# Master of Computing MCOMP Data Science Specialisation DTSC-SPEC

## Instructions
1. Make sure that you are familiar with the program requirements of your degree.
2. Make sure you are following the program requirements for the academic year that you commenced your degree.
3. Fill in the boxes once you have successfully passed the course (or if you have been awarded course credit or exemption).
4. Ensure that you have completed the minimum unit requirements for each section.
5. Always check your enrolments with CECS Student Services to ensure that you are on track to graduate.

The Master of Computing requires completion of 16x courses (96 units), of which:

A minimum of 6x courses must come from the completion of 8000-level courses or 'Advanced' classification 6000-level courses.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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</thead>
</table>

## Compulsory Courses

Complete the 4x courses listed below

- **COMP6710 Structured Programming** (6 units)
  - Options: completed at the ANU, awarded as credit, awarded as exemption
  - Availability: Semester 1 / Semester 2
  - Classification: Transitional
  - Prerequisites: N/A

- **COMP6250 Professional Practice 1** (6 units)
  - Options: completed at the ANU, awarded as credit, awarded as exemption
  - Availability: Semester 1 / Semester 2
  - Classification: Transitional
  - Prerequisites: N/A

- **COMP6442 Software Construction** (6 units)
  - Options: completed at the ANU, awarded as credit, awarded as exemption
  - Availability: Semester 1 / Semester 2
  - Classification: Transitional
  - Prerequisites: Successful completion of COMP6710, or successful completion or current enrolment in MATH6005 or COMP6260

- **COMP8260 Professional Practice 2** (6 units)
  - Options: completed at the ANU, awarded as credit, awarded as exemption
  - Availability: Semester 1 / Semester 2
  - Classification: Transitional
  - Prerequisites: Successful completion of COMP6250

## Compulsory Foundational Courses

Complete 1x of the courses listed below

- **MATH6005 Discrete Mathematical Models** (6 units)
  - Options: completed at the ANU, awarded as credit, awarded as exemption
  - Availability: Semester 1
  - Classification: Transitional
  - Prerequisites: N/A

- **COMP6260 Foundations of Computing** (6 units)
  - Options: completed at the ANU, awarded as credit, awarded as exemption
  - Availability: Semester 1
  - Classification: Transitional
  - Prerequisites: N/A

## Compulsory Research or Internship Courses

Complete 1x of the courses listed below

- **COMP8715 Computing Project** (12 units)
  - Options: completed at the ANU, awarded as credit, awarded as exemption
  - Availability: Semester 1 / Semester 2
  - Classification: Advanced
  - Prerequisites: Successful completion of COMP6442, Successful completion of COMP8260
  - This course must be completed over two consecutive semesters

- **COMP8755 Individual Computing Project** (12 units)
  - Options: completed at the ANU, awarded as credit, awarded as exemption
  - Availability: Semester 1 / Semester 2
  - Classification: Advanced
  - Prerequisites: Successful completion of COMP6442, Successful completion of COMP8260
  - Before you enrol into this course you must:
    - Find a Project Supervisor
    - Complete an ‘Independent Study Contract’
- Obtain approval from the Course Convenor

**COMP8830 Computer Science Internship** (12 units)
- completed at the ANU
- awarded as credit
- awarded as exemption

**Available**: Semester 1 / Semester 2  
**Classification**: Advanced  
**Prerequisites**:  
- Successful completion or current enrolment in COMP6442  
- Successful completion of COMP8260

**Before you enrol into this course you must**:  
- Have a GPA 5.0/7.0  
- Successfully complete 8x courses in your current ANU degree  
- Complete an online ‘Expression of Interest’ form  
- Submit a Degree Health Check request  
- Submit a copy of your curriculum vitae to CECS Student Services

*This course must be completed in one semester*

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### Specialisation Courses – Data Science

**Complete the 3x courses listed below**

- **COMP8410 Data Mining** (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  **Available**: Semester 1  
  **Classification**: Advanced  
  **Prerequisites**:  
  - Successful completion of COMP6240 or COMP7240  
  - Successful completion of COMP6710 or COMP6730 or COMP7230

- **COMP8430 Data Wrangling** (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  **Available**: Semester 2  
  **Classification**: Advanced  
  **Prerequisites**:  
  - Successful completion of COMP6710 or COMP6730 or COMP7230  
  - Successful completion of COMP6240 or COMP7420

- **COMP6490 Document Analysis** (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  **Available**: Semester 2  
  **Classification**: Advanced  
  **Prerequisites**: N/A

**Complete 1x of courses listed below**

- **COMP6320 Artificial Intelligence** (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  **Available**: Semester 1  
  **Classification**: Advanced  
  **Prerequisites**:  
  - Successful completion of COMP6710  
  - Successful completion or current enrolment in COMP6262

- **COMP8420 Neural Networks, Deep Learning and Bio-inspired Computing** (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  **Available**: Semester 1  
  **Classification**: Advanced  
  **Prerequisites**:  
  - Successful completion of COMP6710  
  - Successful completion of COMP8410  
  - Successful completion of STAT6039

- **COMP8600 Statistical Machine Learning** (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  **Available**: Semester 1  
  **Classification**: Advanced  
  **Prerequisites**:  
  - Successful completion of COMP6670  
  - Successful completion of COMP6710 or COMP6730 or COMP7230  
  - Successful completion of STAT6039

