The following questions and answers represent opinions, suggestions and discussion from faculty in the MDS programme, and are intended to support a student’s own decision making in choosing appropriate course of units for their degree.

Credits and Exemptions

Credit is the recognition of previous study or learning that can be counted towards a qualification. This can reduce the number of units required to complete a course of study.

The difference between a credit and an exemption is:

Credit: Credit is granted towards a specific unit or component in a qualification. Credit is given for a specific Monash unit, as identified by its unit code.

Exemption: An exemption is a type of specified credit where the student is waived the requirement to complete a unit but is required to complete another unit of the same credit point value.

Gaining credits will reduce the total credit points required to obtain your MDS qualification. Gaining exemption will only give you the option to replace a unit/s. You must be very sure of how these applications will affect your course progression. You may accept credits and exemptions and then revoke (undo) them later. You may convert credit/s to exemption/s afterwards if you plan to do more units towards your course.

You cannot apply credits or exemptions to more than 50% of your course.

You will need to prepare the correct documentation to include as evidence of prior learning in your application. This evidence will depend on the types of learning you’re claiming is equivalent of the Monash unit. There are restrictions on what type of learning can be used to credit or preclude certain units in the MDS course.

Part A units: These units are level 9 and include and previous equivalent formal learning from a bachelor’s degree or higher may be used as justification. Work experience may also be used.

Part B units: These units are level 5 and previous equivalent formal learning from a master’s degree or higher may be used as justification. Extensive work experience may also be used should you be able to evidence this appropriately.

Part C: Capstone units or minor thesis are not eligible for credit or exemptions. Any part C electives are subject to level 5 restrictions.
Why are credits and exemptions important?

Credit and exemption are different mechanisms, but they both mean you don't have to take a unit. The exemption has you substitute the unit for another, whereas the credit means you need one less unit in your degree. It is crucial to plan for them and get them right. Otherwise, the following scenarios might happen.

- If you don't apply for them when you should have, you end up paying for a unit that you didn't have to do.
- If you do apply for them and get them, but your skills turn out to be inadequate (this happens for many reasons), then you struggle and can fail a subsequent unit. In this case, you should be very confident that you are still familiar with the skills you gained before. Otherwise, you’d better choose to take unit(s) again to refresh your knowledge, particular for those involving in the pre-requisite/co-requisite structure.
- If you apply for them after start of semester, the new unit you substitute in will be started late and you may miss the first week and struggle to keep up.

If you want to apply for credit or exemption, you must prepare all the supporting documents, i.e., the evidence supporting your application, which include, for example, the content of subjects in your earlier degree. Please note that the credit/exemption application will be assessed based on the supporting documents submitted together with the application. You should try to collect as much evidence as you can, which will speed up the process of assessment as any further document request would delay the whole process.

What if the credit/exemption was wrong?

In this case, what you can do is to

- contact the student and academic services team and have them removed from your record.
- change a credit to an exemption (if you want to take on extra unit but not the one you got credit for).

Again, you should do it as early as possible to avoid fees and possible effect on your degree.

What sorts of credits/exemptions might I need?

Both university and faculty have policies on credit of prior learning. The latter adheres to the former. The information of credit for prior study is available online via

- University wide: https://www.monash.edu/study/how-to-apply/credit-for-prior-study
- Faculty of Information Technology: https://www.monash.edu/it/future-students/how-to-apply/credit-for-prior-learning

Here, we list some common cases:

Prior study can be relevant. There are several standard scenarios. For example,

- MAT9004: If you have a typical STEM (science, technology, engineering and mathematics) undergraduate degree you might be able to receive credit/exemption for MAT9004.
- FIT9132 and FIT9134: Computer Science or Informatics degrees usually cover the material in these two units.
FIT9123: Informatics degrees *usually* cover the material in this unit.

Of course, there are many other cases that can apply, so you need to do your own research. Before you apply for credit/exemption, you need to identify the actual prior subject/unit that covered the material and obtain a copy of their subject/unit description and learning outcomes, to include with your application. Copy from a URL is acceptable as long as it is valid institutional webpage. Please note that no high school study can be considered.

**Work experience can be relevant.** This is harder to get because you need a written/digital letter from your employer stating the nature of the work done, to be included in the application. If the experience was gained as part of research or part-time work for your university, then the letter needs to come from the academic supervisor. Typical cases here are where you worked in an IT department for a business, so can ask for credit/exemption for FIT9123, or you had programming experience in Python which can support your case for FIT9133 if you also have programming education but not in Python. Most importantly, the letter should clearly indicate how you have gained, via your previous work, the knowledge covered in the unit for which you are willing to apply for credit/exemption. It is a good idea to refer to the unit guide of the unit, particularly the unit schedule table that contains the major topics taught in the unit.

