

Science

Bachelor of Materials Science and Engineering (3131) - [Handbook](#)

2022 Commencing Students
Program Structure



Single Degree Mode

| | | | |
|----------------------|-----------------------|--------------------|---------|
| PROGRAM STRUCTURE | An approved Major | 180 UOC | 192 UOC |
| | Material Science Core | | |
| | General Education | 12 UOC (2 courses) | |

General Education must be taken from courses that are not considered [Science Electives](#) or courses taught by the Faculty of Engineering.

Material Science students cannot take GENS or GENE courses under any circumstance.

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| Physical Metallurgy | 6 |
| Process Metallurgy | 7 |

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2022 Commencing Students – Single Degree – Major in Ceramic Engineering ([MATSJ1](#))

Choose from available proposed courses in each year

| Year 1 | | |
|--|--|---|
| CHEM1811 (T1) | DESN1000 (T1, T3) | MATS1192 (T1, T3) |
| PHYS1121 (T1, T2, T3) OR PHYS1131 (T1, T2, T3) | MATH1231 (T1, T2, T3) OR MATH1241 (T1, T2) | 6 UOC First Year Engineering Elective (See Note 1) |
| MATH1131 (T1, T2, T3) OR MATH1141 (T1, T3) | COMP1911 (T1, T2, T3) OR ENGG1811 (T2) | |

| Year 2 | | |
|------------------|------------------|------------------|
| MATS2001 (T1) | MATS2004 (T2) | MATS2006 (T3) |
| MATS2003 (T1) | MATS2005 (T2) | MATS2007 (T3) |
| MATH2019 (T1) | MATS2008 (T2) | |

| Year 3 | | |
|----------------------|------------------|--|
| MATS3001 (T1) | MATS3004 (T2) | 6 UOC Professional Elective (See Note 2) |
| MATS3002 (T1) | MATS3006 (T2) | 6 UOC General Education |
| MATH2089 (T1, T2) | MATS3007 (T2) | |

| Year 4 | | |
|--|----------------------------|--|
| MATS4100 (T1) | MATS4100 (T2) | MATS4100 (T3) |
| MATS4002 (T1) | MATS4004 (T2) | 6 UOC Professional Elective (See Note 2) |
| 6 UOC Professional Elective (See Note 2) | 6 UOC General Education | ENGG4999 (See Note 3) |

| | |
|--------------|---|
| NOTES | <p>This is intended as a guide only. Courses do not need to be studied in the exact structure that they appear here.</p> <p>See Program Structure on page 1 for a guide on the terminology and colour codes used in this progression plan.</p> |
| | <p>Note 1: First Year Engineering Elective: Click HERE to access the full list of first year engineering electives.</p> <p>Note 2: Professional Electives: MATS3003 (T1), MATS3005 (T1), MATS4001 (T2), MATS4003, MATS4005 (T3), MATS4006 (T3), MATS4007 (T3)</p> <p>Note 3: Students must also complete 60 days of approved industrial training throughout their degree. Click HERE for more info.</p> |

Bachelor of Materials Science and Engineering (3131)



2022 Commencing Students – Single Degree – Major in Functional Materials ([MATSF1](#))

Choose from available proposed courses in each year

| Year 1 | | |
|--|--|---|
| CHEM1811 (T1) | DESN1000 (T1, T3) | MATS1192 (T1, T3) |
| PHYS1121 (T1, T2, T3) OR PHYS1131 (T1, T2, T3) | MATH1231 (T1, T2, T3) OR MATH1241 (T1, T2) | 6 UOC First Year Engineering Elective (See Note 1) |
| MATH1131 (T1, T2, T3) OR MATH1141 (T1, T3) | COMP1911 (T1, T2, T3) OR ENGG1811 (T2) | |

| Year 2 | | |
|------------------|------------------|------------------|
| MATS2001 (T1) | MATS2004 (T2) | MATS2006 (T3) |
| MATS2003 (T1) | MATS2005 (T2) | MATS2007 (T3) |
| MATH2019 (T1) | MATS2008 (T2) | |

| Year 3 | | |
|----------------------|------------------|--|
| MATS3001 (T1) | MATS3004 (T2) | 6 UOC Professional Elective (See Note 2) |
| MATS3002 (T1) | MATS3006 (T2) | 6 UOC General Education |
| MATH2089 (T1, T2) | MATS3007 (T2) | |

| Year 4 | | |
|--|--|--------------------------|
| MATS4100 (T1) | MATS4100 (T2) | MATS4100 (T3) |
| MATS3005 (T1) | 6 UOC Professional Elective (See Note 2) | MATS4005 (T3) |
| 6 UOC Professional Elective (See Note 2) | 6 UOC General Education | ENGG4999 (See Note 3) |

