

UNIVERSITY COLLEGE DUBLIN  
MATHS SUPPORT CENTRE



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Annual Report 2020/21

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## 1 The impact of, and response to COVID-19

As we reflect on 15 months of wholly online maths support and the significant decrease in student engagement that occurred in that time due to the impact of the pandemic, it is important that we look forward to the new normal of maths and stats support at UCD. Research conducted by MSC management and UCD PhD student Claire Mullen suggests that both tutors and students alike are eager to get back to on-campus in-person forms of support. Students miss the casual interactions with friends, peers and tutors that are (unconsciously) vital to their learning. Learning mathematics online whether in the live-virtual or prerecording modalities is stilted, non-interactive and more difficult than other subjects for students. For tutors it is more challenging pedagogically and extremely fatiguing. While it is clear from this report that the MSC adapted well to the challenges presented by the pandemic and demonstrated huge commitment to the work of supporting students, it is also evident that vital lessons have been learned that will inform future provision. The MSC Annual Report for 2020/21 follows.

## 2 Executive Summary

Summary statistics of 2020/21 at the UCD MSC include:

- Due to implications of the pandemic the number of student visits was 2,179 from 607 unique students, a decrease of 49% and 47% respectively on the previous year.
- There were 174 students who used the MSC both in the pre-pandemic in-person period up to March 23rd 2020 and the online offering from that date up to June 30th 2021.
- Student visits from 101 distinct modules were recorded, a decrease of 78 modules on the previous year.
- Visits from 44 modules not delivered by the School of Mathematics and Statistics (SMS) were recorded.
- Visits from all six UCD colleges were represented at the MSC.
- 75.3% of all visits were from students registered to level 0 or level 1 modules, an increase of 8.3% from 2019/20.
- The average time spent with a tutor was 43.4 minutes (an increase of 12.2 minutes) and the median time spent with a tutor was 23 minutes.

- The median wait time to see a MSC tutor was 1.2 minutes, a decrease of 3.2 minutes on the previous year.
- The range of student visits was one to 48. The median and modal number of visits was 2 and the mean was 3.8 visits.
- 92.1% of all visits came from students registered to modules delivered by the SMS, up 12.4% on the previous year.
- 7.72% of all visits were of a statistical nature, a decrease of 3% on last year - 5.9% of all visits came from STAT modules within SMS.
- There were 1,374 one-on-one MSC sessions (a large decrease of 1,798 one-on-one visits), 50 sessions with two students and 54 MSC sessions with three or more students, a decrease of 129 group visits.
- There were just 24 bookings emanating from 18 unique students where the student did not turn up to their MSC session.
- There were in excess of 100,000 website hits to the MSC Leaving Certificate Mathematics suite of videos between September 2020 and July 2021.

Developments at the MSC during 2020/21 included:

- The entire MSC operation was conducted online via Brightspace's Virtual Classroom, Zoom and Google Hangouts with students booking 30 or 60-minute appointments via YouCanBookMe software.
- The introduction of MathsFit a Refresher Course, Proficiency Quiz and Survey of incoming Maths for Business and Maths for Agriculture students - see Section 13 for more on this.
- Updating the online MSC maths and stats resources, including the production of short videos of commonly queried topics and dynamic GeoGebra Applets for students to explore.
- Improvements to the feedback system for lecturers (with the addition of a cumulative unique student visits week-by-week), the MSC tutors interface (the addition of a note facility to record tutor historical feedback notes with their students) and student users of the service (via a dedicated booking portal using YouCanBookMe).
- Opening on three extra weeks during Autumn and Spring Trimester examination periods (to accommodate for COVID-19 affected examination timetables).
- Providing online weekly dedicated 90-minute slots for HEAR, DARE, Mature, International, QQI/FET and Access students.

The MSC offered 36 and 32 hours of appointment-based bookings per week in the Autumn and Spring Trimesters respectively. We opened for drop-in support for a total of 28 weeks of the academic year. The opening hours for the Autumn Trimester were Monday to Thursday 10am-6pm and Friday 11am-1pm. For the Spring Trimester opening hours consisted of Mon 10am-6pm, Tuesday and Wednesday 10am-5pm, Thursday 10am-4pm, and Friday 11am-1pm. The MSC also had a dedicated 90-minute slot for Access, HEAR (Higher Education Access Route), DARE (Disability Access Route to Education), Mature, International and FET-QQI (Further Education and Training - formerly FETAC) students each Thursday from 7-8.30pm

In August and September 2020 the MSC ran a series of four 3-hour maths support sessions for incoming Access students (Access to Science, Engineering, Agriculture and Medicine), and Mature student cohorts, supporting over 60 students in the process. This included diagnostic testing and follow-up support using Numbas the e-assessment and feedback portal ideal for supporting adult student returning to education.

