

Engineering education world

Contributions are invited for this feature. News items on policies that concern the engineering education world, new courses and curricula either of a unique nature or of international interest, new innovative laboratories and concepts, funding news for engineering research projects involving international participation, special international continuing education courses and news, industry-university interaction, engineering faculty news, and developments in engineering education of international interest. Please send news items and conference information to the Editor-in-Chief. Public relations offices of universities and human resources divisions in industry are requested to contact the Editor with news items concerning engineering education and training.

United Kingdom

Job hunting service for students on the Internet

A CD-ROM called Activate will enable 250,000 graduates looking for jobs to access the Web and contact employers for available jobs. This will obviate the tedious chore of going through written materials to find a suitable opening. The directory linked to the Web will be updated by prospective employers which include the large companies such as British Aerospace, Shell and the Ministry of Defence. Application forms will be filled by the students and sent in on the net. Matching of degrees and interests will be automated so that job compatibility is maximised.

Graduates will now be able to avail themselves of a new job hunting service on the Web. (See also 'CV's are Dead' under USA)

British Aerospace forges ahead with virtual university

A university, which will be set up in 1998 for continuous education for the employees of British Aerospace, will cater for degree levels ranging from the National Vocational Qualification (NVQ) to PhD's. The university will also indulge in research and development projects to support their learning objectives. The university Deans will be in three faculties: Engineering and Manufacturing, Business

and Learning, and are currently being recruited. British Aerospace plans links with existing universities and colleges to support its virtual university project. The university will be strongly supported by electronic links, which are also going to be international. A point of discussion is the title 'university' which is being examined by the Department of Education. The trend to establish new and possibly rival institutions to those operated by the state can be seen developing in a number of countries where public sector constraints are becoming incompatible with industry needs.

New universities are in the red

The newly published *Noble Higher Education Financial Yearbook 1997* reveals that total debts of higher education institutions are on the rise. Around 20 institutions have a debt of more than fifty percent of their income. The university of Derby has the greatest debt comprising over 87 percent of its income. The University of Wales has the highest endowment and interest income ratio with over 12 percent. Second highest is the University of Cambridge with over 10 percent comprising over GBP400 million. Average debts are 23 percent of total income. The former polytechnics average 43 percent and are more debt ridden than most of the older universities.

Metallurgy on the decline

Metallurgy is proving to be an unattractive subject to study in the nineties. The number of applicants for metallurgy, as reported by the Universities and Colleges Admissions Service has gone down from 478 in 1994 to 136 in 1996. Only 21 students were accepted in 1996, down from 53 in 1994. Apparently, there is too little information about the subject and its importance so that school leavers are not attracted to it. Job prospects are good and companies are beginning to feel the lack of metallurgy graduates. The Institute of Mining and Metallurgy in co-operation with the University of Leeds is launching the minerals '98 initiative in June 1998 to attract more students to the relatively unpopular subject, which is often incorporated in Materials Science which itself also attracts few students.

Italy*Mayhem persists*

Apparently there is persistent chaos in the huge Italian universities. La Sapienza in Rome, one of the world's largest mega universities, with sizeable engineering departments has long been slated to break up or down with its 190,000 students. University Students are queuing because of admission bureaucracy, ranging from form filling, to information or for admission lines. One of the problems is the opening up of universities for all secondary school leavers in 1969—the year where student protests started the decline in the quality of European publicly funded universities. Two years ago the Minister of Education started allowing universities to limit admissions. This has led to a flood of lawsuits by prospective students. As appeals were approved thousands of students joined courses late after Semesters had already begun. Last year the ministry partially retracted the autonomy of the universities in admissions. Nevertheless, some universities were allowed to continue limitations in subjects with low staffing. As a result students are uncertain whether they can pursue their chosen course of studies and to which university they may be admitted.

