



**UCD Maths Support Centre  
University College Dublin  
Report on Academic year 2010/11**

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## Executive Summary

The Mathematics Support Centre (MSC) offers support in mathematics to students throughout all programmes in UCD not just those studying mathematics. This includes students at all levels from Access to PhD students and assists New Era, Mature students and students with disabilities. Students from 56 out of a total of 81 programmes throughout the University attended the MSC in 2010/2011. This represents almost 70% of the total undergraduate programmes in UCD.

Many of these students were international students. They represented the following countries: Austria, Azerbaijan, Belarus, Brazil, Bulgaria, Canada, China, Egypt, England, Finland, Germany, Hungary, India, Iraq, Italy, Kenya, Kuwait, Latvia, Libya, Lithuania, Malaysia, Manx, Moldova, Nigeria, Pakistan, Poland, Romania, Russia, Saudi Arabia, Singapore, Spain, Sudan, Scotland, the Ukraine and The United States.

The MSC assisted New Era by developing and delivering mathematics workshops for New Era students coming into UCD August 2010. The Manager spoke to many incoming students at their orientation with the help of the student advisers.

The Manager instigated a targeted publicity drive that resulted in a further increase in the usage of the MSC over the last academic year. (See Figure1: Number of visits to the MSC.) There were a total of 4293 visits to the MSC in this academic year an increase of 122%. There was also a significant difference in the average time that a student spent in the MSC. It increased from 61 minutes to 70 minutes

An extensive evaluation process of the MSC and its staff was carried out in Dec 2010 and May 2011. The results of this were very encouraging and were very positive in relation to the tutoring work of the MSC but notably negative when responses related to the size of the venue, inadequate opening hours and insufficient tutors. (See 4. Students' descriptions of their experience of using the MSC.)

The first year (2007/2008) UCD funded the MSC, 1400 students attended. In 2010/2011 this had risen to 4293 students. This is a substantial increase in both numbers but also in the average time a student attended the MSC. The ability of the MSC to cater for these increases is now a major concern for the Centre. This year it was only made possible by the increase in budget allocated to the centre by Dr Philip Nolan. (See 1.9 Funding).

In conclusion the MSC is currently more than fulfilling its stated aims. Students show a very high level of satisfaction with the mathematical support provided. However a larger area; extended opening hours and an increase in the number of tutors need serious consideration. To continue coping with the increased demand an increase in the MSC budget will be required in 2011/2012.

We believe that the MSC represents a model of best practice for the provision of support within UCD.

# 1. Introduction

## 1.1 *Origins of the Maths Support Centre (MSC)*

In 2003 the Department of Mathematics secured Higher Education Authority (HEA) funding for the establishment of the UCD Maths Support Centre. A manager was appointed in February 2004 and the Maths Support Centre was opened on 16<sup>th</sup> February 2004. Further HEA funding was sought and awarded in 2004 and 2005. A full-time manager was appointed in September 2007. University College Dublin has funded the MSC since that date.

## 1.2 *Aims of the MSC*

The Maths Support Centre aims to:

- Provide mathematics support for undergraduate students of all mathematical abilities, on a one-on-one basis, in a friendly, relaxed and informal atmosphere.
- Enable students who are experiencing particular difficulties in mathematics to overcome their fear of the subject, take control of their own learning and build confidence in their own mathematical ability.
- Ease the transition of first year students from secondary-level to tertiary-level mathematics.
- Provide targeted mathematics support for Access students, New ERA students, mature students, and students with disabilities.
- Increase the effectiveness of the MSC by evaluating the MSC's activities and communicating and co-operating with other mathematics support centres in Ireland and the UK.

## 1.3 *Services provided*

The MSC provides a range of services including:

- Dedicated drop-in centre staffed by friendly and supportive tutors.
- One-on-one tuition or group-tuition as required.
- Supervised study.
- *Hot Topic* tutorials.
- Relevant textbooks and handouts.
- Web-based learning materials including self-diagnostic tests.
- Directed link on Blackboard to the MSC.
- Practice sheets covering problem areas for Access and Level One students.
- Computer access to Blackboard

## 1.4 *Staffing*

The Director is a member of staff from the UCD School of Mathematical Sciences. A full-time manager currently staffs the MSC. The majority of tutors employed are postgraduate students studying for PhDs in Mathematics, Finance, Mathematical Physics or Statistics. This year a number of the MSC tutors completed their PhD studies and were no longer available for work in the MSC. For this reason the MSC needed to employ new tutors. These

positions were advertised internally. Interviews were held and a number of new tutors appointed. (For students' comments see 3.6 Students' opinions of the MSC staff)

### **1.5 *Improving facilities and coping with increased numbers***

The MSC was initially set up in a small office on the second floor of the John Henry Newman Building. The location was unsuitable as it was not centrally located or of sufficient size to cater for the numbers attending. In 2006/2007 the MSC was relocated to a pleasant room with a large window situated on the ground floor of the Physics building. However, due to development of that area, a smaller room in the Science Lecture Building was allocated to the MSC in 2007/2008. Two years ago the small room size was a major concern for the MSC. We would like to thank Dr Philip Nolan for allocating a budget to allow us to extend the room and also to thank Dr Anna Kelly for agreeing to allow the MSC to extend into the adjacent office which had previously been occupied by the Office of Access and Lifelong Learning. This year the lack of space has again become a major issue for the students. Due to development of this area the MSC will once again have a change of venue and we are hopeful that present discussions will lead to the provision of suitable area with larger accommodation. As in previous years lecture rooms are used in the lecture buildings in the evenings and at end of semesters when required for larger group tutorials.

Office space for the manager, with a computer and facilities such as a printing and photocopying, is situated in the School of Mathematical Sciences. This allows the manager of the MSC to carry out her managerial function.

The MSC has a laptop used by staff and students while working in the MSC and also a separate computer used by students solely for the purpose of logging in and out each visit. This year four new notebooks were purchased and have had extensive use.(See 1.6 Record Keeping)

The MSC has once again increased its library of suitable books on mathematical topics thanks to gifts from lecturers in the School of Mathematical Sciences. Both tutors and students avail of these while in the MSC. UCD library have been very helpful in ordering certain textbooks that have been found to be especially useful for students attending the MSC.

An increased number of worksheets containing sample questions, and also some extra notes were available in the MSC this year. These have been developed by the MSC tutors on topics that they have found to cause particular difficulty for students. A number of leaflets on integration and differentiation, statistical formulae and other mathematical physics formulae have also proved very popular with students. These leaflets are produced by The Higher Education Academy in the UK and have been very generously provided to us free of charge.

### **1.6 *Record keeping***

Data relating to all students attending the MSC has been maintained for the last four years. In the second semester 2009/2010, a very successful student log-in log-out system, developed by the Manager and Dr Brendan Quigley from the UCD School of Mathematical Sciences, was introduced. This allowed student data which was previously recorded on an attendance sheet and manually uploaded to a database, to be registered

directly to the database. Tutors then recorded the student number and a description of the topic covered on a handwritten sheet and the database was then manually updated. However this was still very time-consuming.

This year saw a further improvement and refinement of the programme. With the purchase of four notebooks, tutors could log in to the database and update the topic covered as they finished the session with each student or students. This was further developed with a significant benefit in that lecturers could now log on to the database on a daily basis and see the current problems that their students were presenting at the MSC. Confidentiality was maintained and identities of students were not available.

Evaluation originally filled in manually by the students has been online for the last three years.

## **1.7 Accommodation and opening hours**

The MSC remained open throughout the year. The MSC operates on an appointments only basis throughout the holidays and students who, for example have not passed exams or perhaps may have exceptional circumstances, avail of this one-on-one tutoring.

It opened officially on a drop-in basis for 2010/2011 semester on 20<sup>th</sup> September 2010.

There were 12 weeks for drop-in services in both semesters. These included both the revision and assessment weeks. It was open by appointment outside these times. Opening times were as follows:

- Mon/Tues/Thurs 10:00 to 13:00 and 14:00 to 17:00
- Wed 11:00 to 13:00 and 14:00 to 19:00
- Fri 11:00 to 13:00.

Despite the extra tutoring hours, the major problems this year have been the restricted area of the venue and the opening hours. Many students, while praising the high level of tutoring, were critical about the overcrowding and the length of time they had to wait for a tutor. (See 4.12: Size of room, opening hours, number of tutors and resulting concerns). This was more evident approaching study weeks and first week of exams. (See Figure 4: Number of visits per week). Students' comments from our own evaluation and also the UCD returns to the national questionnaire of Irish Maths Support Learning Network (IMSLN) have indicated that despite the extra tutoring hours we do need to extend the MSC opening hours from 5pm to 8pm for an extra night each week next year. This would be required to satisfy the needs of those students whose schedule does not allow them to attend at our present opening hours. The necessary move of MSC to a new venue as a result of building construction for the Science block should be the ideal opportunity to enlarge the accommodation.

The MSC booked an extra room in the same building during study weeks and the first week of exams. Whilst the extra space allowed more students to be accommodated, an unacceptable pressure was placed on the MSC tutors as funds did not allow for extra tutors at this time.

In addition the MSC held *Hot Topic* and Revision tutorials were held in the evenings due to lack of availability of lecture halls during the day. (See 4.8 Hot Topics)

## **1.8 Publicity**

Second level students are informed of the Mathematics Support Centre services in UCD through the Qualifax website which is the National Learners website organised by the Guidance Councillors of Ireland. Also those answering queries on the Leaving Certificate helpline were informed of the MSC. This was to allow them to reassure students worried about third level mathematics that extra mathematics help would be available in UCD for any student who required it.

The Manager also contacted all the Student Advisers early in both semesters informing them of the venue and the new opening hours of the MSC. Students attending orientation, with the assistance of the student advisers and peer mentors were specifically targeted. These included international students, mature students and students with disabilities. The students were given information about the assistance provided by the MSC, its location and webpage, and were informed that it was a free service for all students in UCD. It was emphasised that the MSC was not a grind centre and that students would be expected to carry out the work themselves but given as much help from the tutors as they needed. They were told that students of all levels of ability attended.

In order to further publicise the MSC, and in particular for those actually taking mathematics as one of their modules, the Manager (with the agreement and support of the lecturers) visited first year mathematics lectures at the beginning of the semester. The students were told that the MSC did not replace lectures or tutorials but was an extra facility provided for all students to enhance their performance in mathematics and in particular for those finding problems with their mathematical studies. The students were also reminded by the lecturers both in lectures and on Blackboard of the benefits of using the MSC. This once again proved to be a highly effective strategy and an important factor in the attendance of students at the MSC. Other forms of advertising used were posters, plasma screens and flyers. (See 3.2 Knowledge of existence and purpose of the MSC)

## **1.9 Funding**

The MSC initially received HEA funding for three years. Since September 2007 the MSC had been funded by UCD with an annual budget. The majority of this funding paid for the staffing costs of a full-time manager and post-graduate tutors and a small balance goes towards the purchase of necessary equipment and stationery. However this year there was a percentage decrease in the funding (total funding € ) and it was realised that it would not be possible, with the on-going increase in the number of students and more significantly the increase in the average time per student, to provide the level of service required. The 2009/2010 MSC Report concluded

*Students show an extremely high level of satisfaction with the services provided. However they have expressed considerable dissatisfaction with overcrowding, despite the increase in size of the venue. The inability to increase the opening hours arises from a lack of adequate funding needed to employ further tutors. This will be the main restriction to maintaining the professional operation of the MSC and will certainly curtail the further growth of the MSC.*

The Report recommended that

*The ability of the MSC to cater for the large increase in numbers is now a major concern for the centre. To continue coping with the increased demand an increase in the MSC budget will be required for 2010/2011.*

This year we would like to thank Dr Philip Nolan for providing extra funding (24,999?) to allow the MSC increase the number of hours of tutoring and provide increased number of Hot Topics sessions.



However, overcrowding was a problem on many occasions this year despite the extra tutors. The annual attendance at the MSC has once again increased (See Figure 1: Annual number of visits to the MSC). Average annual numbers attending the Centre prior to UCD funding the centre were approximately 700. UCD first funded the MSC in 2007/2008 when 1,400 visits were recorded. This year the number of visits amounted to 4291. It is essential that budgets allocated to the MSC be realistic and continue at the same level or if possible increased. As already stated the ability of the MSC to cater for the large increase in numbers was a major concern for the Centre at the beginning of this year and the effective running of the Centre was only made possible by additional funding from Dr Philip Nolan. If the MSC is to extend its hours to an extra evening opening it will need funding over and above the total funding it received last year.

### **1.10 Conferences and papers**

ICEPPaper\_2010 Naughton, M., Curley,N., Carthy,T.J. and Kechadi T.(2011) "Third-Level Specialised Support Centres: *Their impact on student success*".

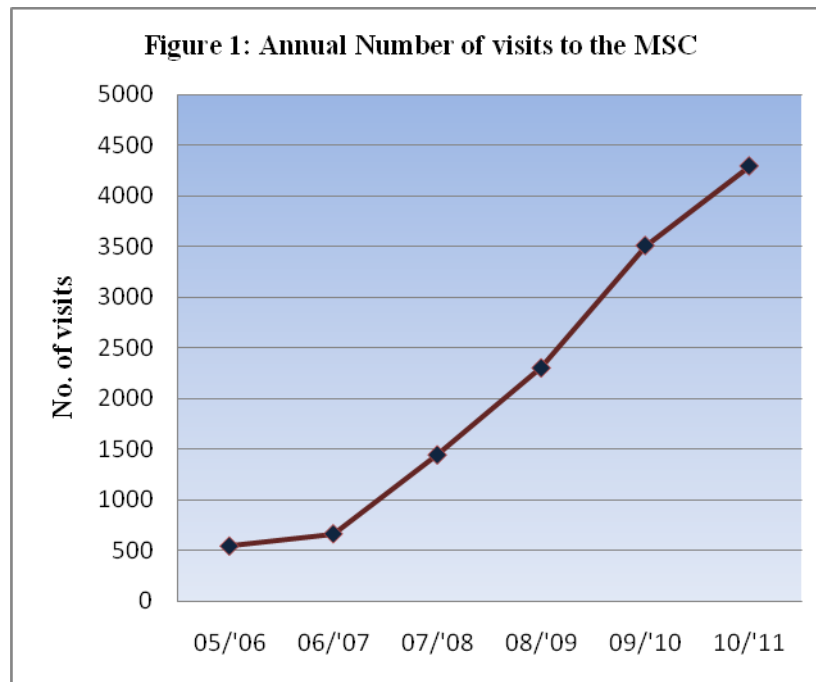
5<sup>th</sup> Irish Workshop on Maths Learning and Support Centres. (2011) Curley, N. "Adapting Maths Support Centres to Webwork."