### 3 Introduction

The Maths Support Centre (MSC) at UCD, offers free, non-judgmental academic support in mathematics and statistics for any UCD student registered to a level 0, 1 or 2 module. The MSC is a well established university-wide academic support unit which in its first three years of operation (2004-2007) saw an average of 480 student visits per year, while the last six years have experienced an average of 4,756 annual visits. It is normally a drop-in service working out of the centrally and neutrally located James Joyce Library Library Link 1 space. However from March 23rd 2020 it moved wholly online using Brightspace's Virtual Classroom, Zoom, Google Hangouts and the YouCanBookMe appointment based booking system due to the pandemic-enforced move to online teaching and learning. In 2020/21 the MSC was staffed by 18 (mostly graduate research students) skilled tutors.

### 4 Governance and Oversight of the MSC

During the 2020/21 academic year the UCD MSC Oversight Committee appointed a new chair Ted Cox, Head of the School of Mathematics and Statistics (SMS), with Maria Meehan, Head of Teaching and Learning SMS, Áine Galvin, Director of UCD Teaching and Learning continuing to serve. In summer 2021 Mark Dukes, head of subject for Mathematics, Claire Gormley head of subject for Statistics, and Barry Wardell, head of subject for Applied and Computational Mathematics within SMS all came on to the committee to replace outgoing heads of subject. We thank Kevin Hutchinson (former chair), Nial Friel and Brendan Murphy for their three years of service to the committee's work. The committee met on June 28 and September 1st of 2021. The terms of reference for the oversight committee were updated and published on the MSC website here.

Separate regular meetings with MSC tutors and management are held throughout trimesters 1-3. The MSC annual report is sent to the Registrar's office each year where it is further disseminated to the University's Management Team via the Student Experience Group (SEG) and a presentation is made at that same meeting by the MSC manager. The 2019/20 MSC Annual Report was presented for discussion at the SEG meeting, held via Zoom on May 31 2021. Questions from the SEG centred on how to employ more female tutors and how to reach out to more non-mathematics (SMS) modules. The first of these questions is addressed in Section 12 on MSC Tutors below. Concerning the second question, some clarification may be required around the reach of SMS modules. The School teaches in to a large number of programmes across all six colleges of the university and as such the vast majority of students taught by SMS are not enrolled to SMS degree programmes, but are enrolled to SMS modules. See Section 10 below for more.

The final version of the annual report was signed off by the MSC oversight committee in September 2021 for wider dissemination to the SEG, the Dean of Students, the Dean of Undergraduate Studies, the UCD Widening Participation Committee, the Librarian, relevant Programme Deans, relevant Heads of School, the Director of Access and Lifelong Learning, the Head of the Student Advisers Group, relevant Academic Student Advisors, the Students Union Undergraduate Education Officer and the SMS Office Manager.

## 5 The Year in Numbers

The number of recorded visits to the MSC in 2020/21 was 2,179 from 607 unique students, a decrease of 49% and 47% respectively on 2019/20. Trimester one visits totalled 1,515 (a decrease of 1,612 visits on the previous year), while our trimester two visits were 651 down from 1,132 last year. These significant visit decreases are due to less engagement with MSC services over the period of the pandemic when all teaching, learning and support was conducted exclusively online.

The annual number of recorded visits (and unique visitors) to the MSC for the past sixteen years is given in Figure 1. The centre has facilitated 61,644 student visits in this time.

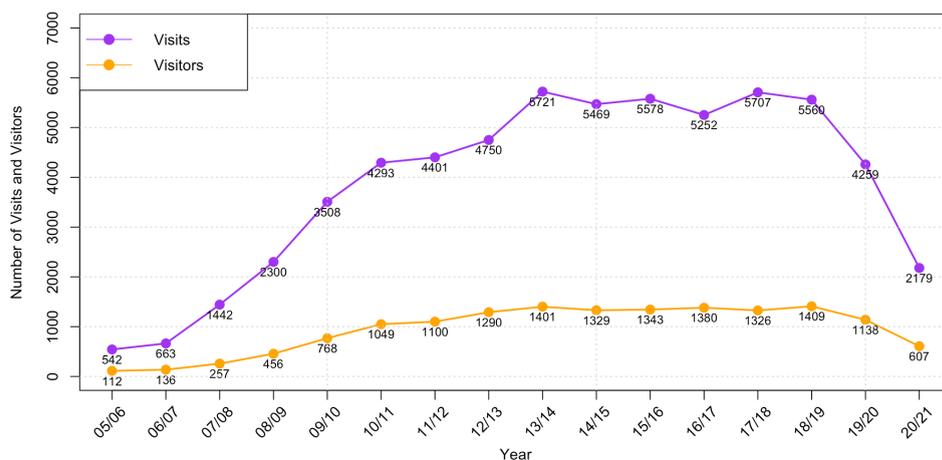


Figure 1: Annual number of visits/visitors to the MSC from 2005/06 to 2020/21

In August and early September of 2020 the MSC supported 200+ visits from 60+ distinct students on the HEAR (Higher Education Access Route), DARE (Disability Access Route to Education), Access (Access to Science, Engineering & Agriculture),

QQI/FET (Quality and Qualifications Ireland/Further Education & Training, formerly FETAC), International and Mature route entries to UCD. **These visits are not recorded** on the MSC database as these students do not yet have their UCD student numbers at this time and so cannot log in to our system. Thus Figure 1 relates only to the number of recorded visits/visitors to the MSC each year during the teaching, revision and examination periods of each trimester.