Germany*University reform on the move*

As reported in these columns before, German higher education is in crisis. Efforts to remedy the situation have been sluggish but the pressure has been mounting. Protracted study times, large drop-out numbers, financial strain, overregulation and administrative inefficiency contribute to the situation. Moreover, the conviction that the German higher education system is superior has been slowing progress. The ministers of education of the Federal States want to put an end to the misery. One 'development' is the proposal to

introduce Bachelor and Master Degree courses, similar to the Anglo Saxon system. This is, in fact a long awaited concession of defeat for the inflexible current system which produces graduates aged 25 to 27 at the time of their first degree. It is claimed that the baccalaureate is anyway an old German traditional degree going back to last century practices. One of the reasons for introducing new degree structures is the shrinking numbers of foreign students attending German universities and colleges. Current German degrees require more student work than British or American degrees but do not enjoy a better status or privileges in foreign countries. Another novelty is the introduction of some student selection privileges by the universities and colleges themselves, replacing current formal methods. At present students are admitted according to a selection key or by distribution through a central agency. The institutions themselves have little influence on who is admitted. It is proposed that the university select 20 percent of new students. A further new measure is the introduction of evaluations of academic staff by the students. A point of controversy is the introduction of student fees, which is a political issue. The new reform measures are points of endless discussions and the results will be incorporated in the new Higher Education Law in the spring of 1998. In the present climate of political stalemates effective improvements are doubtful.

Graduates who do not get a job will be reimbursed by their colleges

Two private colleges in Goettingen and in Malente plan to reimburse their students on failing to obtain a job placement within six months after graduation. The reimbursements of up to DM12,000 is equivalent to one year of fees. Malente is even going further: they expect the graduate to receive a minimum starting salary of DM55,000 (US\$32,000) within four months of graduation. There are conditions attached to this offer: the graduate must have finished his diploma in 3 years, have an average of at least B+, and have work experience with a company. The colleges say they have a commitment to helping their graduates in a poor job market, and they believe that the risk of having to pay out is small. The first students to come under this offer will come from the new Fachhochschule in Goettingen with initial graduations in two years in business studies and computer business applications. The public sector colleges are up in arms against any attempts by private schools to undermine their hegemony. However, with increasing inefficiencies and stalemates in public sector education (see above), high level private schools stand better chances than heretofore in the state-dominated German education system.

France

A complex baccalaureate and university admissions system has problems

Around 500,000 pupils sit for the renowned French Baccalaureate examinations every year, of which 80 per cent hope to continue in higher education. However, only around 75 percent pass the examination. Around 150,000 take a technical Baccalaureate, but many of those taking a general examination will opt for science studies. Another 90,000 take a vocational examination. Students entering higher education at 20 will on the average be between 24 and 25 at graduation from a mere two-year first diploma course. Many will have repeated a school year, especially the technical pupils, and repeat a university year also. All students are allowed to take a two-year diploma course but places in preparatory and technical courses are rare. The diploma course is taken as the always-available alternative option. Good Baccalaureate marks help to overcome the problem. Other solutions for the strained system are under discussion, one being the introduction of university entrance examinations.

Ireland

Further education is promoted by Irish government

A further education authority is to be set up in Ireland to consolidate educational activities. Out of 60,000 secondary school leavers, half take up university studies, and the rest mostly go for a vocational post-leaving certificate (PLC). In particular a push for the PLC type courses is envisaged. Maintenance grants were abolished for these courses, and are now being reconsidered due to public pressure. PLC courses are vital for the booming information technology base in Ireland. Dell, Compaq, Apple, Gateway and Intel maintain considerable facilities in the country, and supply products for the European market. In particular, on-line services require a rapid expansion in language skills for services from Ireland for Europe. A further point is the endeavour of private third-level institutions to get the government to pay for tuition fees of their students in order to put them on an equal footing with public sector institutions.