Meehan, M. and Curley, N. "The role of mathematics Support in managing the transition to third level at University College Dublin."

### **1.11 Awards and special recognitions**

## 2. Mathematics Support Centre usage

### 2.1 Visits to the MSC since 2004



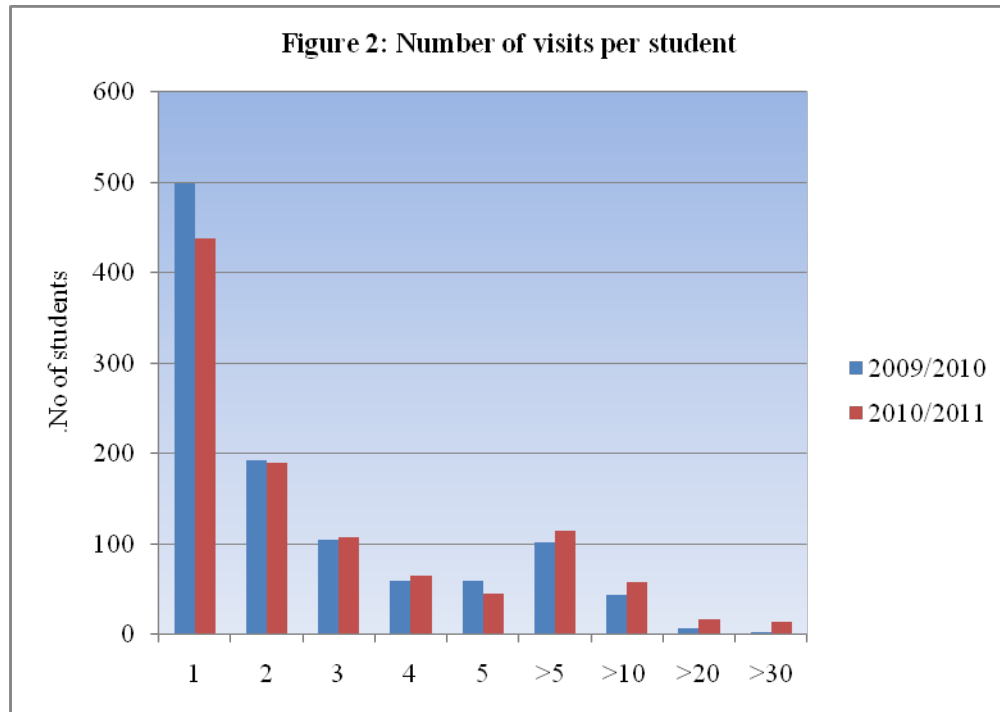
The number of visits to the MSC (see Figure 1: Annual Number of visits to the MSC) grows steadily each year. In 2010/2011 the number of visits to the MSC was 4293 and this is 122% of last year's total. Despite the improvement in the number of tutors employed this put severe pressure on the staff of the MSC to cope with the number of students attending. The number of hours that we could open was limited by our budget. The effective running of the MSC was only made possible by the increase in our budget through the financial assistance Dr Philip Nolan. (See 1.9 Funding).

### 2.2 Programmes using the MSC

When the MSC was established in 2004, it was expected that the majority of visitors to the centre would be first year students enrolled on a mathematics course/module. While a significant number of visitors to the MSC in 2010/2011 still fit this profile, we have again observed a "new" type of visitor. Students from programmes such as Medicine & Architecture, where mathematics modules are not core, are attending the MSC with mathematical problems/ issues they meet in non-mathematics modules. We are delighted to see these students attending as they are testament to the success of the MSC in publicising its services, and illustrate the service we offer to all UCD students. Students from 58 out of a total of 83 programmes spread across the University attended the MSC in 2010/2011. This represents almost 70% of the total undergraduate programmes in UCD and demonstrates the essential requirement for many students in UCD to have a good grounding in

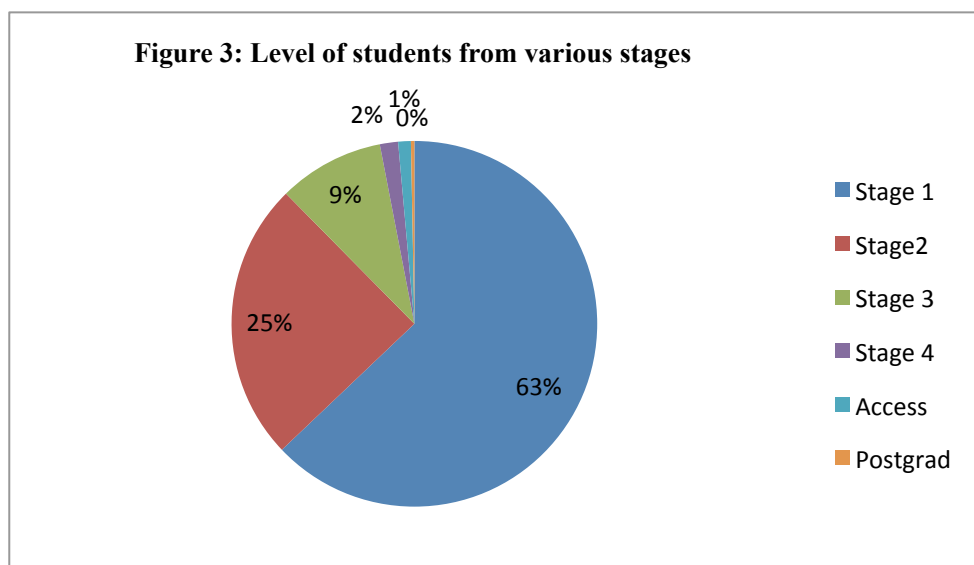
mathematics. Students studying Actuarial and Financial Studies, Architecture, Arts, Agriculture, Commerce, Chemistry, Computer Science, Economics, Engineering, Mathematics, Mathematical Physics, Medicine, Physiotherapy, Psychology, Radiography, Statistics and Veterinary Nursing were some of those tutored by the MSC this year. (For students' comments see 4. 5 Usage of MSC by programmes throughout UCD)

### 2.3 Number of individual student visits and average time of visits



The total average time spent by a student in the MSC in 2010/2011 was just over 80 minutes. This is 9 minutes longer than the average time last year. This resulted in a significant increase in the required tutoring time. The median number of visits by a single student increased from 2 visits last year to 4 visits this year. The number of visits by any one student ranged from 1 to 87 visits with 42% of students visiting just once a decrease from last year. The marked increase in the number of the individual students who visited 5 times or greater (14% last year to 19% this year) was significant. The number of students visiting the centre this year (1048) was a decrease on last year at (1069). A possible explanation for this supported by a student comment, could be the increased length of the average visit and the number of visits which lead to overcrowding at times may have persuaded students with a lesser significant problem to seek elsewhere for the answer. (For students' comments see 4. 12 Opening hours and resulting concerns)

## 2.4 Percentage numbers of students from various levels



Students from first level formed the majority of attendees at 63% of the total number. This was 10% less than their percentage last year. But the increased number of visits still resulted in a greater number of first year students attending compared to the previous years. Second level increased from 20% to 25% and there was a noticeable increase in students from third level from 3% last year to 9% this year. The latter increases are probably due to the knowledge of the existence of the MSC by these students compared to students in previous years. Access students, with a decreased percentage, made up 1%. Many Access students are working during the day and find the present opening hours difficult. This is a further reason for an extra late evening opening.

## 2.5 Equality of opportunity

The continued close co-operation between the Student Advisers and the MSC has proved to be very effective. The MSC and the Student Advisers were in frequent contact during the year. Once again this year, the MSC developed and delivered six mathematics workshops for the New Era Orientation programme in August. These were for those students who were entering academic programmes with some mathematical element. They were organised at a higher and lower level. The first, which was for those students coming in with Ordinary level LC (Leaving Certificate), was a basic mathematics workshop. For the higher level LC students the MSC had a statistics workshop. The percentage number of mature students, (calculated from returns on evaluation forms) were 26%. A further benefit that ensued from these courses was the familiarity of the students with the MSC tutors which meant they had no qualms attending the MSC when they needed its services.

The Manager also spoke to the mature students at Orientation informing them of the MSC facility and advising them of the self-assessment tests on the MSC website. These are designed to help students revise their second level mathematics. Mature and Access students may either have forgotten a lot of the mathematics they once knew or else may not have reached the required standard. The MSC had a large attendance by mature students both at Access and undergraduate level and even postgraduate level. These students are normally well

motivated but need the assistance which can most effectively be given on a one to one basis. This however can be difficult when the Centre is busy. In light of the current financial situation in the country the number of Mature and Access students may rise and the support given by the MSC could be a critical factor in allowing them to complete their programme to degree level.

The Manager gave an information briefing to students with disabilities at their orientation day.

## **2.6 *Visits to the MSC by international students***

The MSC had a desk at the orientation day run by the international office. Many medical students are international students and the manager and at the initiation of Carl Lusby, student adviser for international students, medicine and biomedical the manager spoke to the incoming medical students at their orientation.

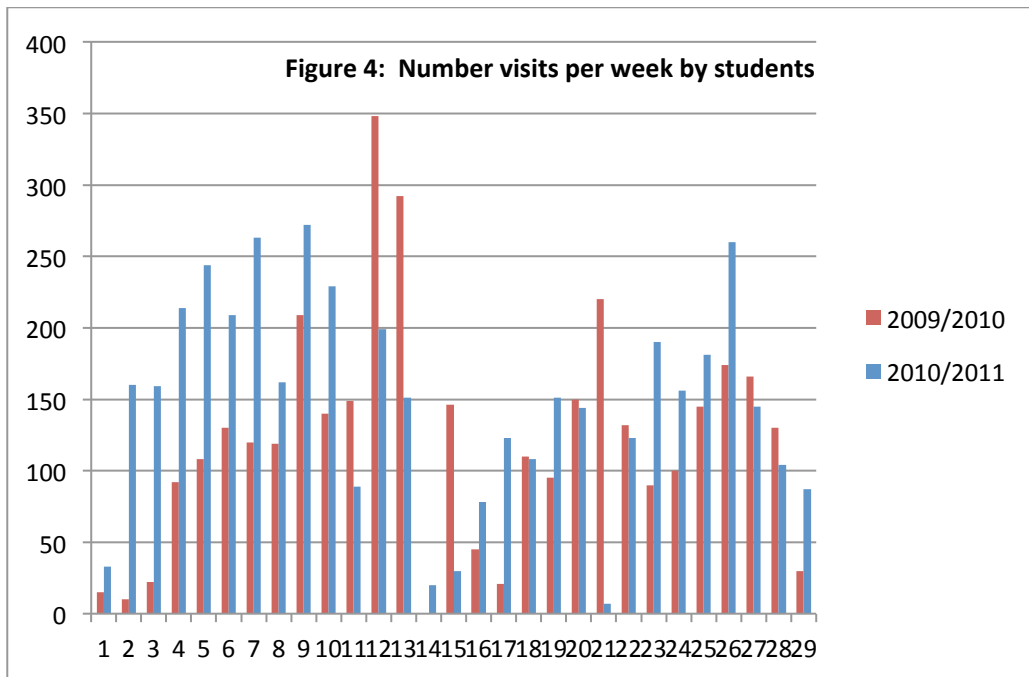
What was evident from our data this year was the surprising number of different nationalities who attended the MSC last year.

The countries represented were the following:

Austria, Azerbaijan, Belarus, Brazil, Bulgaria, Canada, China, Egypt, Finland, Germany, Hungary, India, Iraq, Italy, Kazakhstan, Kenya, Kuwait, Latvia, Libya, Lithuania, Malaysia, Manx, Moldova, Nigeria, Pakistan, Poland, Romania, Russia, Saud Arabia, Singapore, Spain, Sudan, UK, US and the Ukraine

## **2.7 *Weekly visits to the MSC in 2008/2009 and 2009/2010***

The number of visits as expected was lower at the beginning of each semester but increased over the course of the semester. Due no doubt to the fact that students were unaware of their difficulties early on but as the coverage of the module increased and mid-term examinations approached the students realised they needed the extra support. Another factor that was most noticeable at the beginning of this semester 1 was that when students had to email for an appointment, smaller numbers attended. This emphasizes the importance of having the MSC open on a drop-in basis. The percentage increase in numbers was maintained in the second semester. The number of visits per week for 2008/2009 and 2009/20010 is shown in Figure 4. Semester 1 & Semester 2 student visits.



## 2.8 Identifying areas of greatest need: developing Hot Topics

If lecturers or students identify particular areas in which students are having difficulty, the MSC design and deliver Hot Topics in these areas. Hot Topics are normally two hours in duration, held in evening times and lecture rooms are booked for these sessions. This year Hot Topics were run for Business maths, statistics and calculus courses. The Hot Topic sessions in calculus were particularly well attended and were run as a workshop where a topic was briefly covered by the tutor and students were then given some problems to work with under the supervision of extra tutors. (For students' comments see 4.7 Hot Topics)

## 2.9 Retention figures

Students who get help in time can be prevented from failing and possibly dropping out of college. However retention figures are difficult to quantify. First year students often need that extra help with basic mathematics which they may have either forgotten or never understood. Once they get this basis they can build on it to a higher level. (See 4.5 MSC assisted the retention of students.)