## 6 How MSC Data is Recorded

The MSC data management software system links directly to an InfoView file supplied by UCD Administrative Services. This gives a record of each student's module registration so that the details of each MSC session can be collected in a robust and accurate manner allowing for detailed analysis. The visiting student enters his/her student number at a terminal upon log in at the library or via a browser based system if accessing online maths support. Then he/she is given a place in the queue (displayed on the centre's projector screen) by the automated process. The feedback from each student visit is then anonymously recorded (with the informed consent of the visiting student) by the attending tutor(s) and uploaded to the MSC database. Module Coordinators and lecturers have access to this anonymised MSC feedback for their respective module(s) at any time and it is also sent to them each Friday via an automated email. A short video explaining the MSC feedback system from the perspectives of the student visitor, the MSC tutor and the module lecturer is available [here](#).

## 7 Wait Times and Time Spent with Tutor

For the past five years the median wait time to see a MSC tutor has improved from 29.2 minutes in 2015/16 to **4.4 minutes** in 2019/20 all without an increase in tutor expenditure. In 2020/21 students didn't typically experience a wait time as bookings (30 or 60 minute) were made by appointment using the YouCanBookMe software system which synchs with the MSC tutors' Google timetable. This development was welcomed by tutors and students and will continue into the future.

The time spent with a tutor has subsequently improved over these years. Generally a student can spend anywhere from 10 minutes up to an hour with a tutor (without pauses). Figure 2 shows a boxplot of students' time spent with a tutor by each day of the week for the Autumn and Spring Trimesters.

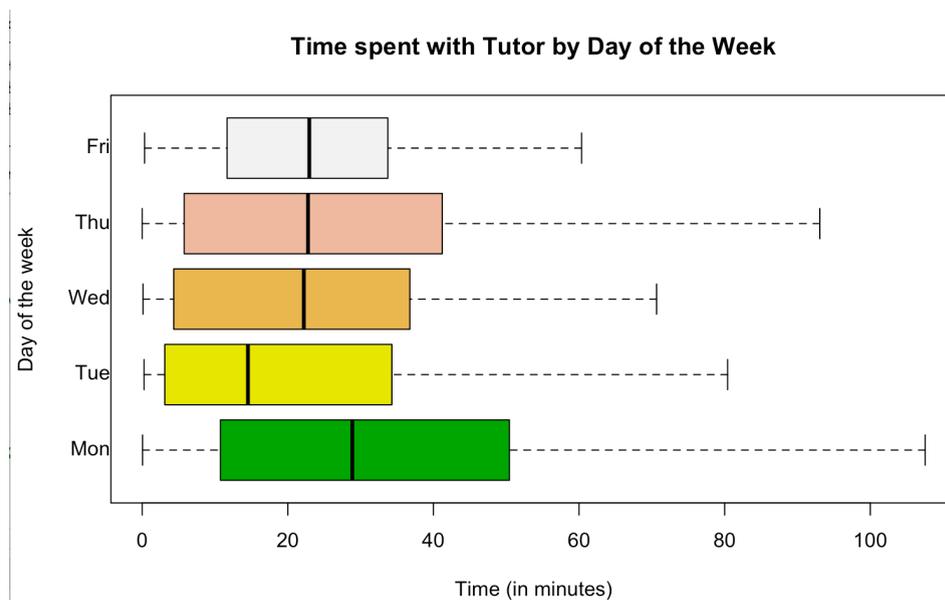


Figure 2: Time spent with tutor in 2020/21 by weekday

## 8 One-to-one and Group Sessions

Figure 3 shows the number of student sessions corresponding to the number of students in the session. As usual the majority of MSC visits are dealt with on a one-to-one basis but the number of group sessions is not insignificant with over 100 sessions involving two or more students.