**Why is credit/exemption for FIT9133 (Python) hard to get?**

While processing the credit/exemption application for FIT9133, we do need to receive the proof of experience with Python. Two years of undergraduate education with C++ is not adequate, but if you have good programming education (not in Python) and some Python work experience then you may be eligible. Note that SQL and R are not full programming languages, so they don’t count.

**I have a research thesis in my prior degree (masters, honours). Can I use this to get credit for research thesis in Part C.?**

You may receive credit from a previous honours degree in a discipline qualification in either data science or non-data science area and in that case, you are only required to complete 48 credit points, comprising of Part B.

**I have X years of working experience in the data science (or relevant, business analytics, etc.). Can I get credit for FIT5120?**

Unfortunately, No. FIT5120 is a capstone unit. Credit/exemptions will not be approved for any final year capstone project units. Please refer to the FIT credit policy for more details: [https://www.monash.edu/it/future-students/how-to-apply/credit-for-prior-learning](https://www.monash.edu/it/future-students/how-to-apply/credit-for-prior-learning)

**How are credit or exemption applications assessed?**

In the case of previous formal learning, the volume, depth and breadth of content and assessment requirements between the previous successfully completed component of study and the Monash unit and/or agreed relativities between a previously completed qualification and a Monash qualification. In the case of prior informal learning, an evidence-based assessment made by the teaching faculty (which will determine a variety of methods for the purpose) between the previous learning and the Monash unit.

**How do I provide evidence with my application?**

For **prior formal learning**, you **must** provide the following in your application:

- Certified hard or digital copies of your official transcripts.
- **Syllabus/unit description** and **unit guide of those units** that you are using to evidence your application. You must submit the URLs of the links to these. PDF or other copies will not be accepted. Moreover, the URLs must be for the institution granting the transcript.
• In your application, you must also clearly indicate which unit you are going to apply for credit/exemption in your application. In order to do so, please check the unit’s syllabus, unit guide on Monash website.

Prior non-formal learning (experience in industry)
• Letters from your direct employer (manager or supervisor) detailing how you have sufficient experience to address each of the Unit Learning Outcomes (ULO) and the content covered in each week of the unit you are applying to have credited or exempt. The contents of this letter must provide examples and adequate details. For example, “John has completed work that fulfils the requirements of each of these unit outcomes” is not acceptable.
• You should ask for this letter to be printed on stationary with the company letterhead and must be signed by your manager.
• A copy of your most recent CV.
• A copy of your digital official transcript that has been certified.

You cannot justify your application with the following
• Failed units even if they have been a near pass, i.e. 49%.
• Your previous learning must be equivalent to at least 80% of the content, learning outcomes and weighting of the Monash unit. This means that the unit must be 80% identical in the learning outcomes and amount of materials dedicated to these learning outcomes. Please note the materials dedicated to these learning outcomes are affected by the number of units taken per semester in your previous degree. An example is that in some countries, 8 units per semester are taken. At Monash, 4 units per semester are taken (24 pts). This generally correlated to units from the first qualification per one Monash unit.
• Qualifications that are older than 10 years.
• Internships or less than 12 months in full-time roles that use the same programming languages (if applying for FIT9133, FIT9132), excepting in the case where you also have formal programming education.

Where to apply for credit/exemption
To apply for credit or exemption in recognition of prior learning you will be required to apply online through the online credit application

https://online-credits.monash.edu/login

This is the correct link to use for both applications to obtain a credit or exemption from a unit in the Master of Data Science (MDS) course. The guide to applying for credit or exemptions can be found at

https://www.monash.edu/education/future-students/apply/credit.

Degree Choices

Of the foundation units, should I take FIT9123 Introduction to business information systems or FIT9134 Computer architecture and operating systems?
Business information systems explains the operating context for a lot of big data applications, describing a typical world of business IT shops. If you are more interested in the customer (i.e., business group) side of Data Science and how businesses operate, select this unit.
Computer architecture and OS describes the Linux operating system. This is important because it is the main platform for distributed systems and big data analysis, especially in the internet world. If you want to work on big data algorithms, for instance doing FIT5202, covering this really helps.

Should I take the Advanced Data Analytics stream or the general Data Science stream?
These streams represent two alternative pathways to complete your MDS degree. Ultimately, to get a degree, you have to satisfy the handbook entry for the year. Please check the link below for 2019:


The major difference between the two streams is that ADA requires more specific units to be undertaken, and in particular FIT5201 needs to be taken. FIT5201 is where you learn about machine learning methods and is more mathematical. Students in the Data Science stream don’t necessarily need to know this detail, but if you want to get into writing algorithms or pursuing a PhD, this is highly recommended. Generally, you don’t need to make a decision about the streams until your second year because you need to complete FIT5197 beforehand anyway.

Should I do the IE Studio Project or the Research Project for Part C?
You won’t need to make this decision in your first semester. More details on these choices will be given later. To be eligible for the research project, you would must have completed 24 points of Level 5 FIT units and have achieved an overall WAM of at least 75% across all those units.

