## Master of Computing

### Data Science Specialisation

**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 96 units, of which:

A minimum of 6 courses must come from completion of 8000-level courses.

1  2  3  4  5  6

### Compulsory Courses

**Complete the 5x courses listed below**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Details</th>
<th>Availability</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP6710</td>
<td>Structured Programming (6 units)</td>
<td>✔️</td>
<td>✔️ awarded as credit ✔️ awarded as exemption</td>
<td>Semester 1 / Semester 2</td>
<td>N/A</td>
</tr>
<tr>
<td>COMP6250</td>
<td>Professional Practice 1 (6 units)</td>
<td>✔️</td>
<td>✔️ awarded as credit ✔️ awarded as exemption</td>
<td>Semester 1 / Semester 2</td>
<td>N/A</td>
</tr>
<tr>
<td>COMP6442</td>
<td>Software Construction (6 units)</td>
<td>✔️</td>
<td>✔️ awarded as credit ✔️ awarded as exemption</td>
<td>Semester 1 / Semester 2</td>
<td>N/A</td>
</tr>
<tr>
<td>COMP8110</td>
<td>Managing Software Projects in a System Context (6 units)</td>
<td>✔️</td>
<td>✔️ awarded as credit ✔️ awarded as exemption</td>
<td>Semester 1</td>
<td>✔️ Successful completion of COMP6710 ✔️ Successful completion or current enrolment in MATH6005 or COMP6260</td>
</tr>
<tr>
<td>COMP8260</td>
<td>Professional Practice 2 (6 units)</td>
<td>✔️</td>
<td>✔️ awarded as credit ✔️ awarded as exemption</td>
<td>Semester 1 / Semester 2</td>
<td>✔️ Successful completion of COMP6250</td>
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</table>

### Compulsory Foundational Courses

**Complete 1x of the courses listed below**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Details</th>
<th>Availability</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH6005</td>
<td>Discrete Mathematical Models (6 units)</td>
<td>✔️</td>
<td>✔️ awarded as credit ✔️ awarded as exemption</td>
<td>Semester 1</td>
<td>N/A</td>
</tr>
<tr>
<td>COMP6260</td>
<td>Foundations of Computing (6 units)</td>
<td>✔️</td>
<td>✔️ awarded as credit ✔️ awarded as exemption</td>
<td>Semester 2</td>
<td>N/A</td>
</tr>
</tbody>
</table>
### Compulsory Software Development Courses

**Complete 1x of the courses listed below**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Completed at ANU</th>
<th>Awarded as Credit</th>
<th>Awarded as Exemption</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP6120</td>
<td>Software Engineering</td>
<td>6</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>- Prerequisites: Successful completion or current enrolment in COMP6442</td>
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<td></td>
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<tr>
<td>COMP8190</td>
<td>Model-driven Software Development</td>
<td>6</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>- Availability: Semester 2</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>- Prerequisites: N/A</td>
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</tbody>
</table>

### Compulsory Database Courses

**Complete 1x of the courses listed below**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Completed at ANU</th>
<th>Awarded as Credit</th>
<th>Awarded as Exemption</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP6240</td>
<td>Relational Databases</td>
<td>6</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td></td>
<td>- Availability: Semester 2</td>
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<td></td>
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<tr>
<td></td>
<td>- Prerequisites: N/A</td>
<td></td>
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<tr>
<td>COMP6420</td>
<td>Introduction to Data Management, Analysis and Security</td>
<td>6</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td></td>
<td>- Availability: Semester 1</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>- Prerequisites: N/A</td>
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### Compulsory Computer Networks Courses

**Complete 1x of the courses listed below**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Completed at ANU</th>
<th>Awarded as Credit</th>
<th>Awarded as Exemption</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP6331</td>
<td>Computer Networks</td>
<td>6</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td></td>
<td>- Availability: Semester 1</td>
<td></td>
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<tr>
<td></td>
<td>- Prerequisites: Successful completion of COMP6710 or COMP6310 or COMP6442</td>
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<tr>
<td>COMP6340</td>
<td>Networked Information Systems</td>
<td>6</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td></td>
<td>- Availability: Semester 1</td>
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<tr>
<td></td>
<td>- Prerequisites: N/A</td>
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### Compulsory Research or Internship Courses