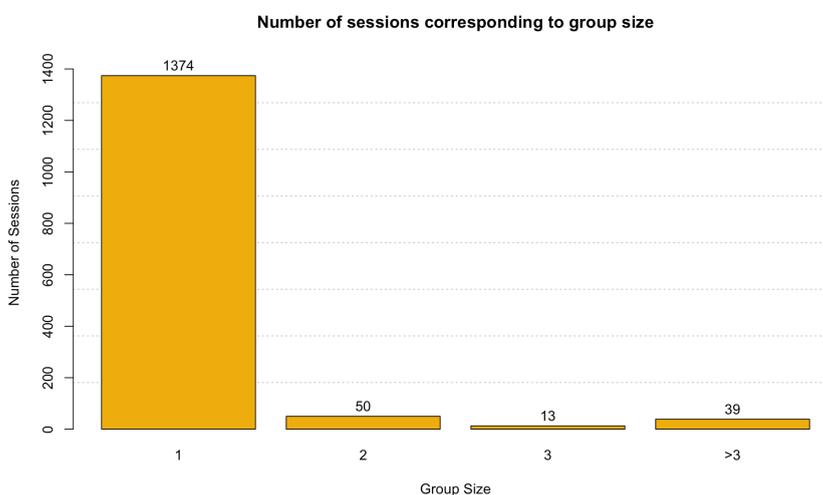


Figure 3: One-on-one and group MSC sessions in 2020/21

## 9 MSC Visits by the Week, Day & Hour

The number of MSC visits by week is given in Figures 4 and 5. The COVID-19 pandemic had a significant impact on students' engagement with the online MSC service. Those that did utilise the online support were highly likely to use the service again but getting the message out to all who had used the in-person service previously proved a great challenge. This downward trend in online MSC attendance was seen throughout the world in countries including the UK, USA, Australia, Germany, Norway and the Czech Republic.

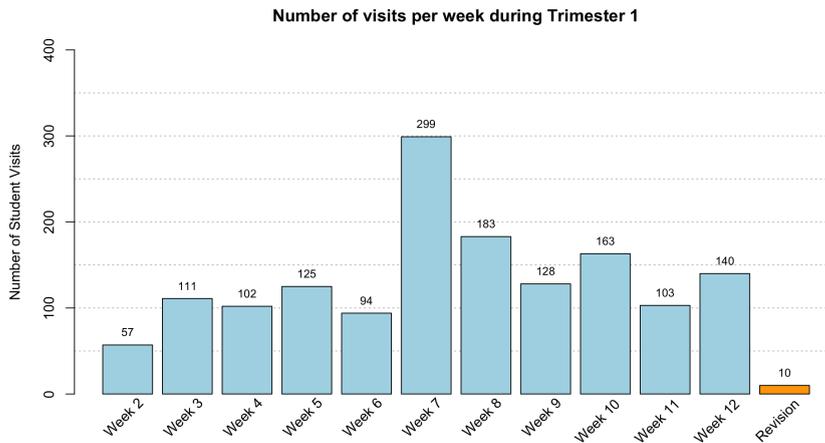


Figure 4: Number of MSC visits per week for trimester one of 2020/21

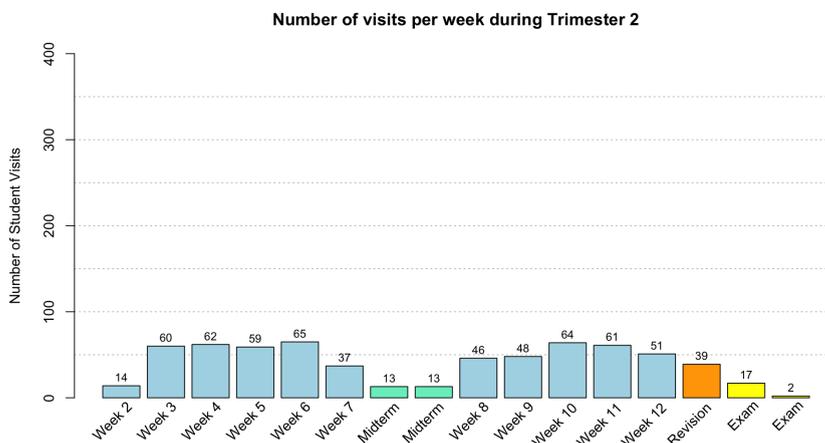


Figure 5: Number of MSC visits per week for trimester two of 2020/21

Figure 6 shows that Thursday was the most popular day for students to access the online MSC in both trimesters. Interestingly Friday of both terms resulted in the highest average visit rate per hour. Considering that the online service only operated for two hours on Fridays suggests that students’ timetables may allow for more MSC engagement on this day which needs to be considered going forward if the online setting is to continue.