What is the difference between FIT5148 Big data management and processing and FIT5202 Data processing for big data?
While both cover distributed processing and big data, FIT5148 is about databases and FIT5202 is about algorithms. Generally, take FIT5202 if you want to get more into algorithm development. FIT5148 addresses a common problem in big organisations.

What interesting sub-groups of units are there that suit different fields in Data Science?
Machine Learning: It is about algorithmic methods for statistical computation. FIT5201, FIT5202, FIT5211.

Data Management: It is about curation and management of data in organisations. FIT5146 plus FIT5204, FIT5205, FIT5206, FIT5207.

Applied Data Science: the main practical units. FIT5147, FIT5149, FIT5196, FIT5197.

Big Data: FIT5148 and FIT5202.

Extra research units: You can use FIT5108 and FIT5109 to add custom content to your degree. Entry to these units is subject to approval of the Associate Dean Education, on the advice of the relevant master’s program leader. Please see 2019 handbook (http://www.monash.edu/pubs/2019handbooks/courses/C6004.html) for unit details.
Sequencing your Units

There is one long chain of prerequisites in the MDS so plan carefully in taking these units:
FIT9133 or FIT9131 and MAT9004 are prerequisites for FIT5197.

FIT5197 is a prerequisite for FIT5149 and FIT5201. It is always good to take FIT5197 as early as you can.

Note MAT9004, FIT5197, FIT5149 and FIT5201 are currently offered both semesters.

Must I complete all Part A (foundation) units before starting Part B?
No. However, keep in mind some foundation unit/s can be prerequisite to other units.

Can I do the Monash Online unit deliveries, listed in the handbook?
Monash Online units are only available for students enrolled in the GDDS degree, not for MDS students. But you can do summer semester units, see below.

Can I do more level 5 (graduate level) units than the 72 points (part B + part C) listed in the degree?
No. However, you may wish to convert any credit/s you have to exemption/s to complete additional unit/s.

Some units are offered over a summer semester (starting December or January for 6 weeks):
Summer units are useful in case you fail units or want to complete quicker. The MDS units FIT5057 and FIT5145 have usually been offered over summer. Summer offerings are announced around September and change year to year. There are also some external units available in both summer and winter (see below).

For further information about Summer Semester units, please visit

https://www.monash.edu/enrolments/summer-winter/instructions

We don’t offer any winter units.

I don’t have the prerequisites for a unit. What can I do?
The prerequisites are only guidelines. Final approval to undertake a unit is given by the Chief Examiner (CE) whose name will be listed on the handbook entry. If you think you may have equivalent prerequisite knowledge, contact the CE and seek approval to do the unit. Send them an email with supporting details for instance the prior subject/unit description from an earlier degree and ask for permission. If they give an email approval then show that to student and academic services team who can manually enrol you in the unit.
I failed a unit. What can I do?
Failure disrupts your progression and may mean you have to stay an extra semester. Repeated failure can be in breach to University’s academic progress rules (https://www.monash.edu/it/current-students/resources-and-support/unsatisfactory-academic-progress) and you may be contacted to discuss your situation to consider if progressing is realistic.

External Electives

Can I do other Faculty of IT masters units?
You can choose one or two FIT Level 5 electives. Refer to the course map (https://www.monash.edu/__data/assets/pdf_file/0020/1504820/2019-C6004-MDS.pdf) for details.

I would like to take a statistics unit from the Faculty of Business and Economics (BusEco). What can I do?
Their units taught in Caulfield are coded ETF5XXX and their units taught in Clayton, which are more theoretical and targeted at those seeking to do PhDs are coded ETC5XXX. You need to contact the respective unit’s chief examiner for approval and once you have it contact the FIT student and academic services team for enrolment, if you’re unable to do it through WES.

But there are three current potential problems with doing their units:
1. You will need the right prerequisites, so might have to do an initial unit first.
2. Some of their units have quota and they stop enrolment once it is reached.
3. MDS rules currently do not allow you to include other faculty units in your Part B WAM calculation for the purposes of doing a research project in Part C.

Here are some of the external units you may find suitable.

- ACF5320 Business analytics (S1,S2)
- BEX5707 Business insights from data analysis (Winter)
- ETC5242 Statistical thinking (S2)
- ETC5340 Principles of econometrics (S2)
- ETC5341 Applied econometrics (S1)
- ETC5410 Bayesian time series econometrics (S1) (hard!)
- ETF5200 Applied time series econometrics (S1)
- ETF5231 Business forecasting (S1)
- ETF5320 Applied econometrics (S1)
- ETF5500 High dimensional data analysis (S2)
- ETF5600 Quantitative models for business research (S1)
- ETF5922 Data visualization and analytics (S2, Summer B)

Every effort has been made to ensure that the information provided is correct at the time of publication.

Monash University reserves the right to alter this information should the need arise.