Information for studying MATHS
as part of your Mining, Geology or Renewable Energy course

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Congratulations on obtaining a place at University of Exeter (Cornwall Campus) and the Camborne School of Mines. We look forward to seeing you in person at the start of term.

Each of the degree courses in first year includes Mathematics. We want to make sure that you have the best start to studying maths on your course by providing you with some pre-programme guidance.

What you can do RIGHT NOW to help yourself.

At http://www.projects.ex.ac.uk/csm-survey/ you will find a downloadable list of topic files that will give you some practice in preparation for the topics we will be covering in Mathematics 1A, the first semester maths module (**See below for guidance notes**). You will find a list of the topics that you will be covering in the final section of this letter.

Carrying out this work will mean that you arrive better prepared for your maths module.

Recommended Texts

There are two main textbooks we consult for your first year mathematics:

1) For those who lack maths experience or confidence we recommend:
   Croft, A. & Davison, R. (2006) *Foundation Mathematics.* Fourth edition. Harlow: Pearson Education Limited - recommended as a supplementary resource for any higher education students. It provides a methodical approach to the foundation maths topics covered in the first semester. Website:
   http://www.pearsoned.co.uk/highereducation/resources/croftdavisonfoundationmaths4e

   Check out the website to see how appropriate the textbook is for you before you consider purchasing.

2) At the level of Engineering Maths we will be aspiring to:
   Stroud, K.A. (2007) *Engineering Mathematics.* Basingstoke: Palgrave MacMillan - recommended as a core mathematics resource for first year students studying in the engineering, technical and scientific fields and useful in second year as well.

It is not necessary to buy these texts as there are copies available in the University Library once you have arrived.

You can also find other resources online, for example the 'mathcentre',
http://www.mathcentre.ac.uk .

What you can do once you arrive at the Penryn Campus

Finally, if you find from the exercises above that your maths skills are rusty or need further work, you have a couple of options open to you:

- Once on campus, make an appointment and talk over your maths issues either with me in CSM or with the maths adviser in our Academic Skills Centre (ASK).

- Make sure you take advantage of the extra optional 'foundation stream' maths classes available weekly, which are designed to go into the maths topic of the week at a more fundamental level and in a more informal setting, sitting around tables in groups rather than in the large lecture theatre.

Mathematics 1A topic list

1) Fundamental Algebra
2) Logarithmic and Exponential Functions
3) Equations and their solutions
4) Trigonometry and Waveforms
5) Basic Statistics
6) Introduction to Probability
7) Statistical Sampling
8) Introduction to Differentiation
9) Introduction to Integration

Note: Only one week of lectures (2hrs) and tutorials (1hr + optional) are devoted to each of the above topics, so that is a lot of maths to cover in a short time. **Be Prepared**

Workguide for the Maths Exercises provided

Using this workguide, attempt what you wish of the material provided.

To help you find out whether you are ready for the maths we will be studying there are a number of introductory topics that have been identified, some knowledge of which will help you make the transition from your previous maths experience. Each of these has a CSM topic sheet, "CSMxx_topic_title".

For each of the CSM topic sheets provided;

a) Read summary notes and attempt Worksheet 1 questions without looking at answers.
b) Check answers in answer sheet, 'CSM Answers'.
c) If happy go on to confirm your knowledge with Worksheet 2
d) Otherwise look at the other resources suggested below to help get you going on the topic.

Other Resources

If you are unsure of the concepts in any of these starter exercises, we suggest you make use of the recommended text book Croft & Davison and its associated website (see above).

Along with the CSM topic sheets there are several .pdf files from one of our partner universities in the Combined Universities in Cornwall (CUC), University of Plymouth (UOPxx_topic_title"), which provide some interactive notes and exercises. Try these out to see if they help and explore the on-line site given in the topic.

Also we have included part of an excellent text provided by the Open University which allows you to explore some of the very fundamental concepts of the maths you will need at CSM.