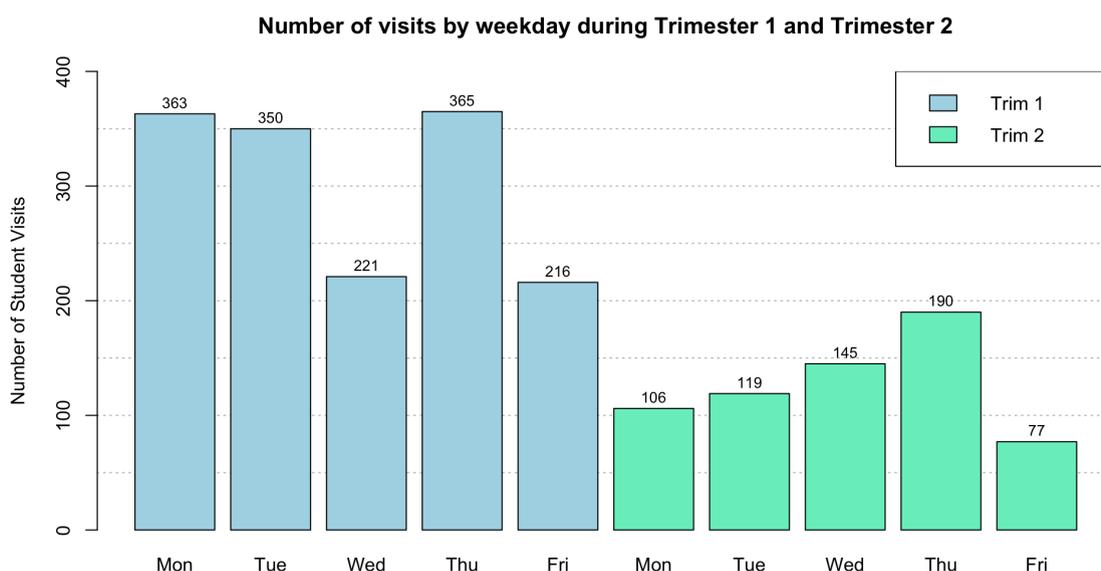


Figure 6: Number of MSC visits by weekday for trimester one and two of 2020/21

## 10 Module Levels and Colleges at the MSC

The percentage of level 0, level 1 and level 2 visits was 8.8% (down 4.2%), 67% (up 14.4%), and 23.6% (down 8.4%) respectively. While absolute visits from all three levels were significantly down, the percentage increase in level 1 visits is interesting and suggestive that first year students’ move to online didn’t impact their engagement as much as second years. In Figure 7 the 0.54% of ‘Other’ visits refers to stage 3, stage 4 and postgraduate students who booked an appointment on the MSC system but were referred back to their lecturer. The proportion of level 2 students attending the MSC was 25% in 2012/13, increased to 32% in 2015/16, and further increased to 40% in 2017/18. In 2019/20 just under 1 in every 3 MSC visits were

from stage two modules whereas during the fully online academic year of 2020/21 this statistic was less than one in four.

**Percentage of Tutorials by Module Levels**

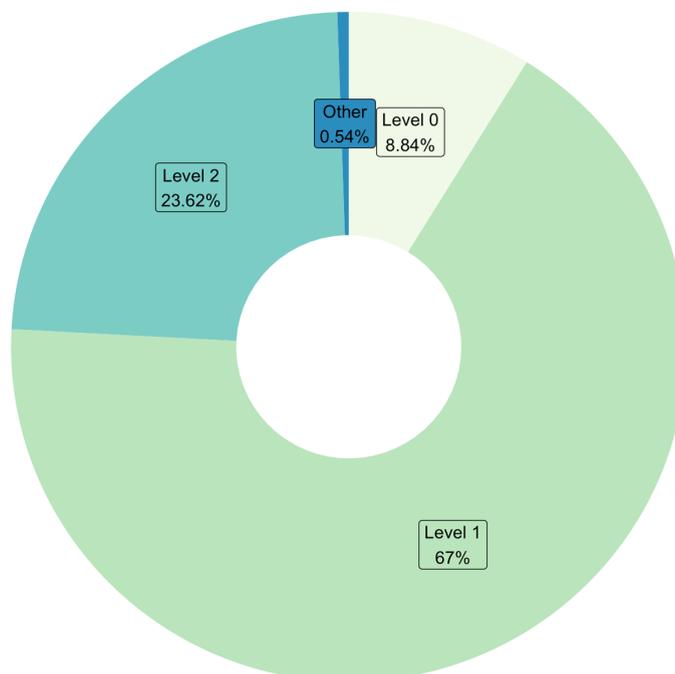


Figure 7: Percentage of MSC visits by module level for 2020/21

As usual, the MSC received visits from all six colleges of the university in 2020/21. The number of modules from within each college that presented at the MSC is shown in Table 1. The MSC received visits from nine MST (Mathematical Studies) modules all of which contain students both from the College of Arts and Humanities and the College of Social Sciences and Law.

College	Science	Social Sciences & Law	Business	Engineering & Architecture	Health & Agricultural Sciences	Arts & Humanities
No. of Modules	73	12	7	5	4	0

Table 1: Number of modules by College who visited MSC in 2020/21

Within the College of Science 57 modules are delivered by the SMS and the remaining modules are shown in Table 2 categorised by school. The SMS oversees 11 undergraduate degree programmes, six in Science, three in Social Sciences and

Law, and two in Arts and Humanities evidencing that a wide range of university programmes are well supported by the MSC.

