

IDEAS FOR IMPROVING CURRICULA

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(A) MINIMAL MATHEMATICAL ANALYSIS

When we were undergraduates, almost every subject was dominated by mathematical analysis. At that time, Moratuwa produced 'mathematicians' rather than 'engineers'. So definitely, there is a need to address the balance between 'theory' and 'applications'. There are a lot of professional on-line materials that Moratuwa can use to bring real world applications.

(B) CLOSER COLLABORATION WITH REPUTED LOCAL ENGINEERING COMPANIES

You need to get local companies involved at very early stages of the course. As an example, you may invite senior managers/engineers from industry to talk to about real world issues in Year 1/2.

(C) MORE STUDENT-CENTRED LEARNING

Globally, there is a move towards alternative learning methods. Traditional lecture/tutorial alone would not give students the best learning experience. ore project-oriented and group-work can be introduced.

(D) SYSTEMS ENGINEERING

As I remember, we spent too much time learning the details of individual components. There is a need to understand the issues involved when you bring together components to create systems.

(E) VIRTUAL SYSTEMS

This is a growing area. From design to manufacture, many companies are using to simulated environments to design and evaluate components and systems.

(F) COLLABORATIVE ENVIRONMENTS

This is a kind computer based technology which companies can utilize to bring together a team of engineers to develop a product and/or manage a specific situation. For example, General Motors use collaborative environments to design cars and also factories. A new breed of internet based tools are emerging in this area. For globally dispersed business, collaborative arrangements are important. For example, collaborative arrangements are needed to manage global supply chains.

(G) VERTICAL INDUSTRIES

It would be nice if you could bring specific issues in industries such as automotive, aerospace and process industries to the attention of final year students.

(H) DO NOT RE-INVENT THE WHEEL

WWW is a very valuable resource. There are plenty materials you can use in teaching programmes, use them wherever it is possible.

Terrence Sisira Perera, graduated with BSc(Hons) Mechanical Engineering, from the University of Moratuwa in 1982. Later he obtained his Doctorate from the University of Strathclyde, Glasgow, UK. Currently he is the Head, Enterprise and Systems Engineering Subject Area at the School of Engineering, Sheffield Hallam University and the Leader of Systems Modelling and Integration Research Group. His teaching and research interests include Computer Simulation, Business Process Modelling and Information Systems Design. He has successfully completed several projects from EPSRC and British Aerospace collaborations.