

Latest information

How CES EduPack is updated

- Annual updates incorporate feedback from the growing worldwide CES EduPack community
- Granta's ongoing development program produces tools such as the innovative Hybrid Synthesizer
- New and enhanced materials information is available each year
- Constant updates expand the interactive Teaching Resources Website

New in 2011

- Teaching Resource Website with 200 resources
- Enhanced Eco Audit Tool adds secondary processing
- Updated Eco Audit Tool separates End-of-Life potential
- Hybrid Synthesizer predicts properties of hypothetical composites and foams
- Low Carbon Power Edition supports teaching on resource intensities
- Improved Automotive and Stainless Steels Data
- Additional Video Tutorials
- Usability & Presentation Enhancements

GRANTA CES 2011 EDUPACK



CES EduPack developments

CES EduPack™ is used at more than 800 colleges and universities worldwide by a community of over 5000 educators. We collect feedback from this community and pick up ideas at the Materials Education Symposia and other educational conferences. Combined with the teaching experience of Professor Mike Ashby, this input ensures that each year's developments are relevant, useful, and timely. We hope that whether you are teaching a large introductory materials course or an advanced aerospace structures course you'll find something new and useful to enhance your teaching this year.

Support for existing teaching

Developments in recent years have aimed to allow CES EduPack to integrate more easily into existing courses, whatever the approach of those courses. An example is the addition of detailed science notes together with support for leading materials texts such as *Callister, Askeland and Phulé, Budinski and Budinski, and Shackelford*. Easier-to-use software features and a new teaching resources website provide a wide range of teaching support.

Facilitating introductory courses

CES EduPack aims to support the whole curriculum, beginning with introductory courses. In 2011 for example: new video tutorials and usability improvements make it even easier for students to begin exploring the world of materials; the Eco Audit Tool helps you introduce eco design concepts; and the new Low Carbon Power Edition enables a rational and quantitative study of current and low carbon power generation options, and the necessary materials.

Advanced teaching and research

At the other end of the spectrum, CES EduPack is a powerful tool for advanced teaching and research. New tools such as an Enhanced Eco Audit Tool and Hybrid Synthesizer, together with updates to the specialist Level 3 property databases, benefit courses involving sustainability, energy, hybrid materials, and automotive and chemical engineering. Granta's industrial software provides further options for research projects. Granta can help students to prepare for industry and universities to collaborate with industrial partners.

Granta's industry links

As well as providing EduPack to 800 universities and colleges worldwide, Granta works closely with many of the world's leading engineering enterprises. Our GRANTA MI™ materials information management system and CES Selector™ for materials selection are used by organizations such as Boeing, NASA, Los Alamos National Labs, Rolls-Royce, EADS Astrium, Emerson Electric, and Honeywell.



How to change CES EduPack 2012

Remember you can let us know your ideas for improvements to CES EduPack. Use the 'feature request' button in the menu of your EduPack software. If you are attending one of the materials education symposia or a course run by Prof Mike Ashby this year, you can also talk directly with the development team. More details at:

<http://teaching.grantadesign.com/InDev.htm>

Latest information

Themes for 2011

Enhancements to software and teaching resources—

feedback from, and collaboration with, the worldwide academic community continues to drive the year-on-year development of CES EduPack. Benefit from the wealth of supporting teaching resources now available from our revised website, and join the growing community.

Teaching sustainability and eco design—

the new Low Carbon Power Edition encourages students to explore sustainable energy options in a rational and quantitative manner, while continued development of the popular Eco Audit Tool makes it easier to introduce sustainability in a wide range of courses. A new Enhanced Eco Audit Tool provides further support for higher level teaching and research.

Teaching hybrid materials and lightweight design—

the innovative Hybrid Synthesizer is an easy-to-use predictive tool that helps students appreciate the effects of using hybrid materials and structures.

An interdisciplinary resource—reinforced by the new Low Carbon Power Edition plus new and updated environmental properties, steels, alloys, and core materials.