School	Biology & Environment Science	Biomolecular & Biomed Science	Chemistry	Computer Science	Physics	Science Admin Office
No. of Modules	1	1	1	4	8	1

Table 2: Modules by College of Science who visited MSC in 2020/21

## 11 MSC-Module Coordinator Partnerships

This year saw the further development of the MSC-Module Coordinator (MSC-MC) Partnership Agreement. Designed to ensure an alignment between the support offered at school level and at the MSC this agreement keeps all stakeholders (students, MSC tutors, teaching staff and management) informed of student learning. This year the growth of the MSC-MC Partnership Agreements to include over 60 lecturers/module coordinators relating to the modules most frequently represented at the MSC.

## 12 MSC Tutors

As always the success of the MSC is due to its committed staff. This year, due to the pandemic, we interviewed and hired just one candidate for the MSC tutor role while retaining most 2019-20 MSC staff who had begun tutoring exclusively online from March 2020 and had adapted well to this. This year the MSC hired 18 tutors (down from 29 tutors the previous year) which comprised 13 males and 5 females.

It is noteworthy that many tutors experienced a very exhausting year with trying to balance research, teaching and tutoring all online and during a pandemic. Indeed three MSC tutors (all female) decided to pull away from MSC tutoring for 2020/21 citing a loss of connection with both their peers and students while tutoring online. We hope to see all three tutors back at the MSC once on-campus learning can resume safely. As student demand on the MSC was down by 47% year on year the MSC could function with just 18 tutors. Recent insights gained from a research project involving qualitative analyses of 23 students and tutors from UCD and Western Sydney University mathematics support offerings (available here) conducted by UCD MSC management and PhD student Claire Mullen, show a strong desire from students and tutors for a hybrid MSC model, encompassing both on-campus in-person support and the continuation of virtual support which clearly has benefits for many students (commuters, mature students, part-time students, students with caring responsibilities etc). If this desire materialises into 2021/22 then the MSC will require

a full complement of tutors, equivalent to pre-pandemic numbers to cope with the separate demands of both modes.

The proportion of female graduate students (both taught and research masters, and PhD students) in SMS for the last three years is 30% (2018/19), 30% (2019/20) and 31% (2020/21). The proportion of female MSC tutors for the past three years is 36% (2018/19), 28% (2019/20) and 27% (2020/21). See Table 3 for the number of tutors hired and re-hired, as well as the gender breakdown for each of the past six years.

Going forward, and following guidance supplied by the UCD Equality, Diversity and Inclusion Unit the MSC will incorporate the EDI statement which is included in all job description templates when advertising and promoting the MSC tutor role. The hiring of a diverse set of tutors that reflects the wider university student body that access the MSC is something management and the oversight committee will continue to monitor.

Four of this years' MSC tutor cohort have doctorates in Mathematics or Mathematical Physics. Nine tutors were completing their PhD studies in the School of Mathematics and Statistics, two were doing a research MSc in Mathematics/Statistics. One of our tutors was a fourth-year undergraduate student in 2020/21. The remaining tutors were sourced from outside UCD. All MSC tutors undergo CV and transcript vetting, interviews, extensive training and mentoring throughout their time at the MSC. Every year the tutor turnover is high at the MSC where tutors either move to industry or other high calibre educational institutions and so sourcing and retaining high quality mathematics tutors remains a significant challenge for the UCD MSC.

	2020/21	2019/20	2018/19	2017/18	2016/17	2015/16
<b>Tutors newly hired</b>	<b>1</b>	<b>10</b>	<b>13</b>	<b>11</b>	<b>9</b>	<b>12</b>
<b>Tutors re-hired</b>	<b>17</b>	<b>19</b>	<b>15</b>	<b>10</b>	<b>13</b>	<b>13</b>
<b>% of Females</b>	<b>27%</b>	<b>28%</b>	<b>36%</b>	<b>24%</b>	<b>23%</b>	<b>28%</b>
<b>Totals</b>	<b>18</b>	<b>29</b>	<b>28</b>	<b>21</b>	<b>22</b>	<b>25</b>

Table 3: Numbers of new and re-hired MSC tutors and gender breakdown of MSC tutors for the past six years

## 12.1 Continuing Professional Development of MSC tutors

MSC management and/or MSC tutors took part in the following continuing professional development activities in 2020/21:

- September 2020 - All MSC tutors were trained (5-6 tutors at a time) to conduct support sessions online using Brightspace's Virtual Classroom and Zoom. This was a monumental effort on behalf of all tutors involved given only one tutor

had tutored in an online setting before. Interactive Wacom tablets and digital pens were purchased for MSC tutors who required them.

