Advice for students studying Mathematics and Statistics

First and Second year students regularly come to a member of staff for advice when they are struggling or after they have failed an exam. We normally chat to them about their experience of mathematics to-date and in particular, what a typical week would be and how they work on their assignment and study. While all students are different, the majority of students have quite similar difficulties. The good news is that some small adjustments can make a significant difference. We advise that:

1. Students should try material, before they ask for or get help. It is okay to make mistakes and to get stuck, this is how we learn. If you don't try questions on your own before looking at notes or getting help from someone else then you will struggle in the exams because you will not have learned how to deal with your difficulties independently.

2. Students should use their lecture notes and recommended textbooks as a first place to look for help. The majority of material asked in assignments will have been dealt with in class and in the textbook, after you have tried questions by yourself, you should always refer to these as the first step to help.

3. Working in a group with other students appropriately. *Advantage*: Some students can make the same mistakes over and over without realising it. We advise that students, especially those who are struggling, have some element of appropriate discussion on their material (ideas, approaches, methods etc.) as part of their study to help identify any regular errors. *Warning*: If you work in a group, and the first time you meet each week is the first time you start working on the material, then you are not getting stuck or learning from your own mistakes. Often one or two students, perceived to be good at maths, will lead these groups by showing the rest how to do the material. They usually pass while the others struggle in exams. Make sure you try the material by yourself before working in a group so that you know where are stuck beforehand.

4. Approach to doing continuous assessments. Focus your work on understanding the material rather than getting answers correct as quickly as possible. This means that your CA grades should be a good reflection of your understanding. It is far better in the long run to get an 'okay' CA grade where you understand the material rather than an 'excellent' grade of which you truly understand little.

5. Students should do 5 hours of independent study spread throughout the week (excluding CA work). A good way to do this is to pick one topic each week, perhaps one from an earlier part of the course, study the notes and related questions and try the examples yourself. When you have finished revising a topic, select around 5 questions and write them out on a separate page and the following week do them as an exam (*i.e.* don't use any notes!). Every week, you can revise a new topic and check your understanding of the previous week's material. The more practicing of examples (with solutions covered) you do while studying the better.

6. Students should use all the resources available to them. You should go to all your lectures and tutorials and use your lecturers' office hours. Staff are there to help you, please use them for advice. You should also use the MSC regularly; there are 27 drop-in hours each week, workshops and notes, online resources and advice documents from students (http://supportcentre.maths.nuim.ie/resources). The tutors are there to help you, they will advise you when you get stuck but will not do your assignments for you or check your answers.

7. Students take responsibility for their own learning. At any stage, if you are getting help with material and you know that you haven't tried it yourself, or you don't understand the explanation (which is normal) but you say that you do, then you are not gaining from that help and you need to take responsibility for your own learning in those situations.