



Learning Support Service

1st Floor, All Saints Building
Oxford Road
Manchester
M15 6BH

Tel: 0161 247 3491

Minicom: 0161 247 3374

Fax: 0161 247 6852

E-mail:

l.support@mmu.ac.uk

Website:

www.mmu.ac.uk/lisu



Mathematics



Study Skills

Why is mathematics different from other subjects?

In order to learn mathematics more effectively we need to recognise some of the differences between mathematics and many other subjects.

Mathematics is written in a precise shorthand notation, so every word and symbol is essential to the meaning. Mathematics takes a lot of time to read and you cannot speed read mathematics. You need to understand every symbol and every line of text. You will find that symbols are usually defined where they are first used, so you can look up their meaning. Many texts and notes contain a glossary of symbols.

Mathematical skill and knowledge build piece by piece. A lesson usually requires knowledge of previous work. You cannot skip bits and dip in and out of courses and still expect to understand what is going on. Gaps in knowledge and understanding have to be filled in. Our understanding of concepts grows when we meet them repeatedly. Concepts get used many times.

Not many of us completely understand mathematical concepts when we first meet them. If you don't get it first time then don't worry, give it another go; professional mathematicians usually have to sit down with a text and go over topics at their own pace until they understand what's going on.

If you require any further advice, please contact your Faculty Student Support Officer. Contact details are available on the Faculty pages of the MMU website:
www.mmu.ac.uk

Text by Richard Cameron, Senior Lecturer, MMU
Department of Computing and Mathematics.

Preparation for tests and exams

- Keep up to date with your studies; it's more effective than last minute cramming.
- Test yourself by writing out definitions and doing problems without referring to notes.
- Redo problems if there has been a long gap since you last studied a particular topic.
- Understanding is the key to success.

Find out more about mathematics skills at:

<http://www.utexas.edu/student/utlc/lrnres/handouts.html>

<http://euler.slu.edu/Dept/SuccessinMath.html>

http://students.berkeley.edu/apa/staff%20training%20and%20development/handouts/math_study_skills.html

How to study mathematics successfully

1. Attendance at classes is essential.

Your lecturer will try to introduce new material in an accessible way by including extra explanation over what is in the notes.

You will have the opportunity to add to the course notes with your own notes.

You will have the opportunity in class to ask for further explanations, perhaps to help you fill in any gaps in your understanding.

Don't be afraid to ask questions in class; half the class probably want to ask the same question as you do.

You will often have the opportunity to do problems with help at hand from your lecturer.

2. Do the exercises that have been set.

Mathematics is learned by doing problems. Practice makes perfect. Problem solving of itself is a skill which will be useful in other areas of your studies.

3. Keep up to date.

Complete exercises that you have not done in class.

4. Use the learning resources that are available to you.

You will have access to course notes, worked examples, exercises and solutions.

The lecturer is there to help you. You need to be comfortable with showing the lecturer your work and asking questions.

In addition many resources are available in books and on the internet.



Doing Problems

- Read the whole question to get an overview of it.
- Read the question a second time to extract the information.
- Look for what information you have been given. In nearly every case, all the information has to be used.
- Determine what it is that you need to find.
- Work out how you are going to get the answer.
- Check your work. We all make silly mistakes.
- Review your answer. Ask yourself whether the answer is sensible in the context of the problem.
- If solutions are given to practice exercises, attempt the problem first then refer to the solution.
- If you've made a mistake, try to find your errors. If you can't find the error or don't understand what's wrong then ask for help.