- Sept 22 2020 - MSC manager and 10 MSC tutors (along with 10 tutors from the School of Physics) took part in an Equality, Diversity and Inclusion game-based training funded by the National Forum for the Enhancement of Teaching and Learning.
- Nov 16 2020 - MSC manager and two tutors attended ‘Poll Everywhere’ training
- Dec 2 2020 - MSC manager and three tutors attended ‘Increase Student Confidence, Engagement, & Success With Online Tutoring’
- Dec 9 2020 - MSC manager and tutor attended ‘Homegrown Online Tutoring: Best Practices for Developing & Managing Your Own Program’.
- Jan 21 and May 19 2021 - MSC manager and five tutors attended Irish Maths Learning Support Network Workshops on online maths support.

## 13 MathsFit

A new development initiated by MSC tutors and management in 2020 was MathsFit.

Given the disruption of teaching and learning due to the pandemic-enforced school closures in Ireland from March 2020, the MSC had concerns about the mathematical readiness of in-coming university students. While teachers provided expected grades the usual reflection (via student-completed state examinations) of students’ achieved mathematical learning in secondary school was unavailable. Coupled with these concerns was the issue of university teaching, learning and assessment being wholly online for what turned out to be the entire first year of these students’ studies.

To mitigate these potential problems, we designed MathsFit for these in-coming university students. MathsFit is an online suite of resources which includes a mathematical proficiency quiz, a mathematical background questionnaire, and pre- and post-surveys of students’ mathematical anxiety, as measured by the Betz (1978) Mathematics Anxiety Scale, and resilience.

The proficiency quiz uses best practice in standardised diagnostic testing building on PISA (the Program for International Student Assessment) and tried and tested examples from Ireland, the UK, Asia and Australia. It provided students and MSC tutors with a snapshot of their competencies in the fundamental mathematical areas which require mastery for success in their university mathematics courses. To further understand students’ mathematical proficiency, part of the mathematical

background questionnaire examined the students' perceptions of whether their secondary school curriculum was fully covered during the Covid-19 period.

MathsFit's key feature was a suite of digital supports to assist students with the transition to university mathematics. This includes a short video, uploaded to the institution's Virtual Learning Environment (VLE) Brightspace, welcoming students to the university and introducing them to the concept and rationale of MathsFit, in addition to an optional online Refresher Course which can be taken in advance of the diagnostic quiz. Students completed the quiz and surveys through Brightspace and then, using the Intelligent Agents and Release Conditions features of Brightspace, received a personalised support email. This email gave students information about, and links to, tailored mathematics support dependent on their scores from MathsFit as well as the opportunity to retake the quiz to measure their improvement. This support encompassed both one-to-one and small group virtual maths support sessions using Virtual Classroom in Brightspace and personalised video tutorials within the Moodle VLE. The email also invited the highest MathsFit achievers to act as peer-mentors to the lowest achievers in the small group support sessions.

While the testing and diagnosing of students' mathematical competencies upon entry to university is quite common, studies concerning follow-up support and interventions for at-risk students are less common. In addition, there is a lack of research exploring and analysing online diagnostic testing, which up until now has usually been conducted live in lecture halls with pen and paper, and subsequent digital student support. This first iteration of MathsFit had 792 participants. Our findings see promising early evidence of strong initial engagement, improved performance in basic mathematics skills and prolonged engagement with online maths support throughout the first trimester of university study. The two modules which participated in MathsFit were two of the handful of modules, of the 101 modules supported by the MSC in 2020/21, that showed a significant increase of engagement with MSC services when compared with the previous year. There was 96% (495/515 students) and 80% (297/371 students) engagement with MathsFit from the two large first-year modules involved in MathsFit. The ultimate aim of MathsFit is to identify as early as possible in trimester 1 those students who may be at risk of failing or under achieving in their first mathematics module at university so that we may then channel these students to access mathematics support either online or in-person at their convenience.

## 14 Research and Communications at the MSC

A number of research outputs related to the work conducted at the MSC were disseminated by MSC management and tutoring staff in 2020/21 including:

- Mullen, C., Pettigrew, J., Cronin, A., Rylands, L. Shearman, D. (2021). The rapid move to online support: changes in pedagogy and social interaction. *International Journal of Mathematical Education in Science and Technology*. 17 Aug 2021.
- Mullen, C. and Cronin, A. MathsFit: A digital support system for first year university mathematics students in the time of Covid-19. The Irish Learning Technology Association, EdTech Winter Online Conference 2021 - Paradigm Shift : Reflection, Resilience and Renewal in Digital Education. 14 Jan 2021.
- Brown, A, and Cronin , A. The UCD MSC during the Covid-19 pandemic. Irish Maths Learning Support Network Annual Workshop. 24 June 2020.