Often you will hear very able students remark that they could never do "maths". This lack of confidence in their mathematical ability and the related stress may also be a factor in causing them to drop out. Yet with the right help they can move on to at least be capable mathematically and hopefully to enjoy it. Sometimes it is just that they need the extra support to adjust to third level and are often shy about looking for help. One-on-one is particularly important for these students. (See 4.8 Students benefited from one-one-help.) It is essential that the MSC is seen as someplace where you can always go no matter how low you feel your level of understanding of the module may be. Many students commented on the importance of the MSC in helping them gain this confidence. (See 4.11 Increased students' confidence.)

### 3 Evaluation of quality of service provided by the MSC

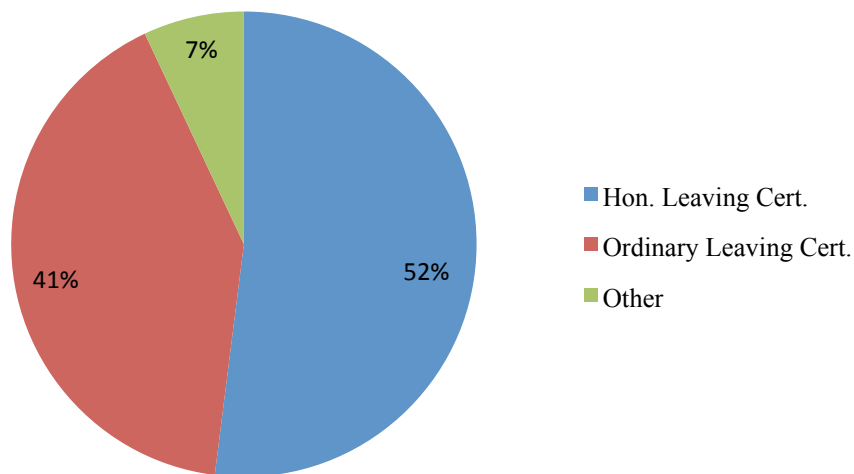
Once again this year the MSC Evaluation Form was put on line and students who had attended the MSC 2009/2010 were emailed in Dec 2009 and May 2010 to inform them of the address of the site on which the form could be found and were encouraged to complete the evaluation. This chapter summarises the results of this survey.

#### 3.1 *Level of student attainment in mathematics prior to third level*

In response to this question 51% of students stated that they had taken the Higher Level Leaving Certificate (LC) in Mathematics this was an increase of 12% over last years numbers, 41% the Ordinary Level LC and the balance at 8% were composed of students with various other qualification examinations from Fetac level to postgraduate level.

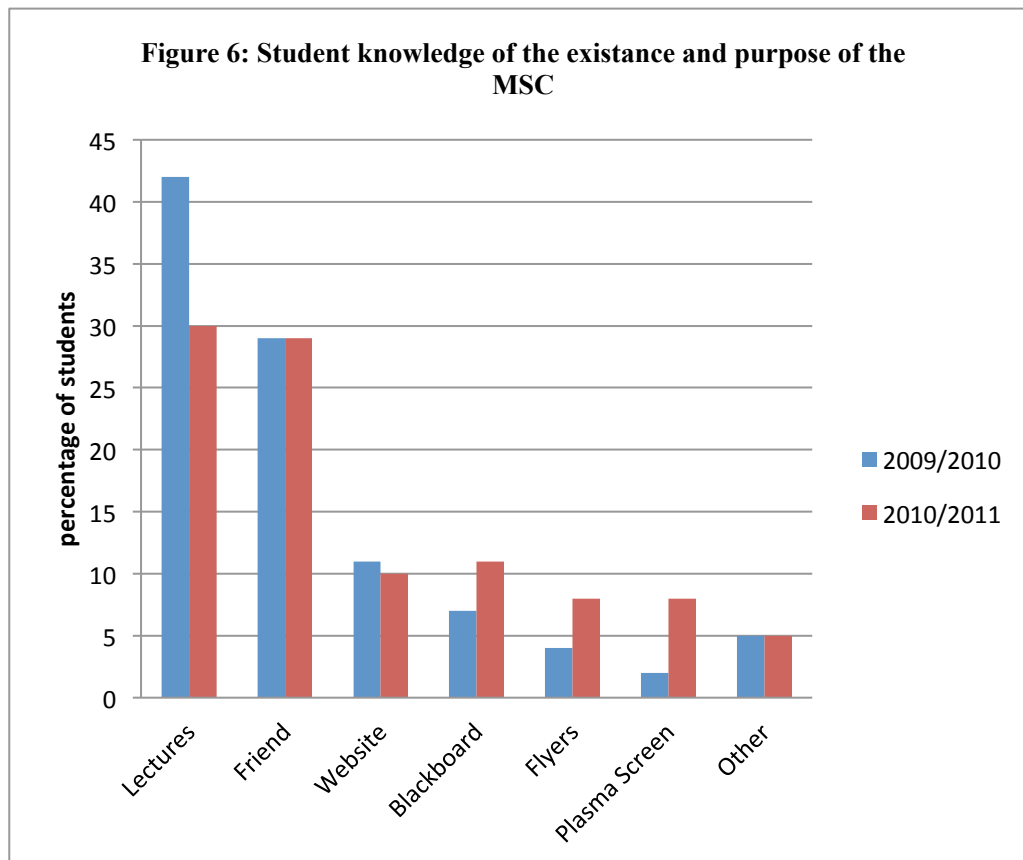
Of those who took the Higher Level LC 25% obtained an "A", 43% obtained a "B" and 25% a "C" whereas of those who took the Ordinary Level LC, the greatest number at 44% obtained a "B" with 31% obtaining an "A". This was an interesting result as it indicated that there was a marked increase in the number of students with higher prior level of achievement attending the MSC last year as compared to other years.

**Figure 5: Students' prior level of mathematical attainment**



### 3.2 Knowledge of existence and purpose of the MSC

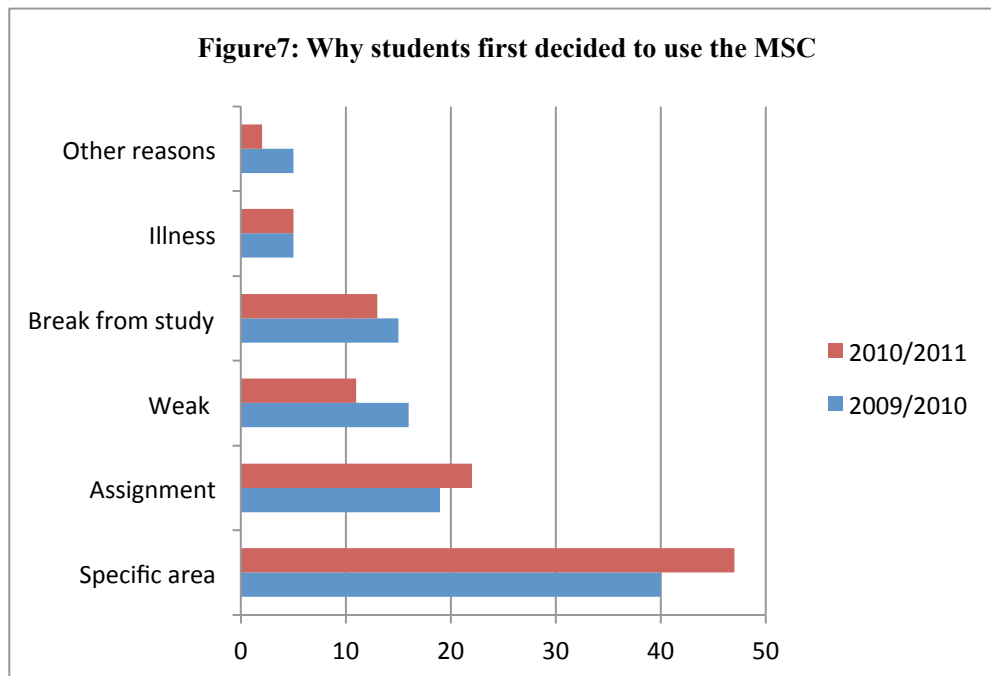
The students were asked to tick one or more ways in which they had found out about the MSC. The recommendation and reminders by lecturers, as in previous years, were an important factor in encouraging students to attend the MSC though not as significant as in previous years. 30% of students indicated in the Evaluation Form (see Appendix 2: Evaluation Form) that they had heard of the MSC at lectures. What was an almost equally significant method was word of mouth i.e. being informed by a “friend”; this method at 29% remained unchanged from last year. The importance of this in advertising the MSC has been further backed by the answers given to the question asking “Would you recommend the MSC to a friend?” This year 100% said “yes”. The benefit of Blackboard, plasma screen and flyers advertising had all also increased this year and were all equally effective. The collaboration with Josh Clark in the Library and with his agreement to the placing of flyers there was a major factor in doubling their effectiveness.





### 3.3 Why students first decided to use the MSC

Respondents were allowed to indicate multiple reasons if applicable. Approximately 47% per cent indicated their attendance was motivated by needing help in a specific area. This was a significant increase over last year's value at 40%. Often a student might have a problem in a particular area that could be resolved in a single visit to the MSC but for other students the area could be a significant part of their module and require a number of visits. 22% stated that attendance was motivated by a tutorial/assignment/project to hand in, this was a small increase over the previous year. 11% felt their background in mathematics was weak this was significantly lower than last year and might be explained by the higher level of prior mathematical attainment of the students attending the MSC in 2010/2011. See Figure 5: Students' prior level of mathematical attainment. Other reasons had multiple responses. Among these were the following: a need for more confidence, lack of understanding lectures, needed help with statistics and exam preparation.



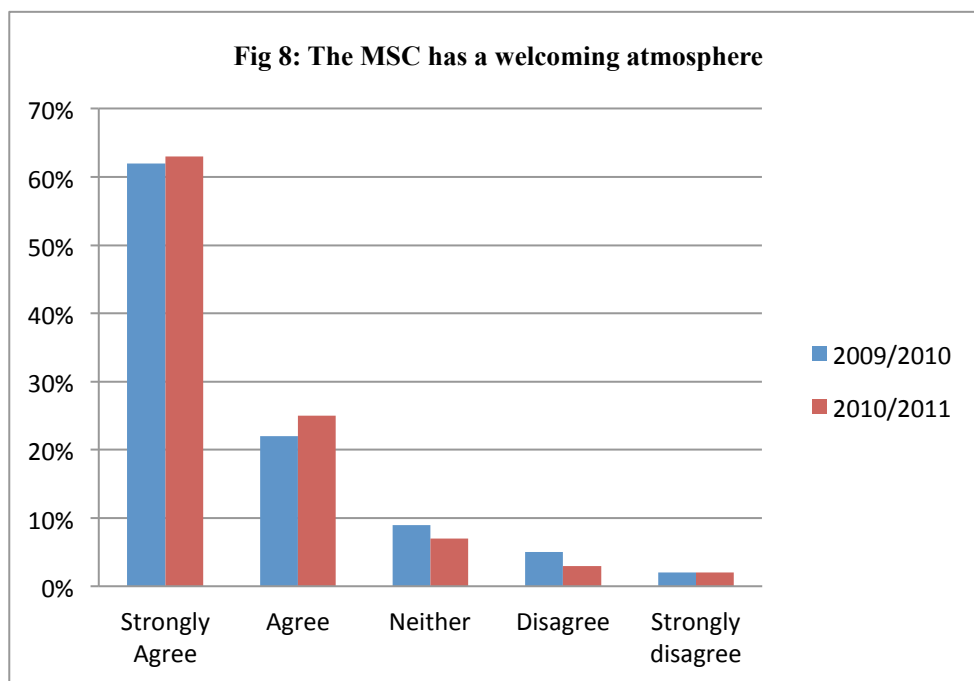
### 3.4 Students' opinions of the MSC

The respondents were asked for their opinions on various aspects of the MSC using a five-point Likert item.

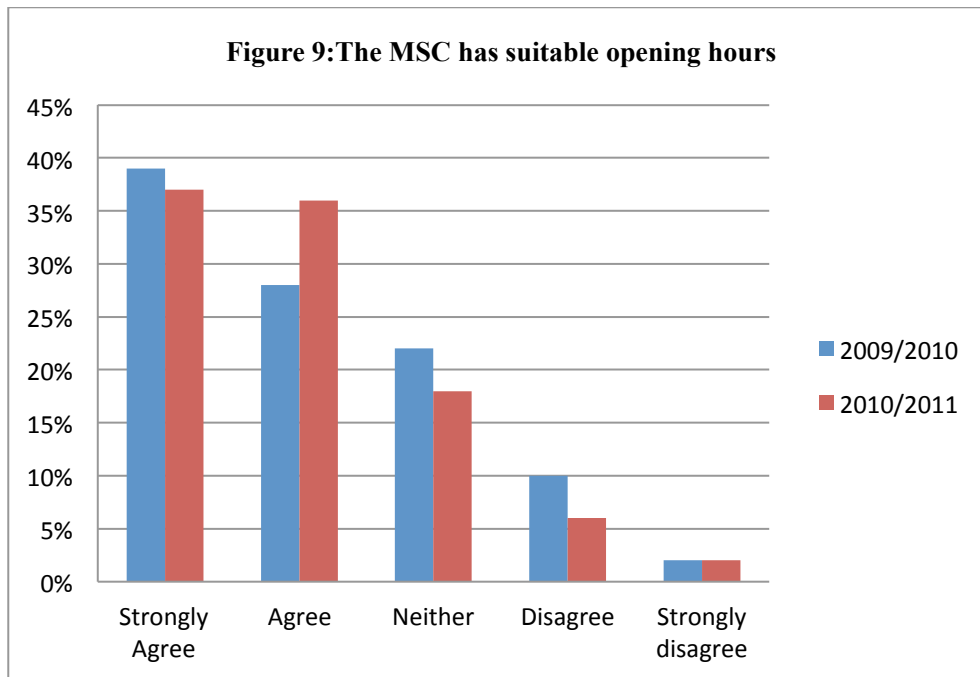
The questions were as follows: Did the MSC

- Have a welcoming atmosphere?
- Have suitable opening hours?
- Encourage students to work with other students in their class?
- Provide a relaxed place to study?