USA

CV's are dead: long live the computer quiz

Since 1974 Brooks Mitchell has been devising questionnaires for prospective employees to be answered in front of the screen rather than by personal interview. The reason behind this move is that no two jobseekers write the same CV, even if they have identical qualifications. Filtering candidates by asking them questions on line before making a personal interview makes an efficient

screening system. Coopers & Lybrand will be interviewing thousands of graduates over the net without making a single campus visit. Mitchell, whose company Aspen Tree is being bought up by the British group SHL is going global. The system eliminates the flaws that inevitably creep in on sorting large numbers of résumés personally; it is much better to ask candidates the right questions.

Australia-China-United Kingdom

Chinese students in visa troubles prompts global competition

The Australian authorities attitude towards Chinese student recruitment by Australian universities has resulted in a refusal of visas for 20 Chinese students to take up business studies at the Victoria University of Technology. A further 22 students in science and technology applied, of which only 8 have been granted visas to complete degrees in Australia which were started at Senzhen University in China. The income per student for Australia amounts to Aus\$10,000 for one year of studies. The university claims that British authorities approached Senzhen University offering the students a place in UK universities instead. Officials claimed that the Chinese students did not pass a required test in the English language. The authorities also say that the stricter conditions for Chinese students introduced five years ago were a result of thousands of Chinese students coming to Australia and never leaving it again.

New Zealand

Higher education institutions consolidate by shrinking and mergers

A spate of mergers is gripping New Zealand higher education: Auckland College of Education looks for a partner, candidates being Auckland College of Technology and Wellington Polytechnic, Massey University and Central Institute of Technology. Victoria University in Wellington has combined Chemistry and Physics into the School of Chemical and Physical Sciences teaching Technology degrees. The Central Institute of Technology is relinquishing its technology faculty and dismissing 15 members of staff. Civil and mechanical engineering courses have experienced a halving of student numbers.

Japan

Upheaval in admissions procedures in a homogeneous society

The strict adherence of a prescribed time-plan for Japanese pupils and students is showing signs of collapse. All Japanese are required to have 12 years of schooling from the age of 6 to 18 before entering

university. The usual time to graduate is then four years, but since 1989 exceptional students may now graduate in 3 years. The Japanese education ministry now proposes to admit bright students, achieving excellence in Mathematics and Physics at the age of seventeen. Curiously, the Mathematical Society of Japan is fighting such an elitist trend. It argues that students who enter university at an early age will not be mature enough. Some universities such as Nagoya have been granting academic credits for high school student showing excellence in science courses. Another university, Keio in Yokohama will accept students all year round on the strength of interviews.

Kenya

New initiative in industrial-based technology education

Kenya, as in other African states is finding that the quality and relevance of the technical and scientific education facilities are lacking. In particular, the prevalent lack of technical facilities and skills, create graduates who are more theoretical and practical. Such circumstances used to be prevalent in countries such as India but have been considerably improved there in recent times. Engineering at the University of Nairobi reports that half the students in the departments of Mechanical, Electrical and Agricultural Engineering fail to complete their degree courses. The reasons given range from reports of inadequate preparation in mathematics, to lack of or outdated laboratory facilities, to disgruntled lecturers receiving low pay.

The University of Nairobi is planning to restructure its engineering and science programs by offering a two-tier degree program, one scientifically oriented and one industrially based. Vice Chancellor Francis Gichaga plans a minimum of 12 weeks industrial training as a mandatory part of the degree courses. A performance appraisal system for academic staff is to be introduced. Those failing will be asked to retire from their jobs.

Conferences

The International University Local and Global Roles

3-5 April 1998

London, UK

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Richmond TW10 6JP, UK

Tel: +44 181 332 8286 Fax: +44 181 3321297

American Society for Engineering Education Annual Conference

28 June-1 July 1998

Seattle, Washington, USA

Contact: ASEE 1818 N Street,
Washington DC 20036, USA

Tel: +1 202 331 3500 Fax: +1 202 265 8504

Global Congress on Engineering Education

6-11 September 1998

Cracow, Poland

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