- **COMP8620 Advanced Topics in Artificial Intelligence** (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  **Available**: Semester 2  
  **Classification**: Advanced  
  **Prerequisites**:  
  - Successful completion of COMP6320

- **COMP8650 Advanced Topics in Machine Learning** (6 units)
  - completed at the ANU
  - awarded as credit
  - awarded as exemption
  **Available**: Semester 2  
  **Classification**: Advanced  
  **Prerequisites**:  
  - Successful completion of COMP6670 or COMP8600

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### Specified Elective Courses

**Complete 3x 6000- or 8000-level COMP-coded courses**

- **COMP-coded 6000- or 8000-level course** (6 units)
  - completed at the ANU
  - awarded as credit

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College of Engineering and Computer Science (CECS)  
Academic Year 2021
<table>
<thead>
<tr>
<th>Course Type</th>
<th>Course Details</th>
<th>Completed at ANU</th>
<th>Awarded as Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP-coded 6000- or 8000-level course (6 units)</td>
<td>Course: ___________________________</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>COMP-coded 6000- or 8000-level course (6 units)</td>
<td>Course: ___________________________</td>
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<tr>
<td>Unspecified Elective Courses</td>
<td>Complete 2x ANU-wide courses</td>
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<td></td>
</tr>
<tr>
<td>ANU-wide elective course (6 units)</td>
<td>Course: ___________________________</td>
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<td>Course: ___________________________</td>
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**Additional electives as a result of awarded course exemption(s)**

You are required to complete an additional _____ COMP-coded elective courses.

You are required to complete an additional _____ ANU-wide elective courses.
## 2021 Suggested Study Plan – Semester 1 Commencement

*Professional Computing Specialisation to receive professional accreditation by the Australian Computer Society.*

<table>
<thead>
<tr>
<th>Year</th>
<th>Semester 1 2021</th>
<th>Semester 2 2021</th>
<th>Professional Practice 1</th>
<th>Professional Practice 2</th>
<th>Foundations of Computing</th>
<th>Logic</th>
<th>Networked Information Systems*</th>
<th>Software Engineering*</th>
</tr>
</thead>
<tbody>
<tr>
<td>YEAR 1</td>
<td>COMP6710 Structured Programming</td>
<td>COMP6442 Software Construction</td>
<td>COMP6250</td>
<td>COMP6260</td>
<td>COMP6262</td>
<td>OR</td>
<td>COMP6340</td>
<td>COMP6120</td>
</tr>
<tr>
<td>YEAR 2</td>
<td>COMP8715 Computing Project</td>
<td>COMP8410 Data Mining</td>
<td>COMP6320 Artificial Intelligence</td>
<td>COMP6490 Document Analysis</td>
<td>COMP8755 Individual Computing Project</td>
<td>OR</td>
<td>COMP8110</td>
<td>COMP6240</td>
</tr>
<tr>
<td>YEAR 2</td>
<td>COMP8110 Managing Software Projects in a System Context*</td>
<td>ANU-wide elective course</td>
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<td>ANU-wide elective course</td>
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<thead>
<tr>
<th>ALTERNATIVE FINAL YEAR</th>
<th>Semester 1 2022</th>
<th>Semester 2 2022</th>
<th>Data Mining</th>
<th>Artificial Intelligence</th>
<th>Data Wrangling</th>
<th>Document Analysis</th>
<th>Computer Science Internship</th>
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</thead>
<tbody>
<tr>
<td>YEAR 2</td>
<td>COMP8410</td>
<td>COMP6320</td>
<td>COMP8430</td>
<td>COMP6490</td>
<td>COMP8830</td>
<td></td>
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</tr>
<tr>
<td>YEAR 2</td>
<td>COMP8755 Individual Computing Project</td>
<td>OR</td>
<td>OR</td>
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# 2021 Suggested Study Plan – Semester 2 Commencement

*Professional Computing Specialisation to receive professional accreditation by the Australian Computer Society.*

### Year 1

#### Semester 2 2021
- COMP6710 Structured Programming
- COMP6250 Professional Practice 1
- COMP6260 Foundations of Computing
- COMP6670 Introduction to Machine Learning

#### Semester 1 2022
- COMP6442 Software Construction
- COMP8260 Professional Practice 2
- COMP-coded 8000-level course
- OR
- COMP8110 Managing Software Projects in a System Context*

### Year 2

#### Semester 2 2022
- COMP8715 Computing Project
- COMP8430 Data Wrangling
- COMP6490 Document Analysis
- OR
- COMP6120 Software Engineering*

#### Semester 1 2023
- COMP8755 Individual Computing Project
- COMP8410 Data Mining
- COMP8600 Statistical Machine Learning
- OR
- COMP8755 Individual Computing Project
- OR
- COMP8830 Computer Science Internship

### Alternative Final Year

#### Semester 2 2022
- COMP8430 Data Wrangling
- COMP6490 Document Analysis
- COMP-coded 6000- or 8000-level course
- ANU-wide elective course

#### Semester 1 2023
- COMP8755 Individual Computing Project
- COMP8410 Data Mining
- COMP8600 Statistical Machine Learning