The following charts describe their replies.



The welcoming atmosphere of the MSC is a critical factor in encouraging students to attend. Students may often be quite nervous coming in for the first time. As shown 88% of respondents agreed or strongly agreed that the MSC has a welcoming atmosphere. This increase over last year's values despite the increase in the number of students attending and the considerable increase from 71 minutes to 81 minutes in the average time per student is very pleasing. The increase in the budget for the MSC last year allowing the provision of greater opening hours and an increase in the number of tutors was the most likely contributing factor. (See 4.2 Friendly and supportive tutors)

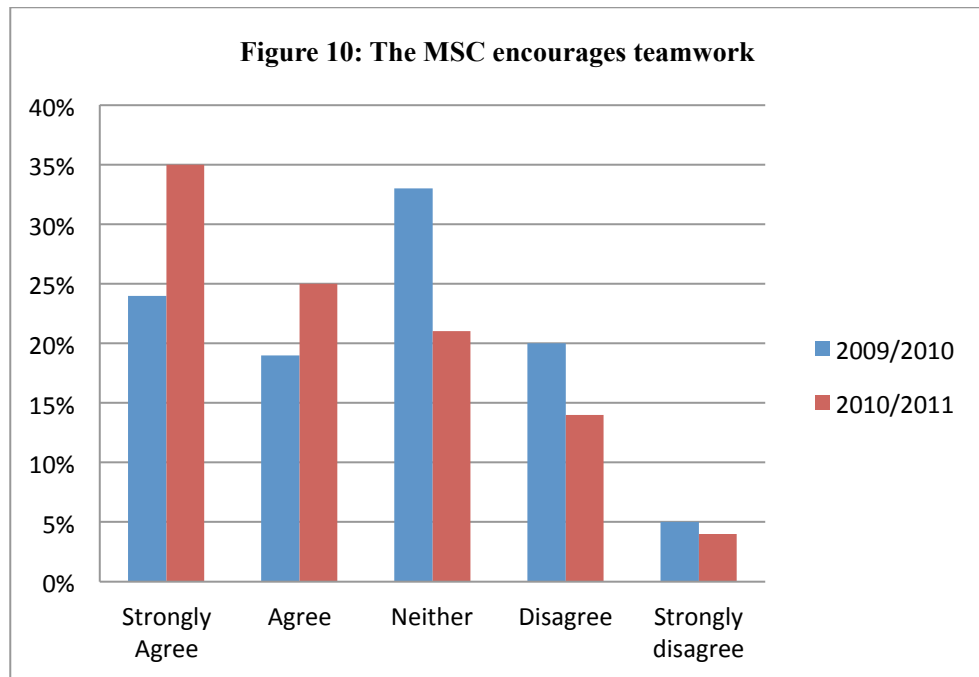


There was an overall increase in student satisfaction with the opening hours 73% this year over 67% last year. This was only possible as a result of the increased budget. Without this the MSC could not have catered for the numbers wishing to attend and many would have had to be turned away when the room was full. Indeed a number of students stated in the evaluation that the centre needed longer opening hours.

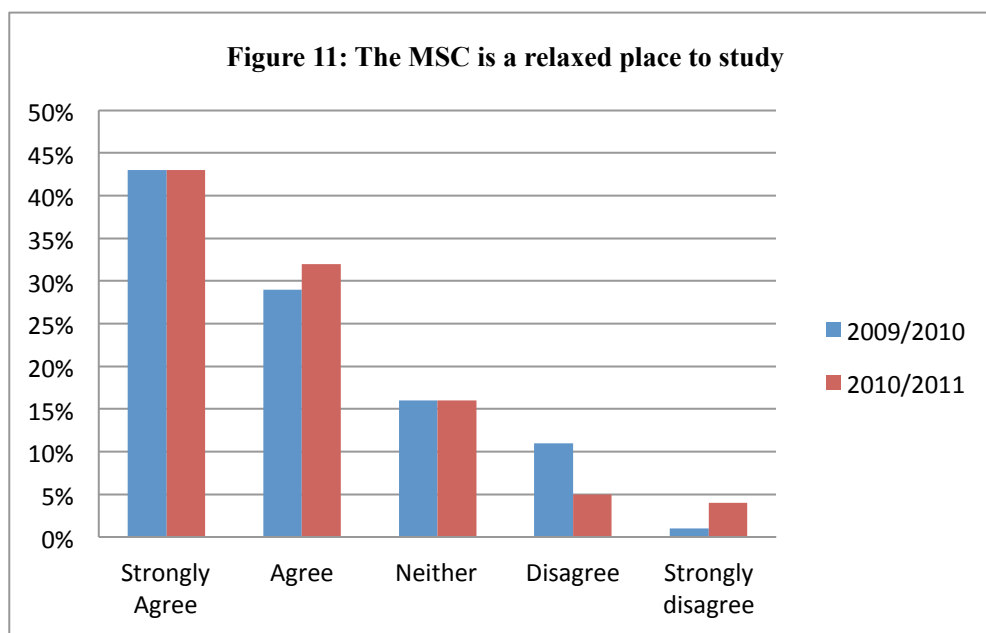
As it stands budget restrictions and the capacity of the room does mean that the MSC cannot satisfy the growing need of assistance with mathematics that students in UCD require. Without a realistic budget we cannot hope to provide enough hours not only for our steadily increasing numbers but also for the significantly increased average time required by the students. The majority of negative comments emphasized the confined space and unsuitable opening hours. The unsuitability of the opening hours particularly concerned Engineering and Access students. Engineering students have a very full timetable during the day and many Access students are working full time and therefore these students and many others in similar circumstances are only free to attend in the evening. The manager feels that an extra evening opening time of 6pm to 8pm is a requirement but even with the increased budget last year this will not be possible.

Other problems were related indirectly to this. Certain topics beyond first year require an understanding not just of the mathematics involved but also the area of study, for example economics. The MSC recommends students to come at specific times for these subjects but with our restriction on tutors these times are very limited and may not suit a student's timetable. (For students' comments see 4.12 Opening hours and resulting concerns)

The manager has taken on board these comments but is only in a position to implement these improvements if it is possible to employ additional tutors and thus be in a position to extend opening hours.



The tutors try to encourage small groups of students to work together. If students from the same module come in to the MSC they would, if possible, be taken together and then encouraged to remain and work with each other in solving further problems. It was hoped that they would continue this group work outside the MSC. At 60% agreeing that the MSC encourages teamwork the number is significantly increased and it appears our efforts in this direction are paying off. This was helped this year by the increased time we were able to give the students when they came to us in small groups as a result of the increase in the number of tutors. Indeed it also became evident that our Hot Topic sessions were a very effective method to increase group participation. However to encourage students to work together a larger venue is critical. The Manageranager would recommend that this be given a high priority when choosing the new accomodation for the MSC.



Teaching in the MSC is difficult due to background noise from multiple simultaneous teaching sessions and this was exacerbated this year with the noise of the building construction directly outside. Despite these environmental restrictions, there was very little difference from last year’s values. 75% agreed or strongly agreed that it was a relaxed place to study. The room size was a critical factor for both students and tutors alike. Many students in the evaluation mentioned the room was too small, at times it was difficult to get a seat and waiting times could be long. This was especially true coming up to study weeks and exam time. In these circumstances it can be very claustrophobic and difficult for students to study on their own while waiting for a tutor. Furthermore this can cause students who might wish to come to be discouraged from attending in particular the more anxious student.

In the opinion of the manager opening the centre on an appointment only basis would strictly limit the number of students who could attend and as some student might require five minutes while another an hour or more it would be very difficult to run with effective use of resources.

Another aspect which is limited by the size of the room is that a number of students express the wish to remain in the MSC after a session to carry on with their study and have guidance as needed but due to the limited space available this is not always possible. It is critically important that the room size be increased in the forthcoming move to new premises.

### **3.5 Had the student passed the module for which they sought help**

The percentage pass rate of 97% as given in the evaluation forms was up on last year’s rate of 94%. Some students thanked the MSC for the help they received and remarked that thanks to the MSC they had passed their mathematics modules. Some indicating that without the assistance given to them they would not have survived first year. One student stated that they had attended only once, found it was extremely helpful but didn’t pass as it they came too late. (See 4.4 MSC assisted the retention of students)

It is very important that the MSC is also viewed as somewhere that students can attend to lift their standard to the highest level and where they can receive a first class grounding in their mathematics module. The MSC aims to increase the level of a student's understanding of mathematics and it was pleasing to note that some students commented on the fact that it was not just a question of passing their modules but increasing their mathematical understanding and developing their interest in mathematics. (See 4.9 MSC increased students' understanding and encouraged independent learning.)

### **3.6 *MSC tutors***

The importance of the quality of tutors employed in the MSC cannot be over stated. The comments on the Evaluation forms have clearly demonstrated not only the exceptional ability of these tutors to communicate their knowledge but also the encouragement and support given by them to the students attending the MSC.

This year we would like to look at some of the benefits the tutors gained by tutoring in the MSC. Naturally the most obvious benefit is that it helps support PhD students financially. The second benefit is that the tutors retain a great grounding in their basic mathematics. Lastly and most significantly if these tutors are eventually to become lecturers they will have an excellent understanding of the problems experienced by undergraduate students.

This year in particular the tutors were often under huge pressure due to both the increased time per student and the numbers attending the Centre. The manager would like to thank all the tutors for their dedicated work often under difficult circumstances. The MSC employed 12 tutors in 2010/2011. They were Anthony Brown, Alex Byrne, Anna Heffernan, Arthur White, Catriona Ryan, David Conti, Laura O'Brien, Lisa Banahan, Luke Coburn, John Eves, Richard Moloney and Vijay Singh.

Two of our tutors who have worked in the centre for a number of years and have now completed their studies were asked by the manager to write a brief summary of their time in the MSC and these are presented in Appendix 3 Tutors evaluation of their time tutoring in the MSC

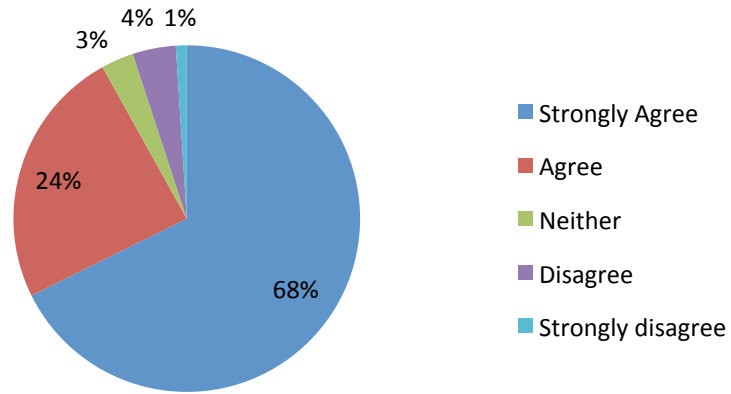
### **3.7 *Students' opinions of the MSC staff***

The respondents were asked for their opinions on various aspects of the MSC staff again using a five-point Likert item.

The questions asked about the MSC staff were as follows

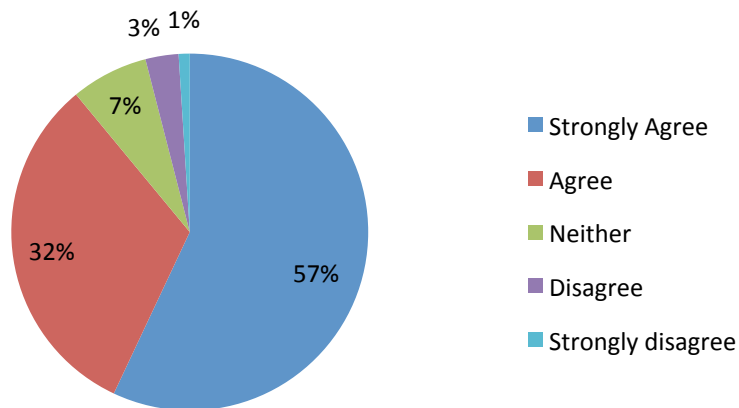
- Are they friendly and approachable?
- Have they good teaching abilities?
- Have they a good knowledge of mathematics?
- Do they help you to cope better?
- Do they motivate you to study?