EduPack community

Keep up with the latest developments, get resources, and give your feedback at the new Teaching Resources Website.



www.grantadesign.com/education/resources/

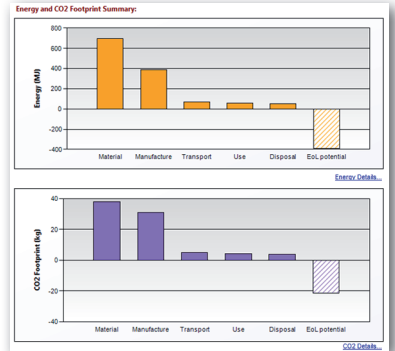
What's new in CES EduPack 2011?

New Teaching Resource Website

Around 200 individual resources can be found in our expanded and updated set of teaching resources. These include: 77 Powerpoint lectures in 4 languages; 30 sets of exercises with worked solutions; interactive case studies; Teach Yourself booklets; white papers; Getting Started guides; materials and process selection charts; and the *New Emerging and Unusual Materials* database.

Updated Eco Audit Tool

Development of the Eco Audit Tool has been driven by your feedback. Better, clearer results (illustrated, *right*) help students grasp the environmental impact of products and explore different scenarios quickly and easily. Benefit from additional primary processes, enhanced coverage of electronic components, revised end-of-life calculations; and software enhancements including exporting reports to Microsoft Word.



New Enhanced Eco Audit Tool

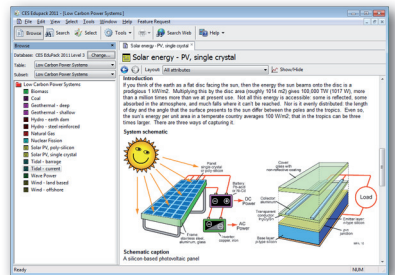
The Eco Design Edition of CES EduPack 2011 now contains the Enhanced Eco Audit Tool which accounts for machining, joining and finishing processes, manufacturing waste, and the probability of material being recovered at end of life. This enables the more detailed analysis of the product lifecycle required in advanced teaching eco design and sustainability-related topics.

New Hybrid Synthesizer

This innovative tool helps to predict the performance of sandwich panels, cellular structures, and composites and to make rapid and rational comparison of these predictions with 'standard' materials. Students can explore the benefits of different hybrid materials and structures, for example to aid lightweight design.

New Low Carbon Power Edition

The new Low Carbon Power Edition supports the teaching of sustainability and energy related courses, with a new data table encompassing a range of conventional and low carbon power systems (illustrated, *right*). It enables students to explore the options for low carbon power generation in a rational and quantitative manner, and provides links to the materials used.



Additional Video Tutorials

Video tutorials, embedded in the CES EduPack software, help both students and academics quickly learn the essential functionality and find out about the range of things that you can do with CES EduPack. Following their popular introduction last year, the latest release contains new tutorials on: the Eco Audit Tool, the Enhanced Eco Audit Tool, the Hybrid Synthesizer Tool, the Low-Carbon Power database and the Elements database.

New and Updated Automotive, Steels and Eco Data

Enhanced and expanded data on stainless alloys coupled with new information on processing & corrosion will benefit courses involving chemical engineering, while automotive engineering courses are helped through the addition of 17 new Automotive Steels records. Enhanced environmental data, useful for all courses covering sustainability, now includes coverage of updated and expanded primary process data, new electrical components, new machining processes, and updated geo economic data for metals (abundance in earth's crust / seawater, annual world production, reserves).

Records have also been revised and expanded for Sheet and Bulk Molding Compounds, and a new core materials subset introduced (containing 86 honeycombs, 24 rigid polymer foams, and 7 natural materials). These updates support the Hybrid Synthesizer, and give improved coverage of lightweight materials.

GRANTA
MATERIAL INSPIRATION

EDU-LATEST-11-1

www.grantadesign.com | info@grantadesign.com

UK/World

USA

Germany

France

+44 (0)1223 518895

(800) 241-1546

0800 182 5026

08 00 76 12 90

© 2011 Granta Design Limited. CES EduPack is a trademark of Granta Design Limited.