## 15 Outreach Activities at the MSC

Due to the pandemic the Library-MSc Leaving Certificate Programme did not proceed within the James Joyce Library as usual. Instead schools were encouraged to engage with the 200+ videos created by MSC tutors covering all five strands of both the Ordinary and Higher Level mathematics course. This resulted in over 100,000 hits to the MSC website for these videos as measured by Google Analytics. These videos will remain freely available via the MSC YouTube channel for anyone to access.

## 16 Summer Courses and Orientation events

In July and August 2020 the MSC designed and delivered four online 3-hour workshops for the students registered to the Access to Science, Engineering and Agriculture programme. This included a number of Open Learning students wishing to study part time. The MSC also attended and presented at many orientation events in the preceding weeks of the Autumn term, including the International Orientation Programme for incoming students in August and January. The MSC participated in the inaugural Welcome to UCD Brightspace module initiated by Prof Jason Last.

## 17 Future Developments and Recommendations

### 17.1 Developments for 2021/22

1. As InfoView is actively being retired the MSC is in talks with UCD Admissions and Administrative Services concerning access to the student module registration file via the new system Tableau.

2. In response to the qualitative research mentioned earlier, for 2021/22, the MSC aims to deliver a blended form of student support sessions both online and back on-campus from the physical centre. Surveys of both in-person and online users is being designed for implementation in late September 2021 so that the MSC can tailor its service to all users' needs.
3. In September 2021 it is envisaged that MathsFit will be extended to five large first-year service-teaching modules involving approximately 1,500 students. This year students will have the flexibility to engage with a short Refresher Course (as desired by many students in post-MathsFit surveys, feedback and interviews) before taking the MathsFit Proficiency Quiz, survey, and engaging with follow on supports.
4. In late August 2021 the remaining unpainted wall in the MSC will be covered with anti-microbial Smarter Surface paint to allow for greater collaborative writing space for both students and tutors.
5. As the number of student enrolments to mathematics service courses continues to grow the aim for the MSC is to continue to provide high quality academic support to UCD students accessing the service within the existing budget parameters and with the support of its highly skilled tutors.

## 17.2 Recommendations

1. Given insights gained from the aforementioned research project involving qualitative analyses of students and tutors from UCD and Western Sydney University mathematics support offerings, we recommend that the UCD MSC continue to provide a virtual form of maths and stats support that can be accessed off-campus.
2. Related to findings in this research we recommend that more time and thought be put in to how students can interact more effectively both with their student peers and their tutors when online. The sharing of students' work online (by requesting students upload their query and associated materials in advance of their booking) and making this a more efficient process for both student and tutor will be paramount to this interaction going forward.
3. It is important that the MSC do everything it can to provide in-person on-campus support while adhering to public health guidelines. Therefore we recommend pursuing an exemption for the MSC service to the statutory instrument that refers to libraries in particular, that says tutors and students must maintain 2 metres physical distancing and wear masks which is not in the spirit of one-on-one academic support. In July 2021 MSC management met with col-

leagues from UCD Estate Services to set up the physical MSC space using the 2 metre physical distancing protocol. This resulted in safe working spaces for a maximum of 12 students (sitting alone at a desk) and five MSC tutors working from designated safe spaces clearly marked out in the space. We continue to make the argument that in-person MSC services should be treated like other teaching situations throughout campus which are deemed essential work with student and tutor side by side or at most at 1 metre physical distancing.

4. Tutor welfare and well being must be a priority given the current levels of exhaustion and stress experienced by many teaching staff, particularly PhD tutors during this overwhelming pandemic era. This will be addressed by careful planning and monitoring of tutor work loads. In advance of composing tutor timetables each year, data will be collected on anticipated periods of intense research activity during the year from the PhD tutors. This information will be incorporated into tutor timetable planning and monitoring. Further, we recommend building in a higher capacity by hiring more tutors (to work a fewer number of hours) to cover possible leaves of absence due to pandemic-related issues.
5. Operating from the Library in Autumn and/or Spring Trimesters of 2021/22 will prove a great challenge given the statutory instrument that all libraries are subject to and the close proximity of student and tutor typical in such one-on-one support settings. This is compounded due to the uncertainty of Covid variants and the risk of infection posed by poorly ventilated work spaces. Over the summer of 2021 we have liaised with UCD Building Estates, UCD SIRC and UCD Library for advice on how best to monitor the air quality of the existing MSC space and an engineer from Building Management Systems office has investigated the ventilation to ensure that it is sufficient to ensure compliance with sectoral guidance as a safe space to study.
6. Given Friday resulted in the highest average rate of visits per hour we recommend Friday service hours be extended to meet student demand.

## 18 Conclusion

In summary 2020/21 has been the most challenging of years for students and MSC staff for obvious reasons. However some of the challenges presented have resulted in innovations, such as the YouCanBookMe appointment based booking system, synchronous online hot topic sessions for large cohorts of students, and the obvious flexibility that virtual support has in terms of space and time for certain cohorts of students, that will be maintained going forward.