**Figure 12: Staff are friendly and approachable**



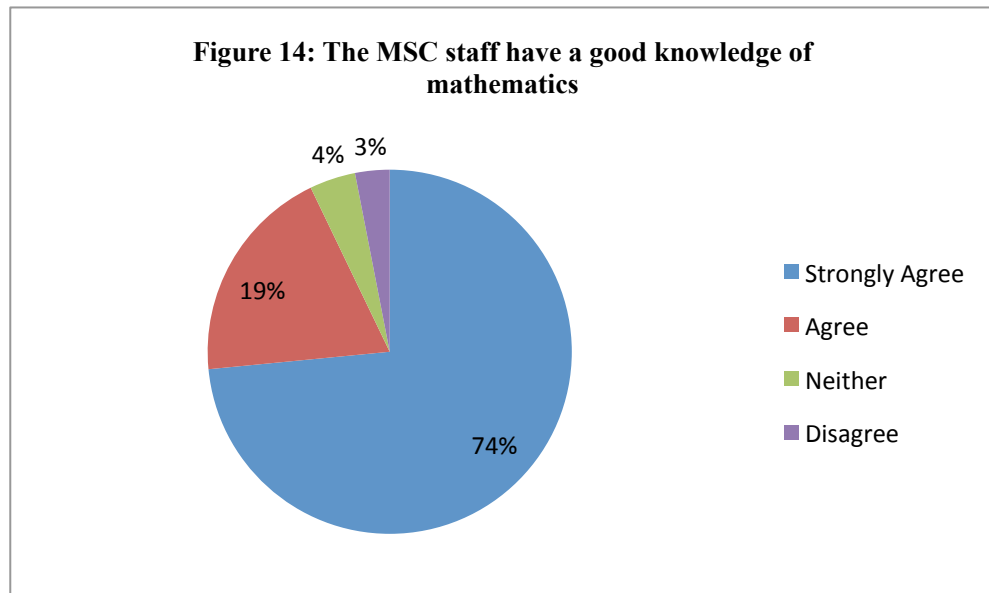
The attitude of the staff to students coming in to the MSC is very important as often those coming in for the first time are quite anxious. It is essential that they feel that they can approach the staff and not feel intimidated. The tutors are well aware of this and encourage the students to relax and explain where they are having problems. 92% of respondents agreed or strongly agreed that the tutors were both friendly and approachable. This is an increase on last year's percentage 86%. (See 4.2 Friendly and Supportive tutors)

**Figure 13: The MSC staff have good teaching abilities**



The fact that 89% of the respondents agreed or strongly agreed that the MSC staff have good teaching abilities was very encouraging. Once again this is an increase on last year's figure of 86%. The widely expressed satisfaction with the standard of tutoring is in no small measure due to the care that is taken when recruiting tutors. Not only their mathematical knowledge but their ability to communicate this knowledge is critically important. (See 4.1 Satisfaction with the high standard of tutoring)

**Figure 14: The MSC staff have a good knowledge of mathematics**

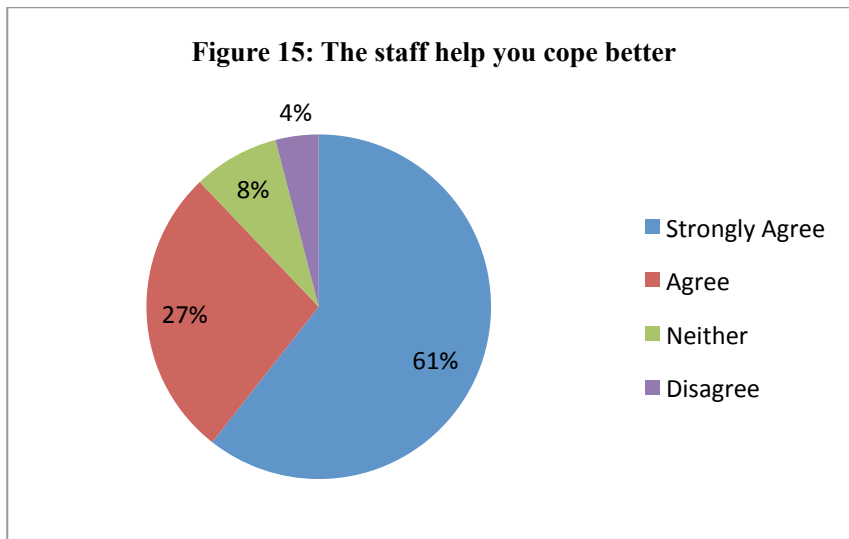


The tutors teaching in the MSC are mainly studying for their PhD or doing research in various mathematical areas. 94% of the respondents agreed or strongly agreed that the staff had a good knowledge of mathematics. This is a significant increase on last year's value of 87%. (See 4.1 Satisfaction with high standard of tutoring.)

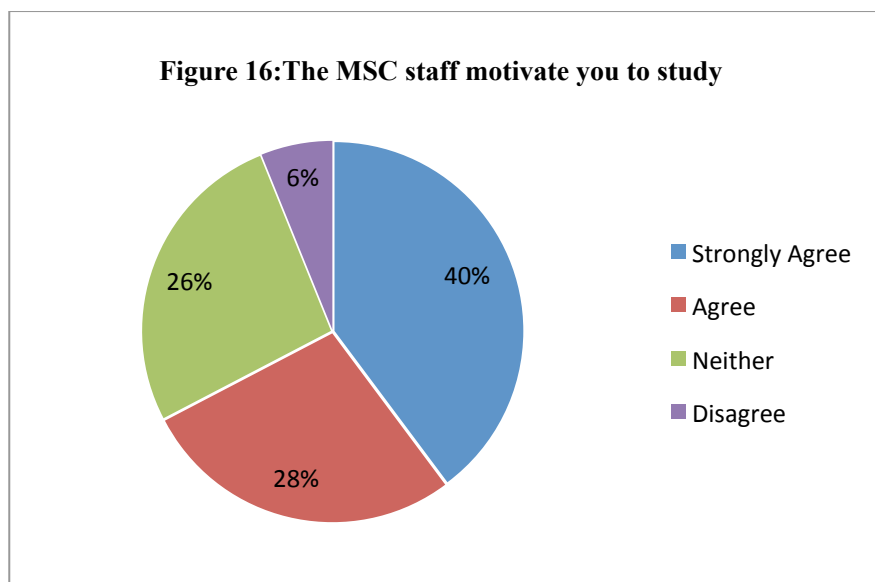
However we cannot expect our tutors to be knowledgeable in all areas requiring mathematics beyond a certain level. Students come looking for advanced help in for example economics, maths physics or statistics. At the basic level any tutor can cope but at these levels we allocate times for specific subjects. We advertise these on our website and also on our notice board outside the MSC. But as tutor availability changes from semester to semester these times are also altered which can lead to some confusion for students. These specialist times are necessarily limited by budget restraints.

We emphasize both with our tutors and students that the MSC is an extra service and does not replace lectures or tutorials. We expect our students to attend these and only then are they welcome to come for help to the MSC. Of course there may be certain legitimate reasons a student may fail to attend these sessions for a short time, for example illness or bereavement of a family member. The centre cannot be expected to cope with students who rely entirely on its service to cover their course.





It is essential that the students do not regard the MSC as a place where they can come to avoid doing the work themselves. From the above diagram it can be seen that 87% of respondents agreed or strongly agreed that the MSC helped them cope better. The students coming to the MSC should get a good basic understanding of the topic and must be encouraged to develop this understanding further by working on their own and when necessary coming back to the MSC with any problems. The MSC provides example sheets and some students found these useful. (See 4.10 Students found MSC example sheets useful. Confidence in their ability is often a problem for students coming in to third level. ) Many students expressed the view that the MSC had given them confidence in coping with their module. (For students' comments see 4.11 Increased students' confidence.)



A slight increase on last years numbers of 65% of respondents 66% agreed or strongly agreed that it motivated them to study. Sometimes a student may feel that either there is so much to learn that they don't know where to start or else get lost in a specific area. Coming to the MSC will often give them the wherewithal to move on with their study. However there is no doubt that the imminent approach of examinations is a greater motivation and this is evident in the increased numbers attending at these times.

## 4. Students' descriptions of their experience of using the MSC

The Mathematics Support Centre (MSC) has a crucial role to play in enhancing students' knowledge of mathematics and in supporting those students who are having problems associated with mathematics. This is confirmed by the comments given by the students in the completed evaluation forms. To give some indication of these we have categorised some of the comments under headings as given below. The comments were, on the whole, very positive, (See Appendix 3 for all comments).

### 4.1 Satisfaction with the high standard of tutoring.

*Thank you for your help, you manage to disentangle the ridiculously complex into the effortlessly manageable.*

*Having not studied for 2 years and with a very weak foundation, I find it extremely difficult to cope with my HDip in Statistics. I need help with even the most basic of things like differentiation and integration. As a result, whenever I have a question, I need help with every single step. The tutors in MSC have been most helpful and patient without judging. I got A- in the module I seek help for. Had it not been their help, I'll find it difficult just to pass. MSC is for me, the best value added service that UCDS' got. I'll trade the student center for MSC anytime.*

*The Maths Support Centre was very helpful in explaining all the complicated jargons used in my modules, And they helped me understand both the Questions I was asked, and the theory behind the maths problems!*

*The help I received was appropriate and concise. That was a super service since I had presumed before hand that the trip could be a waste of time.*

*I really benefited from the centre. The teachers are extremely helpful and make the maths seem really easy.*

*The staff were fantastic. I was under pressure to complete the thesis project and the support centre sat me down and helped me get started. They explained difficult calculations in simple English.*

*Very helpful always greatly improved my understanding of the area I was having difficulty in.*

### 4.2 Friendly and Supportive tutors.

*Very welcoming (and) really helpful, I was able to ask questions. Afterwards I could finally understand something I had been struggling with. (It is a) really good resource in the college.*

*When I go to my lectures I try to understand the material but a lot of the time I'm completely lost and boggled down by it. The great thing about the MSC is you don't have to go in and pretend you know it all, I often went in and said "I haven't a notion of this can you help me please" and the staff will start from scratch with you. Also around exam time the MSC is a brilliant place to go, I picked up loads of important info prior to my exams which really helped me. I think it's a great service, with friendly people, and it's FREE!!*

*Like going to see your family to get help with something: they're always willing to help and cheerful, never impatient.*

*I found it very helpful and no matter how often i used it i was never made feel unwelcome or ignored and will definitely use it in the future*

#### **4.3 MSC helps to reduce student stress**

*The MSC is one of the best things in ucd. The people are very nice and patient. It takes the stress outta maths for me and I benefit hugely after going there*

*The MSC helped me cope when I felt stressed the staff were friendly and approachable. They helped me understand the areas I had difficulty in.*

*Maths was a very scary prospect for me, but knowing that there was a safety net if I got in trouble was very reassuring (even if I never used it) .*

#### **4.4 International students and those who do not have LC mathematics**

*The first time I talked to staff from the MSC I was surprised how friendly, helpful, and competent they were, they made me feel less uncomfortable as I would have felt otherwise, for this reason I told several of my friends about this facility and how it can help any student with poor maths skills to improve and be able to complete successfully assignments where maths is a component of the work required.*

*I believe the centre is a great help for anyone who want to refresh their knowledge or have weak background in maths.*

*I find that the support centre has helped me out a lot with my understanding of mathematics that is a core aspect of my course (Applied Maths & Physics). The help I got there has had a great impact on my grades and overall interest in mathematics. However, I find the schedule of tutoring subjects quite uncomfortable to use, since most of the time I need help with Mathematical Physics subjects. And usually I seem to come in at the wrong time, and the schedule on the door has recently been removed.*

#### **4.5 Increased retention of students.**

*If I did not have the help of the MSC I would have no doubt in my mind that i would have failed my maths module this semester. I know of a number of others who would have failed all maths modules of their course and would now no longer be in college as a result. It is a highly valuable and under funded and under appreciated service .*

*I found the centre extremely helpful staff take the time to go through the problems you have at as slow/fast a pace as you need. You feel very welcome when you visit the centre. Without the help of the staff I would have failed the two maths based subjects I had in both first and second year.*

*If it wasn't for the maths support center I probably would of failed the two subjects I was finding hard. I just find if I cant get my head around something even after asking the lectures questions in class I just need to be shown how to do it step by step and the msc is brilliant for that and showing other possible ways of doing a certain question.*

*Having failed several maths and physics subjects in first year I was encouraged by a friend to go to the MSC. The staff there were so helpful, Nuala in particular, and helped me to get a clearer view of the maths in my subjects. I went weekly through that semester, and have been several times since, each time proving as helpful as the last. I haven't failed a subject since! The MSC is an invaluable asset to UCD.*

*Very helpful and couldn't have passed the maths modules without it.*

#### **4.6 Usage of MSC by programmes throughout UCD**

*With the help of MSC I was one of the very few students in history, I think, to get A+ in Vector Calculus.*

*It was great particularly Nuala as i was studying stats for Psychology. I went to it continously for a week and literaaly learned my course!*

*Great! I study physiotherapy and i choose an elective- space science which had a lot of maths and physic which was very hard. the MSC helped me understand the maths and physic in my tutorials .*

#### **4.7 Mature Students and Access Students**

*I found the MSC invaluable aid in comprehending the maths that was presented to you in lectures and assignments. It helped to take me from a feeling of hopelessness around maths, to having a more confident attitude towards it. The staff were excellent in their ability to explain the maths and to get you working at the problems yourself. As a mature student I was made feel welcome and not self conscious.*

*It's nice to be able to have a one on one conversation with someone who knows exactly where and when you need help and also to put it into easier to understand terms than the concise didactic nature of the lectures.*

*My memory ability is poor and I panic over this. But I have always been helped to approach a maths problem in a calm systematic manner by the staff of the MSC. I would be quite stuck for finding solutions to home works without them.*

*The most important experience was where the MSC staff would question my thinking for a problem, with the aim that I was thinking more widely about the problem so that I could visualise other possiblities where my solution would work but also where it would not.*

*The help I received was appropriate and concise. That was a super service since I had presumed before hand that the trip could be a waste of time.*

#### **4.8 Hot Topics**

*It was for a Computer Science course, Foundations of Computing that I attended the MSC (so did most my class). I ended up with an A-, partially thanks to the MSC who helped clarify some things.*

*I attended the rapid revision 2 hour class before exams. I was failing my maths module at this stage and did not understand some aspects due to not really understanding solving method from lectures. The tutors at the MSC went through each method thoroughly and concisely and made it so much easier to understand and remember by breaking it into small simple steps. I came out of my exam very grateful to the MSC.*

*The centre is a great service for the students and is very handy as you can drop in any time you want without having to make an appointment. I can only hope that in future other subjects will have the support like the MSC did for me. The extra classes they put on for the students in Ag were very useful and it is probably the only reason i passed Maths. Only wish i went earlier in the year.*

*I only used the centre at the end of the year when many students gathered in a lecture hall for revision. I was very impressed with the MSC. The effort and work that was put into that lecture was remarkable. I felt like I was really cared for. The staff were wonderful and very approachable. I felt very welcome.*

#### **4.9 Students benefited from one-on-one help.**

*I find that one to one explanations are a lot better than the general ones given in lectures.*

*The one to one tutoring make you feel that u can cope better with the subject and u can ask questions that u might be afraid to ask during lectures.*

