

# Engineering Fundamentals

## Furthering STEM education

Teacher Professional Learning Course (10 non-registered hours)

There is global recognition of the importance of effective STEM education in preparing our students for the technology rich environment in which they will be living and working in the future.

Current teacher training initiatives are available that have a technology focus, especially relating to programming and robotics, but there is a dearth of appropriate professional learning content that furthers teachers' understanding of basic engineering concepts. Familiarity with these engineering concepts is relevant to the real-world application of a wide range of science and technology related knowledge and understanding.

The aim of this introductory course is to equip participants with skills and understanding to enable more effective teaching of some significant concepts introduced in the Engineering Focus of the Stage 5 Industrial Technology syllabus that are studied in greater depth in the Stage 6 Preliminary Engineering Studies course and are fundamental to engineering analysis.

Participants will become acquainted with these concepts through activities that are appropriate to the delivery of the Stage 5 course but these will be augmented by skills and knowledge that encompass the requirements of, and provides expertise with, these concepts as they are presented in the Stage 6 Engineering Studies course.

**This is a 10 hour course consisting of pre-reading (1 hour); activities, skill building and experiments on site in a one-day workshop (5 hours) and a follow-on component to be submitted via Edmodo (4 hours).**

The follow-on component involves designing and using a lesson activity focusing on the application of a current engineering simulation tool.

### Course Developer & Facilitator

#### Peter Dawes

Peter is a facilitator for Engineering related disciplines. With 35 years as a TAS teacher and Head Teacher, he has extensive teaching experience in engineering disciplines, CAD and other digital technologies. His classroom experience in Engineering Technology and Engineering Studies has been augmented through involvement with HSC examination development and assessment in Engineering Studies, and through advisory and curriculum development work for NSWDET Curriculum Support unit and for ACARA.



### REGISTER NOW!

Register online through MyPL@EDU  
<https://www.det.nsw.edu.au/docprs/welcome.do>

**MyPL Course Code: NR10237**

**NSW DoE teachers:** Log into MyPL@Edu with your DoE credentials & search for the course using the above code or course title. Government schools will be charged internally by the NSW Department of Education. This will be reflected on your sundry tax invoice statement.

**Non-DoE teachers:** You will need to sign up for a username and password to access MyPL. Just click "Don't have a username" on the MyPL website and follow the instructions. Private schools and other institutions will be invoiced by the NSW Department of Education.

*Please note: Any cancellations made within 5 days of the course, or no-shows, will be charged to your school.*

**WHO** Stage 5 and 6 teachers.

**WHEN** Please see website for dates  
[www.macict.edu.au](http://www.macict.edu.au)

**TIME** 9am-3:30pm

**LOCATION** North Ryde, NSW

**COST** \$285 (incl GST)

**CONTACT** [macictsupport@det.nsw.edu.au](mailto:macictsupport@det.nsw.edu.au)  
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