**Complete 1x of the courses listed below**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Completed at ANU</th>
<th>Awarded as Credit</th>
<th>Awarded as Exemption</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP8715</td>
<td>Computing Project</td>
<td>12</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td></td>
<td>- Availability: Semester 1 / Semester 2</td>
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<td></td>
<td>- Prerequisites: Successful completion of COMP6442</td>
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<td>- Prerequisites: Successful completion of COMP8260</td>
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<tr>
<td></td>
<td>- This course must be completed over two consecutive semesters</td>
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<tr>
<td>COMP8755</td>
<td>Individual Computing Project</td>
<td>12</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>- Availability: Semester 1 / Semester 2</td>
<td></td>
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<tr>
<td></td>
<td>- Prerequisites: Successful completion of COMP6442</td>
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<tr>
<td></td>
<td>- Prerequisites: Successful completion of COMP8260</td>
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<tr>
<td></td>
<td>- Before you enrol into this course you must:</td>
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<td></td>
<td>- Find a Project Supervisor</td>
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<td></td>
<td>- Complete an 'Independent Study Contract'</td>
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<td></td>
<td>- Obtain approval from the Course Convenor</td>
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</tbody>
</table>
COMP8830 Computer Science Internship (12 units)
- completed at the ANU
- awarded as credit
- awarded as exemption
Availability: Semester 1 / Semester 2
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 copy of your curriculum vitae to CECS Student Services

This course must be completed in one semester

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
Availability: Semester 1
Prerequisites:
- Successful completion of COMP6710 or COMP7240
- Successful completion of COMP6240 or COMP7230

COMP8430 Data Wrangling (6 units)
- completed at the ANU
- awarded as credit
- awarded as exemption
Availability: Semester 2
Prerequisites:
- Successful completion of COMP6710 or COMP6730 or COMP7230
- Successful completion of COMP6240 or COMP6420 or COMP7420

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

Complete 1x of courses listed below

COMP6320 Artificial Intelligence (6 units)
- completed at the ANU
- awarded as credit
- awarded as exemption
Availability: Semester 1
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
Availability: Semester 1 (biennial – runs every two years)
Prerequisites:
- Successful completion of COMP6670

COMP8600 Statistical Machine Learning (6 units)
- completed at the ANU
- awarded as credit
- awarded as exemption
Availability: Semester 1
Prerequisites:
- Successful completion of COMP6670
OR
- Successful completion of COMP6710 or COMP6730 or COMP7230
- Successful completion of COMP8410
- Successful completion of STAT6039

COMP8620 Advanced Topics in Artificial Intelligence (6 units)
- completed at the ANU
- awarded as credit
- awarded as exemption
Availability: Semester 2 (biennial – runs every two years)
Prerequisites:
- Successful completion of COMP6320

COMP8650 Advanced Topics in Machine Learning (6 units)
- completed at the ANU
- awarded as credit
- awarded as exemption
Availability: Semester 2 (biennial – runs every two years)
Prerequisites:
- Successful completion of COMP6670 or COMP8600
<table>
<thead>
<tr>
<th>Specified Elective Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete 1x 6000- or 8000-level COMP-coded course</td>
</tr>
<tr>
<td>☐ COMP-coded 6000- or 8000-level course (6 units)</td>
</tr>
<tr>
<td>Course: ___________________________</td>
</tr>
<tr>
<td>☐ completed at the ANU ☐ awarded as credit</td>
</tr>
</tbody>
</table>
### Year 1

**Semester 2 2020**
- COMP6710 Structured Programming
- COMP6250 Professional Practice 1
- COMP6260 Foundations of Computing
- OR
  - COMP6670 Introduction to Machine Learning (only recommended for students with a strong COMP background)

**Semester 1 2021**
- COMP6442 Software Construction
- COMP8260 Professional Practice 2
- COMP6331 Computer Networks
- OR
  - COMP6420 Introduction to Data Management, Analysis and Security
  - OR
  - COMP6340 Networked Information Systems
  - OR
  - COMP6262 Logic

### Year 2

**Semester 2 2021**
- COMP8715 Computing Project
- COMP8110 Managing Software Projects in a System Context
- OR
  - COMP8755 Individual Computing Project
  - OR
  - COMP8190 Model-driven Software Development
  - OR
  - COMP8430 Data Wrangling

**Semester 1 2022**
- COMP8715 Computing Project
- COMP8110 Managing Software Projects in a System Context
- OR
  - COMP8755 Individual Computing Project
  - OR
  - COMP8410 Data Mining

**Alternative Final Year**
Not available