*I found the experience every useful as the one to one nature of the tuition meant that I could ask as many questions as I wanted and ensured that I understood the material fully.*

*The MSC was an extremely useful option this past year. The instructors were clear and helped each person individually. I really do appreciate that this service is free. I should have gone more often this past year, and I plan on utilising this service next year.*

*I had particular difficulty with Algebra & Applications (MST30010) and went to the support centre for additional help with problem sheets and basic understanding of the course. VJ (our actual tutor) was extremely helpful and explained things well in a 1-on-1 capacity. He also stayed for a few minutes into his lunch break one time so he could help me finish a problem which was much appreciated.*

#### **4.10 MSC increased students' understanding and encouraged independent learning.**

*The one on one help was the most important part as i was shown how to work through the particular questions that I had problems with and could then attempt them at home and come back to the MSC if i had any further problems or queries.*

*I find that the support centre has helped me out a lot with my understanding of mathematics that is a core aspect of my course (Applied Maths & Physics). The help I got there has had a great impact on my grades and overall interest in mathematics...*

*When I needed help, help was at hand. The staff are very friendly and I never left not understanding what it was I didn't understand going in.*

*Attended for help with an assignment, staff welcoming, individual help with students in group, provided additional detail on calculator use which wasn't given in lecture, ensured problem was sorted before I left.*

*I got a lot of help with specific areas like algebra, matrices, proofs etc. I became more aware of how to learn maths efficiently and I also appreciate the huge effort the support centre tutors put to explain the concept behind the questions I've been having problems with. My confidence in doing my maths homework has improved and I also became more comfortable in asking questions if I don't understand the problem.*

*I found the maths support centre very useful and helpful, as they showed me how to do the problem and then let me do it myself.*

*Explained my subject just a little more clearly and gave me the footing to work on my own and improve.*

*The most important experience was where the MSC staff would question my thinking for a problem, with the aim that I was thinking more widely about the problem so that I could visualise other possibilities where my solution would work but also where it would not.*

*Very helpful always greatly improved my understanding of the area I was having difficulty in.*

*I'm really happy that the MSC exists in UCD. It has certainly helped me to do well in my maths exams. Thank you.*

#### **4.11 Students found MSC example sheets useful.**

*The tutors were a great help as they used lots of examples and explained how to do the work more simply and clearly than the lecturers.*

*I went in, only had to wait a small amount of time and got straight into working out my problems as regards understanding my maths, found the questions they had on hand useful...*

*Very helpful, .provided me with good guidance for my exams, gave me good amount of problems for practise.*

#### **4.12 Increased student confidence.**

*Clarification of notes or procedures helping to iron out any doubts will increase confidence in one's ability*

*It has helped me to become more confident in Mathematics and not to be afraid of it. I know that if I have a problem in a Mathematical based module that I can always rely on the MSC for assistance.*

*I went to the MSC for help with Maths for Business 1. I went in, having failed some of the tests in the tutorial, with very little confidence when it came to tackling the problems we had been given but with confidence in my natural mathematical ability (I did pass for Leaving Cert because of a combination of time management and poor teaching in school). I went to the MSC twice and found it of huge benefit, as I find it quite difficult to learn maths other than in a small group/on a one-to-one basis. I went from failing to getting an A- in my end of semester exam, and*

*put this down to the MSC, not only in explaining the concepts to me clearly, but in giving me a confidence boost and even a somewhat renewed interest in maths.*

#### **4.13 Size of room, opening hours, number of tutors and resulting concerns**

*The centre is a very valuable resource and a brilliant service. The only problem I have with it is that there are usually too many students in the centre at any one time to the number of teachers. This makes it very difficult to get help in a timely fashion as the teachers often have to cope with many students. I have sometimes sat in the support centre for 20 mins/half an hour waiting for help and have had to leave without it due to time constraints as the teachers had too many people to deal with.*

*Usually too busy and understaffed, but since the room is so small, more staff probably wouldn't help.*

*I've only been once or twice but it helped with a specific area I was unsure of in an assignment or tutorial question. I think sometimes people are sitting there waiting for a good while for someone to help, and the help is sometimes rushed because there's loads of people to get around to.*

*Good but could do with a larger area and more tutors.*

*I think the room where MSC is located is quite small. There is not enough desks and tutor. I am sure there is a significant number of students that would like to get help with maths but it's hard to get your turn.*

*My ratings illustrate my opinion that it is a fantastic resource for students, my only criticism is perhaps one more tutor at a time would be useful but understandably may not be possible.*

*I found the msc very helpful. you could drop in whenever you wanted but sometimes there were not teachers for that specific area but when they were there they were helpful and patient thanks very much*

*If I was to make a suggestion it would probably be that they and the students, could probably benefit from a bigger room. At peak times it was very congested, such is the demand for the services the MSC supply.*

*At times there is nearly too many people in MSC but when help does come around it is very beneficial.*

*MSC is very helpful. But I think that the room for MSC is too small and in winter time it becomes really stuffily, probably just because of the heating system. And also sometimes it takes too long to wait for a tutor and you just leave without getting a help, so probably it would be good to have more tutors!*

*The Engineering timetable allowed little time to get to the MSc which is why late opening would have helped a lot. The room is far too small for the amount of people who attend the MSC making it very difficult to concentrate there and very often impossible to get a seat there. Sometimes the wait for attention is quite long, once I waited 50 mins and then had to leave to go to another lecture without getting help.*

*MSC advised attending the centre early in the Semester, however I only encountered difficulty with the material later in the semester. Trying to get help at that stage was difficult because of the crowding in the MSc. The tutors were absolutely excellent and do great work. I feel more people would probably use the centre if it had more space and more tutors.*

*I found the MSC very helpful for maths in Access to Science and Engineering. The Access program was part-time and had a lot of students who worked full-time participating who would have benefitted from later opening*

*hours or weekend opening hours. I found the staff extremely helpful and will be making use of the MSC in September when i'm a full-time student.*

## **5. Conclusions**

- Attendance at the MSC has increased by 122% in 2010/2011 compared to 2009/2010.
- The quality of service provided by the MSC was formally evaluated in 2010/2011. The results were very positive. Recommendations from the 2009/2010 report have been implemented and the budget was increased.
- Students show an extremely high level of satisfaction with the services provided. However as the numbers and the substantial increase in the time of individual students' visits increased this year students have expressed considerable dissatisfaction with the size of the venue and the number of tutors. It is hoped that the new premises will provide a solution for the former. A further problem was the availability of suitable opening hours. Some students for legitimate reasons are unable to attend the MSC during the day. The inability to increase the opening hours arises from a lack of adequate funding needed to employ further tutors. The above reasons will be the main restriction to maintaining the professional operation of the MSC and will certainly curtail the further growth of the MSC.
- The MSC is currently fulfilling its stated aims.

## **6. Recommendations**



- Continued analysis of the pattern of student attendance and the mathematical content of the sessions tutored should be employed. This should allow for more time and cost effective working arrangements to be implemented in future years. These arrangements would include the times of employment of tutors and the addition of extra *Hot Topics*.
- The ability of the MSC to cater for the large increase in numbers is now a major concern for the Centre. It is critical that the new premises be considerably increased in size. To continue coping with the increased demand and to extend opening hours an increase in the MSC budget will be required for 2010/2011.
- Staff should continue to promote and develop the MSC as a centre of excellence.
- Advertising the benefits of the MSC to all relevant bodies is critical for its survival. Frequent communication with students, lecturers and student advisors is essential. The on-going relationship with the Irish Learning Support Centre Network and similar international associations is important for the further development of the MSC.
- Information is now automatically stored on databases and full use should be made of these to facilitate research and further improvement in the work of the MSC.
- Evaluation of the quality of service provided by the MSC should continue to occur on an annual basis.

## **Appendix 1 MSC Attendance Form (data filled in online)**

Registration by student on registration computer.

Students fill in the following details:

I. Student's Name: .....

II. Student Number: .....

III. Student's Programme: .....

IV. Student Nationality:.....

Once registered student fills in their student number and are then asked to fill in the module for which they require assistance.

Above data with student email address, day, date, time in and time out is automatically updated on database.

Completion by tutors of session details

Tutors add the following details

Tutors update the database on the notebooks with their name and the material covered before student leaves or if that is not possible before they finish their session in the MSC.

## Appendix 2 MSC Evaluation Form (online)

1. Student No.: ..... Student Name:.....

2. Are you a mature Student?

3. What was the highest level of maths you studied at school?  
What grade did you achieve?

4. Have you used any online resources (eg. Google, Wikipedia etc.) ?

Did you find them helpful?

5. How did you find out about the Maths Support Centre (MSC)?

*(Please tick one or more)*

- a) Announcement at lectures.
- b) Announcement on the Plasma Screen around UCD.
- c) Flyers.
- d) From a friend.
- e) From the Website.
- f) From Blackboard.
- g) Other *(Please explain)*

6. Why did you first decide to use the MSC? *(Please tick)*

- a) Your background in Maths was weak.
- b) It had been a while since you had studied Maths.
- c) You needed help with a specific area.
- d) You needed to catch up on areas missed through illness.
- d) You had a Tutorial/Assignment/Project to hand in.
- e) Other *(please explain)*

7. Did you pass the maths module for which you sought help?

8. Please circle as appropriate.

The MSC ...

has a welcoming atmosphere?

*Strongly disagree*    1    2    3    4    5    *Strongly agree*

has suitable opening hours?

*Strongly disagree*    1   2   3   4   5    *Strongly agree*

is a relaxed place to study?

*Strongly disagree*    1   2   3   4   5    *Strongly agree*

encouraged me to work with other students in my class?

*Strongly disagree*    1   2   3   4   5    *Strongly agree*

9. Please circle as appropriate.

The MSC staff ...

are friendly and approachable?

*Strongly disagree*    1   2   3   4   5    *Strongly agree*

have good teaching abilities?

*Strongly disagree*    1   2   3   4   5    *Strongly agree*

have a good knowledge of Mathematics?

*Strongly disagree*    1   2   3   4   5    *Strongly agree*

help you to cope better?

*Strongly disagree*    1   2   3   4   5    *Strongly agree*

motivate you to study?

*Strongly disagree*    1   2   3   4   5    *Strongly agree*

10. Would you recommend the MSC to a friend?

11. In your own words describe your experience of using the MSC.

I consent to this form being confidentially stored and used for research purposes.

Signed: ..... Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

## Appendix 3 Tutors evaluation of their time tutoring in the MSC

As a tutor in the Maths Support Centre for the last 4 years I feel that the experience has greatly enriched me. The vast array of mathematics and levels of mathematics that I encounter on a daily basis has improved my general level of mathematics. Doing a PhD I find that there are several areas of mathematics I wouldn't use on a daily basis and consequently these areas become rusty over time. With the Maths Support Centre you encounter a wide range of topics I wouldn't of encountered since my undergraduate degree. Going over these topics with the student help to refresh these topics for myself. This can aid in trying to help the student understand the specific topic as I can guide the student through the course notes as I am going through them. The experience I have in dealing with mathematics, from both tutorials and the Maths Support Centre, means I can get the underlying basis of the course especially for courses that I have never taken. The Maths Support Centre has helped me in my PhD. Apart from the financial component which helped me fund the later years of my PhD, I feel I have had a richer PhD experience. Obtaining knowledge and understanding for oneself is one of the main goals in a PhD thesis but there too few opportunities to help others to do the same thing. That is where the Maths Support Centre comes in. My teaching skills have been improved and are still in the course of improving. The unpredictable nature of the topics you can encounter mean you have to be able to think on your feet. This is the opposite to a tutorial scenario where you know what topics are being covered and you can prepare. There is no similar preparation that can be done for the MSC, one minute you are helping a 1st year student solve a quadratic the next you are helping 4th year students with quantum mechanics. The knowledge of mathematics I have amassed over my years in college can be transferred to the students. I feel that over the course of the semesters I have helped some of the students get a good understanding of their topics and this has lead to them having a better interest in those topics. This is a very good feeling when you feel that you have made a tangible difference to the students' college experience. This is what I get from the Maths Support Centre.

Alex Byrne > Graduate Student > UCD CASL

The main reason that attracted me to MSC was the money. But once I started working there, there were far more important benefits. First of all, the different varieties of questions which the students of different background asked gave me more insight in many areas of mathematics. It is also a very good brain exercise when you have so much variety of Mathematics at the same time. It has lead me to many connections between these areas, explore subjects which I haven't learn. How to explain to student has helped to deepen my concepts about> mathematics and teaching. Since I intend to choose a career in > academia it has been immensely helpful

Vijaykumar Singh > Graduate Student > Claude Shannon Institute > UCD CASL

## Appendix 4 Students' descriptions of their experience using the MSC

The following are a copy of all the comments on the evaluation forms, in the order they were received from students attending the MSC. To remain faithful to the original versions no grammatical corrections to the students' comments have been applied.

