

Academic Use at University of Strathclyde



Strathclyde students at Embed workstations.

More than 600 control and dynamic modeling students have benefited from the adoption of Embed simulation and embedded system development software at Strathclyde University. Embed has been used for over eight years at Strathclyde for control and dynamic modeling courses as well as areas such as demonstrating a multi-compartment model for microbial growth kinetics.

Used in introductory and advanced courses

Introductory courses use Embed for basic modelling and control, then go on to more complicated aspects such as cascade control and integral wind-up. In advanced courses the software helps students to understand and use aliasing, feedforward, MPC and IMC control.

Handles Advanced Multi-Variable Model Predictive Control

One example of Strathclyde's advanced use of Embed was the implementation of a generalized, unconstrained, multivariable model predictive controller. The controller is constructed in Embed and the controller design is carried out in Mathcad. "This was the first time I had used the matrix blocks in Embed and I was surprised at how well they worked – despite its complexity the controller runs very quickly," enthuses Dr Postlethwaite.

Easy to Learn and Use

Dr Bruce Postlethwaite was impressed from the start by Embed after replacing another simulation software package. "The response of the students to Embed has been very good since day one; I've never heard anyone complain about the program being difficult to use, which is very unusual!" He goes on, "Students also regularly use Embed without being specifically told to; they find it an easy way to check ideas and test their understanding of particular dynamic behaviours."

Since switching to Embed Dr Postlethwaite has been delighted with Embed and the support he has received. "The flexible licensing for Embed was a big help for us and, since making the swap, I've been delighted with the technical aspects of Embed too and would never move back to a competitive product." Dr Postlethwaite has developed an on-line hypertext self-paced curriculum for an introductory course in process control techniques.

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