostly do project works in the summer by then completes only two departmental course and the idea about preferred specialization in any stream like Fluid Mechanics, Solid Mechanics and Design is missing amongst them. This results in improper selection of projects and subsequent unofficial withdrawal. The present course structure having most of the departmental course in the third year might have been efficient during 5 year Engineering programs but as the situation is now its impact seems negative only. If other Institutes have sensed the direction of wind then why should we lag behind in incorporating latest research into the curricula?

Apart from this there is some sense of unrest with some of the courses like ME251, ESO210. Two course TA201 and ME361 dealing with more or less same thing although their names are different, are redundant. It is not like that all of these courses are extraneous but many things in them are repeated time and time again. ME251 may be accommodated in two course TA101 and ME351 with TA101 having more focus on AutoCAD. Another irrelevant course as perceived by the students was ESO210 and suggestions came to even do away without it. But a more realistic suggestion was to introduce it as a departmental elective. Otherwise the DC and synchronous and Induction motors may be added to the contents of ME453 and ESO210 may be shift deleted.

The composites which have gained immense importance in the recent years should be included as DEL or choice courses. Even Mechatronics which has been claimed to be a part of Mechanical Engineering streams does not feature among the courses. There were similar issues about representation of Robotics in the course structure (or of at least spatial chain mechanisms) and changing the structure of ME100 etc. The laboratory part of this course is certainly enjoyable and Industrial visits to the nearby places may be added to its contents. Further the lectures should be divided on the basis of major streams of Mechanical Engineering and each part would then be taken by a professor of that field. The lack of knowledge about department is so severe at present that even after coming to 2nd year many of the students don't know of all the streams.

Having said all this there is one major recommendation to be made. That is the freedom of choosing n courses from n+1 or more courses. This can be seen in effect in CSE and EE department. The choice has to be made with a strong mind as there will be strong feeling for some of the courses not to be dropped but we should learn that freedom of choice will only ensure compatibility to ones interests.

These are some suggestions based on the popular opinion and it is emphasized that timely revision of the course structure and inclusion of new courses as and when required can only ensure the competence level of our students and the Faculties. Since most of the faculty members are involved in research work they more frequently encounter current topics. So it is better to incorporate current research trends as well in the courses.

Suggestions are welcome. Send them at aranjan@iitk.ac.in