*my ratings illustrate my opinion that it is a fantastic resource for students, my only criticism is perhaps one more tutor at a time would be useful but understandably may not be possible.*

*i found the msc very helpful. you could drop in whenever you wanted but sometimes there were not teachers for that specific area but when they were there they were helpful and patient thanks very much*

*Great*

*THE STAFF WERE VERY HELPFUL. THEY HELPED ME WITH THE SPECIFIC PROBLEM I WAS STRUGGLING WITH AND ALSO GAVE ME SOME EXCELLENT POINTERS AND TIPS WHICH HELPED ME WITH THE REST OF THE COURSE*

*Nuala was incredibly helpful i continue to go there because they explain maths in a way i understand. They dont judge how stupid the question you have to ask and they always make you feel welcome.*

*the msc is one of the best things in ucd. The people are very nice and patient. It takes the stress outta maths for me and i benefit hugely after bgoing there.*

*I found the MSC invaluable aid in comprehending the maths that was presented to you in lectures and assignments. It helped to take me from a feeling of hopelessness around maths, to having a more confident attitude towards it. The staff were excellent in their ability to explain the maths and to get you working at the problems yourself. As a mature student I was made feel welcome and not self conscious.*

*If I was to make a suggestion it would probably be that they and the students, could probably benefit from a bigger room. At peak times it was very congested, such is the demand for the services the MSC supply.*

*The MSC staff have excellent knowledge of maths along with great teaching abilities. I find them very approachable.*

*I like the way how patient the MSC staff are when explaining the most simplest things to students who are weak at maths.*

*The one thing I dislike is, I find myself having to come in early in order to have a tutor help me at peak times, which can be competitive, eg. when exams are approaching.*

*Overall, I enjoy coming to the MSC as it has a friendly atmosphere and will continue to do so should I have maths difficulties.*

*at times there is nearly too many people in MSC but when help does come around it is very beneficial.*

*It's nice to be able to have a one on one conversation with someone who knows exactly where and when you need help and also to put it into easier to understand terms than the concise didactic nature of the lectures.*

*The MSC staff are very welcoming and encourage one to come in. However, whenever I went in there was only 1 person in the centre who knew the maths I was studying. I also sat for sometimes 2 hours before I got seen which wasted valuable study time and ended up with me having to leave without being seen and stressing me*

*out more about maths. It also meant I had to pay for grinds. They need more staff for the amount of people in there.*

*I found the MSC extremely helpful. The tutors explained things in a way that I could understand. If I had a problem it was always answered. The staff were very welcoming and had a good attitude toward the work.*

*of getting stuck on small things, preventing u to get any work done and study. Clarification of notes or procedures helping to iron out any doubts will increase confidence in one's ability.*

*I found the experience very useful as the one to one nature of the tuition meant that I could ask as many questions as I wanted and ensured that I understood the material fully.*

*It was very useful in the sense that I could enquire about exercises I was doing and therefore find out what I was doing wrong.*

*I find that one to one explanations are a lot better than the general ones given in lectures.*

*It also is exam focused since you can target a particular chapter you find harder.*

*All in all it really helped me with Statistics and Calculus.*

*MSC was an excellent resource and an absolute essential for my first year in UCD, some courses expect a standard of maths not provided for by previous education therefore MSC was, for me essential to cope with the work given. MSC is an excellent facility and badly needs to receive the same support it provides for countless students in UCD.*

*Very helpful and understanding in dealing with my problems and others problem. great help.*

*It is great to know that there is somewhere you can go if you need extra help and takes a lot of the stress out of college...particularly in first year.*

*MSC is very helpful. But I think that the room for MSC is too small and in winter time it becomes really stuffily, probably just because of the heating system. And also sometimes it takes too long to wait for a tutor and you just leave without getting a help, so probably it would be good to have more tutors!*

*the one on one help was the most important part as I was shown how to work through the particular questions that I had problems with and could then attempt them at home and come back to the MSC if I had any further problems or queries*

*Very good service. However, sometimes in an effort to not give the answer to the question, the help can be quite cryptic and even more confusing. Perhaps use of the actual solutions would prevent this.*

*I felt if I had known about the MSC sooner I may have passed my previous module, however I am finding it very helpful for the current module that I am studying.*

*I find that the support centre has helped me out a lot with my understanding of mathematics that is a core aspect of my course (Applied Maths & Physics). The help I got there has had a great impact on my grades and overall interest in mathematics. However, I find the schedule of tutoring subjects quite uncomfortable to use, since most of the time I need help with Mathematical Physics subjects. And usually I seem to come in at the wrong time, and the schedule on the door has recently been removed.*

*Friendly, supportive and extremely helpful. A very valuable resource.*

*When I needed help, help was at hand. The staff are very friendly and I never left not understanding what it was I didn't understand going in.*

*The room is very small though and that even puts me off going sometimes. If I had more space to myself i.e a desk to myself more of the time and possible away from the building work I would attend it a lot more.*

*Also I would suggest opening another MSC in the engineering building, with the same staff just for a few hours a day in a lecture hall. Something to consider I think.*

*I found it difficult to figure out how to arrange to talk to someone once I arrived as I never knew if you were supposed to work in groups of people or if you could just turn up when you needed help*

*It has helped me to become more confident in Mathematics and not to afraid of it. I know that if I have a problem in a Mathematical based module that I can always rely on the MSC for assistance.*

*Its a great place to go when you need a specific problem or question answered, its difficult though if you have a lot of questions because there either is not alot of people there to help, that know about that certain topic at the time and there are other students besides yourself. In this way i have found it helpful in that if i have specific questions to ask. I would find though that the times in which the teachers with the subjects they know best in and what times they will be there should be posted as to not waste time when there if no one really that can help you in the area you need help with when you are there.*

*Very accessible and friendly environment. The staff were easy to approach and they explained everything well. Helped a lot with difficult maths in the first semester.*

*Every time I have used the MCS I have been very happy with the help I have recieved. I found the tutors very reassuring and helped me to work through any difficulties I had been having*

*the room is too small and clostrophbic, when it is busy you can't hear yourself think and for someone with very limited maths it is very offputting. i havn't been back because of this and probably won't go back again as its too stressful.*

*The place at times was very busy and i don't get as much attention as i would like. Sometimes, I would wait 3 hrs in the center and only get 15mins from the tutor. Having not studied for 2years and with a very weak foundation, i find it extremely difficult to cope with my HDip in Statistics. I need help with even the most basic of things like differentiation and integration. As a result, whenever i have a question, i need help with every sigle steps. The tutors in MSC have been most helpful and patient without judging. I got A- in the module i seek help for. Had it not been their help, i'll find it difficult just to pass. MSC is for me, the best value added service that UCDS' got. I'll trade the student center for MSC anytime.*

*Thanks to the MSC I passed my sem. 1 exam in "Calculus". Now I am doing Matrices and Vectors and I also get help sometimes when I don't know how to do a question or what am I doing wrong. The MSC is very helpful-*



*helped me a lot with the webwork and others problems I had. I don't know where I would seek help if there was no MSC. The atmosphere is very welcoming and teachers are nice.*

*I didn't use the centre enough in Semester 1. However when I did use it I found it very helpful. I intend to use the facility much more in the coming weeks.*

*saves a great deal of time and frustration if one is stuck on a homework question. makes the maths modules far more manageable/enjoyable as a result*

*Helpful*

*The MSC is a great support to have for students however I really think how it is managed needs to be looked at, personally it did not suit me to pop in and have to wait for a teacher I think it would be much better to be able to make appointments say for half an hour per student and get undivided attention that way, in the end I personally felt I could not spare the time waiting until a teacher could attend to my queries and worked through the problems myself. The center was always busy so you were aware that other people needed help too....*

*the one to one tutoring make you feel that u can cope better with the subject and u can ask questions that u might be afraid to ask during lectures.*

*Attended for help with an assignment, staff welcoming, individual help with students in group, provided additional detail on calculator use which wasn't given in lecture, ensured problem was sorted before I left.*

*Is very helpful*

*I went to the MSC for help with Maths for Business 1. I went in, having failed some of the tests in the tutorial, with very little confidence when it came to tackling the problems we had been given but with confidence in my natural mathematical ability (I did pass for Leaving Cert because of a combination of time management and poor teaching in school). I went to the MSC twice and found it of huge benefit, as I find it quite difficult to learn maths other than in a small group/on a one-to-one basis. I went from failing to getting an A- in my end of semester exam, and put this down to the MSC, not only in explaining the concepts to me clearly, but in giving me a confidence boost and even a somewhat renewed interest in maths.*

*The Maths Support Centre was very helpful in explaining all the complicated jargons used in my modules, And they*

*Very helpful with the particular area i was struggling with.*

*helped me understand both the Questions I was asked, and the theory behind the maths problems!*

*msc helped me get my head around trickier topics in my course and made sure i understood them. at times it can be a little disorganised and you can be left sitting for awhile waiting but this was only a minor issue!*

*MSC was a great help for me in my first year in the college as a mature student. You have assisted me to overcome the difficulties in understanding Math., it has been long since i had studied Math (high school). That was great and a big relief for me.*

*Thank you very much ALL.*

*Very helpful when the appropriate tutors are present. Sometimes long waiting time.*

*The Engineering timetable allowed little time to get to the MSC which is why late opening would have helped a lot. The room is far too small for the amount of people who attend the MSC making it very difficult to concentrate there and very often impossible to get a seat there. Sometimes the wait for attention is quite long, once I waited 50 mins and then had to leave to go to another lecture without getting help. MSC advised attending the centre early in the Semester, however I only encountered difficulty with the material later in the semester. Trying to get help at that stage was difficult because of the crowding in the MSC. The tutors were*

*absolutely excellent and do great work. I feel more people would probably use the centre if it had more space and more tutors.*

*Brilliant and very helpful*

*its good place to get help in maths and maths physics.*

*Going to the centre became a big help in my maths studies especially during the first semester because I had two modules to do.*

*I got a lot of help with specific areas like algebra, matrices, proofs etc. I became more aware of how to learn maths efficiently and I also appreciate the huge effort the support centre tutors put to explain the concept behind the questions I've been having problems with. My confidence in doing my maths homework has improved and I also became more comfortable in asking questions if I don't understand the problem.*

*I have only attended on one occasion so far, but found it extremely helpful. Unfortunately, it was too little too late in that one instance.*

*Very Helpful*

*the first time I talked to staff from the MSC I was surprised how friendly, helpful, and competent they were, they made me feel less uncomfortable as I would have felt otherwise. for this reason I told several of my friends about this facility and how it can help any student with poor maths skills to improve and be able to complete successfully assignments where maths is a component of the work required.*

*My memory ability is poor and I panic over this. But I have always been helped to approach a maths problem in a calm systematic manner by the staff of the MSC. I would be quite stuck for finding solutions to homeworks without them.*

*Very good*

*The support centre was always friendly and helpful. I would not have managed to go through the year as smoothly without them.*

*with the help of MSC I was one of the very few students in history, I think, to get A+ in Vector Calculus*

*i thought the maths centre was very good. but should be open longer hours and more teachers needed. thanks very much*

*very helpful, all the problems i was having were explained to me very well*

*The MSC was very useful in helping me with particular questions and problems I had and would strongly recommend it.*

*It was really helpful but to be honest I wasn't interested in improving, I just wanted to pass my exam as my maths modules next year are completely different.*

*The help I received was appropriate and concise. That was a super service since I had presumed before hand that the trip could be a waste of time.*

*Very good and helpful.*

*When i began studying neuroscience i never anticipated having two modules in maths-intro to calculus and matrices and vectors, two modules i found very difficult as i did not take honours maths for the leaving cert, by being able to go to the maths support i had everything slowly explained to me and help my grades completely. It is a great facility and im very grateful for the help they gave.*

*The MSC was brilliant for me and really helped with some difficulties I was experiencing. I had missed a few weeks of lectures due to illness and the module was moving rapidly so I quickly found myself behind. I passed that module in the end and the MSC helped me to see that it wasn't a lost cause. Another great thing is the layout of the room so you can work alongside other people in your course or attend with a friend. It was great as some of my friends were struggling so I brought them along. I think the MSC is a great resource for incoming first years as it's a big step for us from secondary*

*learning maths in small classes with individual attention from the teacher if needed to being placed in a lecture theatre with about 300 people. The revision lecture for Matrices and Vectors for semester II exams was also very helpful.*

*The staff are very friendly and know their subject well. They answered every question and would go through it as many times as you wanted.*

*I attended the rapid revision 2 hour class before exams. I was failing my maths module at this stage and did not understand some aspects due to not really understanding solving method from lectures. The tutors at the MSC went through each method thoroughly and concisely and made it so much easier to understand and remember by breaking it into small simple steps. I came out of my exam very grateful to the MSC.*

*i went in, only had to wait a small amount of time and got straight into working out my problems as regards understanding my maths, found the questions they had on hand were useful, went a few times and they seemed to be closed a lot, one time i went in i just left because there was such a long waiting time for help, one extra tutor would help a lot... although that might not be feasible...*

*very helpful.provided me with good guidance for my exams.gave me good amount of problems for practise.*

*Very helpful with problem in specific areas are some tutors were post grads in the subject*

*very helpful*

*The immediate availability of competent helpers on a walk-in basis was great*

*If I did not have the help of the MSC I would have no doubt in my mind that i would have failed my maths module this semester. I know of a number of others who would have failed all maths modules of their course*

*and would now no longer be in college as a result. It is a highly valuable and under funded and under appreciated service*

*helps exactly with the type of maths you are doing*

*I found the MSC very helpful for maths in Access to Science and Engineering. The Access program was part-time and had a lot of students who worked full-time participating who would have benefitted from later opening hours or weekend opening hours. I found the staff extremely helpful and will be making use of the MSC in September when i'm a full-time student.*

*It was great particularly Nuala as i was studying stats for Psychology. I went to it continuously for a week and literally learned my course! :)*

*Very useful in whatever aspect of maths I needed help with*

*Helpful, sometimes the MSC is too small for the numbers of students! Luckily queues usually move fast! Thank you to all especially Nuala*

*In my experience, the MSC is an invaluable aid to mathematical study. Without the help of the MSC, I do not believe it would be possible for a large percentage of math-related students to achieve their potential in math-related modules.*

*very helpful as the math modules were tricky and without the help of nuala and her team, i would have never achieved the grades i got in the final exams.*

*The MSC is one of the most useful undergrad teaching and learning resources in UCD. It should be expanded to include more subject matter, especially in the math areas of micro, macro, and International Trade economics.*

*Very help to students who are weak at maths, room should be bigger for growing numbers*

*Very good, no judgement and friendly.*

*The MSC centre is fantastic for that one-to-one help that is OFTEN required in maths in order to fully understand the topics you are covering. It helped me to, first resolve minor and major difficulties I had with certain areas of the maths modules. It allowed me to interact with other members in my class. Finally it showed me that all students have difficulties, and it wasn't just me!*

*Really benefited from the centre. The teachers are extremely helpful and make the maths seem really easy.*

*the staff were fantastic I was under pressure to complete the thesis project and the support centre sat me down and helped me get started. they explained difficult calculations in simple english.*

*The centre is a great service for the students and is very handy as you can drop in any time you want without having to make an appointment. I can only hope that in future other subjects will have the support like the MSC did for me. The extra classes they put on for the students in Ag were very useful and it is probably the only reason i passed Maths. Only wish i went earlier in the year.*

*I just attended the MSC as it helped me put structure to my study. I found it very helpful as all my queries were answered*

*The staff were very helpful, but the room was far too cramped for the numbers in there. It was a big help for more detail with certain questions*

*It's a great place to learn on any aspects of maths that people have a difficulty with. Every student is felt welcome.*

*Used this service in semester 1 but did not return in semester 2*

*i had difficulty in an area through not fully understanding an area in tutorials and it really helped me.*

*I found the maths support centre very useful and helpful, as they showed me how to do the problem and then let me do it myself.*

*I found the centre extremely helpful staff take the time to go through the problems you have at as slow/fast a pace as you need. You feel very welcome when you visit the centre. Without the help of the staff I would have failed the two maths based subjects I had in both first and second year.*

*During one visit I was assigned a most condescending tutor. He was younger with glasses, this experience made me have second thoughts about returning..*

*It was extremely helpful, i had a specific area of my course that i needed help with and after 1 to 2 hours in the MSC i felt much better able to cope with it.*

*it helped me to understand some topics more clearly. when taking down notes in classes, it is often difficult to completely understand what i'm writing and going to the support centre, they explained things so that i understood it. i found everybody in there very friendly and accomodating to any problem i had, and they always had time for any problems, even outside opening hours*

*Very welcoming atmosphere. Very helpful, explains the problems very clearly and easy to comprehend. Very good experience.*

*The centre is very helpful and a very good place to work on maths.*

*I had particular difficulty with Algebra & Applications (MST30010) and went to the support centre for additional help with problem sheets and basic understanding of the course. VJ (our actual tutor) was extremely helpful and explained things well in a 1-on-1 capacity. He also stayed for a few minutes into his lunch break one time so he could help me finish a problem which was much appreciated*

*it was useful if you had a specific problem as the teachers know how to help*

*I have got an extreme good help there from all the tutors and this is the reason why I have passed my exams. Well not just passed but got a good results.*

*I think the room where MSC is located is quite small. There is not enough desks and tutor. I am sure there is a significant number of students that would like to get help with maths but it's hard to get your turn. Its amazing anyway ... Thank you*

*really was struggling with speific areas. the msc staff really helped.*

*Having completed my degree and attending the MSC for 4 years I found it an extremely helpful resource with both pure maths and maths/physics modules. I found that I needed more help with my maths/physics modules but unfortunately at times it was difficult to find the help I needed as the staff were not familiar with the course work ie. Advanced dynamical systems. But overall I was happy with all the help I received.*

*They were very helpful to me and I would like to thank everyone in the centre for their help*

*The tutors were a great help as they used lots of examples and explained how to do the work more simply and clearly than the lecturers.*

*I was struggling with structures as I hadn't studied higher maths or physics for the leaving cert. The staff in the mac very very helpful and supportive and sorted out every difficulty I had with the exam. I liked the intimate atmosphere of the msc and how informal and unthreatening it was to visit.*

*Very welcoming, really helpful. I was able to ask questions. Afterwards I could finally understand something I had been struggling with. Really good resource in the college*

*The center is a very valuable resource and a brilliant service. The only problem I have with it is that there are usually too many students in the center at any one time to the number of teachers. This makes it very difficult to get help in a timely fashion as the teachers often have to cope with many students. I have sometimes sat in the support center for 20 mins/half an hour waiting for help and have had to leave without it due to time constraints as the teachers had too many people to deal with.*

*good but could do with a larger area and more tutors.*

*The MSC helped me cope when I felt stressed the staff were friendly and approachable. They helped me understand the areas I had difficulty in.*

*felt a bit pressured to leave once I'd gotten the answer to my question, where I would probably have more questions if I did a few problems myself in there. I also don't go in unless I have a specific question, but a lot of the time I don't understand enough to have a specific question, so I need broader help, but am unable to know how to ask*

*It helped a lot with project work and also the exam itself*

*When I go to my lectures I try to understand the material but a lot of the time I'm completely lost and boggled down by it. The great thing about the msc is you don't have to go in and pretend you know it all, I've often went in and said "I haven't a notion of this can you help me please" and the staff will start from scratch with you. Also around exam time the msc is a brilliant place to go, I picked up loads of important info prior to my exams which really helped me. I think it's a great service, with friendly people, and it's FREE!!*

*They are helpful but for engineering and certain maths areas they are weak because the areas are specific. I think it is a brilliant place to go, although it is a very small space to work in. Engineering badly needs an equivalent centre! The people are helpful and patient.*

*Like going to see your family to get help with something: they're always willing to help and cheerful, never impatient.*

*The MSC is very important for all students I know, we all appreciate the help very much and hope to get even more help with it in the future.*

*i only used it once the day before my exam (resit) because i realised i really couldn't teach myself things a lecturer couldn't teach me four months previously. I wish i had gone the first time i did the exam as i think i would have passed it the first time around. I worked with another student resiting the same exam and we taught each other a lot. the woman who helped me clearly knew her stuff and i wouldn't have passed without her help! thanks!*

*Very welcoming and supportive - a really good service. Especially good for calculus and statistics. For some third year modules it depended who was on duty.*

*Maths was a very scary prospect for me, but knowing that there was a safety net if I got in trouble was very reassuring (even if I never used it)*

*very helpful staff went through everything and explained why as well as how, very important*

*It was for a Computer Science course, Foundations of Computing that I attended the MSC (so did most my class). I ended up with an A-, partially thanks to the MSC who helped clarify some things.*

*Was quick and helpful. Does exactly what it says on the tin.*

*Very friendly and there is always someone to help you out.*

*To be honest I just used the centre for help with a topic i taught was hard but ended up being pretty easy. Maybe i should have put in more work at the begging and then i wouldn't have been so worried. Was a new topic hence why i originally believed was difficult.*

*All the staff were very knowledgeable and more than helpful. I used the support center twice, on my second occasion i was having problems with a very specific area and yet the staff were able help me without any prior preparation. Very impressed.*

*Nuala is very good and the most sought after tutor!*

*I've only been once or twice but it helped with a specific area I was unsure of in an assignment or tutorial question. I think sometimes people are sitting there waiting for a good while for someone to help, and the help is sometimes rushed because there's loads of people to get around to*

*If it wasn't for the maths support center I probably would of failed the two subjects I was finding hard. I just find if I cant get my head around something even after asking the lectures questions in class I just need to be shown how to do it step by step and the msc is brilliant for that and showing other possible ways of doing a certain question*

*Explained my subject just a little more clearly and gave me the footing to work on my own and improve*

*It was useful that they would just focus on the particular area I was struggling with*

*If it wasn't for the maths support center I probably would of failed the two subjects I was finding hard. I just find if I cant get my head around something even after asking the lectures questions in class I just need to be shown how to do it step by step and the msc is brilliant for that and showing other possible ways of doing a certain question*

*Explained my subject just a little more clearly and gave me the footing to work on my own and improve*

*It was useful that they would just focus on the particular area I was struggling with*

*Extremely helpful..Like its easier understand the people in the maths support centre than the lectures in college which genuinely at times are a joke!lectures make things that aren't that hard into something like an equation to get to Mars..ridiculous at times. the teachers in the MSC are easy to understand just like the teachers in 2ndary school. It could do with a bigger room. For the modules I went to the maths support centre for I achieved a B in both so I was delighted. Its a great resource that should be enhanced.*

*Moreover tho the lecturers need some sort of training in how to teach maths properly..its not good enough.*

*this isn't to give the people in the msc a fat head but I can understand the teachers in the MSC and can't get my head around the same sums explained badly by lecturers.*

*I found the centre helpful, although the majority of the time it made myself and other students quite frustrated. there was not a welcoming atmosphere at all by most of the staff, anthony brown is very helpful tutor and found him very good at his job he always tried no matter what area of study. i mention his name because he should be comended on this. i found that when i was struggling with different areas there was no desire to help by certain staff. myself and other maths student that attended were quite offended when there was no desire to help by the staff. i attended the maths support centre for 3 years during my mathematics degree, i did not fail 1 exam, however i think the staff of the support centre should be more welcoming to those students who struggle rather than spending the time with the students who need less help. there was also staff unwanting to help students due to attendance at tutorials and or lectures which myself and many of the students in our mathematics found extremely offending and wrong. everybody has different circumstances and different reasons for perhaps being unable to attend tutorials or certain lectures which none of the staff of the support centre are aware of and therefor they have no authority to judge students. if the support centre is there to help all students throughout their mathematics degree they should do what it says on their posters and be welcoming and proffessional about their jobs, i believe more students would attend and feel more welcome to attend there if this was the case.*

*Very frienly, helped with very simple concepts as well as more difficult. Endlessly patient!*

*Very Helpful! Helped me pass matrices and vectors, Thanks*

*always worth a visit*

*The fundamental aspect which makes the MSC so helpful is that it is approachable. There is an intimidating side to mathematics which unfortunately is reflected in some modules but the MSC diminishes the intimidation and encourages students to work with their own skills and abilities by offering them the necessary helping hand when needs be. Knowing that if I ever got frustrated with a particular aspect of a module that I could approach somebody who could help offered me new confidence which helped me get through.*

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*Very helpful and encouraging, reassuring to know there are people there willing to help.*

*nuala is brilliant and so helpful. i think it needs bigger area/room*

*Staff were very friendly and approachable, the centre did become very busy during exam times and just before exams so i would like to see the MSC expand their opening hours at this time of year.*

*Thankyou for your help, you manage to disentangle the ridiculously complex into the effortlessly manageable.*

*The most important experience was where the MSC staff would question my thinking for a problem, with the aim that I was thinking more widely about the problem so that I could visualise other possibilities where my solution would work but also where it would not.*

*I found it very helpful and no matter how often i used it i was never made feel unwelcome or ignored and will definitely use it in the future*

*etremely helpful*

*the MSC had a warm welcoming atmosphere. It made me relax about maths. Although i did feel that i was rushed.*

*A very helpful facility. Friendly, intelligent staff that try their best to help with any problems. I really like how certain opening times are allocated to different maths topics such as ACM*

*Very helpful but a bit busy.*

*Having failed several maths and physics subjects in first year I was encouraged by a friend to go to the MSC. The staff there were so helpful, Nuala in particular, and helped me to get a clearer view of the maths in my subjects. I went weekly through that semester, and have been several times since, each time proving as helpful as the last. I haven't failed a subject since! The MSC is an invaluable asset to UCD.*

*Very helpful always greatly improved my understanding of the area i was having difficulty in*

*Usually too busy and understaffed, but since the room is so small, more staff probably wouldn't help.*

*staff were very helpful and knowledgeable*

*very helpful and couldn't have passed the maths modules without it*

*I believe the centre is a great help for anyone who want to refresh their knowledge or have weak background in maths.*

*Very helpful*

*some tutors were brilliant but some were unsure of the topics which is completely understandable as they might of been out of practice. Perhaps organised tutorials would be a good idea as i realised nearly half of the class in my module were all going asking the same questions and i thought this was wasting some of the tutors time.*

*The staff were very good but unfortunately I have dyscalculia, a specific learning disability, and I found that they were unable to help me in a way in which I understood, as most of who I talked to were there because they were*

*mathematically- minded, and therefore their thought processes work very differently from mine, and I cannot understand the equations in the same way as they do.*

*great! I study physiotherapy and I choose an elective- space science which had a lot of maths and physics which was very hard. the MSC helped me understand the maths and physics in my tutorials :)*

*Having attended the MSC a few times over the past two years I have found that the staff are quite helpful and their knowledge of mathematics is great. If I were to criticise at least one thing it would be that I have found that at least two of the tutors (who are not native English speakers) tend to rush into the topic at hand; sometimes their speech can make them difficult to understand and thus the information they are trying to convey difficult to understand.*

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*sometimes their speech can make them difficult to understand and thus the information they are trying to convey difficult to understand.*

*I found the centre to be very good when I had a specific problem not so good with general topics. I think that because I hadn't done maths in so long I probably needed a broader general understanding. I think if I had gone in a lot earlier and consistently I would have got the help I needed. I know I wouldn't have passed my exams without the tutors help. Sometimes the lecturer is showing us to do something a certain way and it would get confusing when it was shown in a different way.*

*I found the centre very friendly and helpful and particularly liked how the staff were eager to help with any problem, big or small*

*I only used the centre at the end of the year when many students gathered in a lecture hall for revision. I was very impressed with the MSC. The effort and work that was put into that lecture was remarkable. I felt like I was really cared for. The staff were wonderful and very approachable. I felt very welcome.*

*I used the MSC to help me with physics. I needed to understand differential equations to understand the section I was studying. The staff members were very helpful and explained how to solve the problems really well. I only wish it was open more hours of the week. Thank you.*

*I attended catch up seminars, when popping in to the centre itself it seemed there was something always going on so I wanted to interrupt.*

*Very busy during the times I visited. This was not leading into exams it just so happened to be then, I didn't get a seat of help for quite a while*

*It was quite packed but I was looked after none the less. I went with a few classmates but we were of different learning levels so it didn't work very well and the teacher was unfamiliar with the area of maths being studied (Psychology Statistics)*

*Very helpful.*

*I actually used it for physics so sorry if some of the questions do not really apply. It was very helpful though.*

*Good in the upcoming to the exams.*

*I'm really happy that the MSC exists in UCD. It has certainly helped me to do well in my maths exams. Thank you.*

*The MSC was an extremely useful option this past year. The instructors were clear and helped each person individually. I really do appreciate that this service is free. I should have gone more often this past year, and I plan on utilising this service next year.*