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| | Note 1: First Year Engineering Elective: Click HERE to access the full list of first year engineering electives. |
| | Note 2: Professional Electives: MATS3003 (T1), MATS4001 (T2), MATS4002 (T1), MATS4003, MATS4004 (T2), MATS4006 (T3), MATS4007 (T3) |
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Bachelor of Materials Science and Engineering (3131)



2022 Commencing Students – Single Degree – Major in Materials Engineering ([MATSH1](#))

Choose from available proposed courses in each year

| Year 1 | | |
|--|--|--|
| CHEM1811 (T1) | DESN1000 (T1, T3) | MATS1192 (T1, T3) |
| PHYS1121 (T1, T2, T3) OR PHYS1131 (T1, T2, T3) | MATH1231 (T1, T2, T3) OR MATH1241 (T1, T2) | 6 UOC First Year Engineering Elective (See Note 1) |
| MATH1131 (T1, T2, T3) OR MATH1141 (T1, T3) | COMP1911 (T1, T2, T3) OR ENGG1811 (T2) | |

| Year 2 | | |
|---------------|---------------|---------------|
| MATS2001 (T1) | MATS2004 (T2) | MATS2006 (T3) |
| MATS2003 (T1) | MATS2005 (T2) | MATS2007 (T3) |
| MATH2019 (T1) | MATS2008 (T2) | |

| Year 3 | | |
|-------------------|---------------|--|
| MATS3001 (T1) | MATS3004 (T2) | 6 UOC Professional Elective (See Note 2) |
| MATS3002 (T1) | MATS3006 (T2) | 6 UOC General Education |
| MATH2089 (T1, T2) | MATS3007 (T2) | |

| Year 4 | | |
|--|--|--|
| MATS4100 (T1) | MATS4100 (T2) | MATS4100 (T3) |
| 6 UOC Professional Elective (See Note 2) | 6 UOC Professional Elective (See Note 2) | 6 UOC Professional Elective (See Note 2) |
| 6 UOC Professional Elective (See Note 2) | 6 UOC General Education | ENGG4999 (See Note 3) |

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| | Note 1: First Year Engineering Elective: Click HERE to access the full list of first year engineering electives. |
| | Note 2: Professional Electives: MATS3003 (T1), MATS3005 (T1), MATS4001 (T2), MATS4002 (T1), MATS4003, MATS4004 (T2), MATS4005 (T3), MATS4006 (T3), MATS4007 (T3) |
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Bachelor of Materials Science and Engineering (3131)



2022 Commencing Students – Single Degree – Major in Physical Metallurgy ([MATSE1](#))

Choose from available proposed courses in each year

| Year 1 | | |
|--|--|---|
| CHEM1811 (T1) | DESN1000 (T1, T3) | MATS1192 (T1, T3) |
| PHYS1121 (T1, T2, T3) OR PHYS1131 (T1, T2, T3) | MATH1231 (T1, T2, T3) OR MATH1241 (T1, T2) | 6 UOC First Year Engineering Elective (See Note 1) |
| MATH1131 (T1, T2, T3) OR MATH1141 (T1, T3) | COMP1911 (T1, T2, T3) OR ENGG1811 (T2) | |

| Year 2 | | |
|------------------|------------------|------------------|
| MATS2001 (T1) | MATS2004 (T2) | MATS2006 (T3) |
| MATS2003 (T1) | MATS2005 (T2) | MATS2007 (T3) |
| MATH2019 (T1) | MATS2008 (T2) | |

| Year 3 | | |
|----------------------|------------------|--|
| MATS3001 (T1) | MATS3004 (T2) | 6 UOC Professional Elective (See Note 2) |
| MATS3002 (T1) | MATS3006 (T2) | 6 UOC General Education |
| MATH2089 (T1, T2) | MATS3007 (T2) | |

| Year 4 | | |
|--|----------------------------|--|
| MATS4100 (T1) | MATS4100 (T2) | MATS4100 (T3) |
| MATS3005 (T1) | MATS4001 (T2) | 6 UOC Professional Elective (See Note 2) |
| 6 UOC Professional Elective (See Note 2) | 6 UOC General Education | ENGG4999 (See Note 3) |

| | |
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| NOTES | <p>This is intended as a guide only. Courses do not need to be studied in the exact structure that they appear here.</p> <p>See Program Structure on page 1 for a guide on the terminology and colour codes used in this progression plan.</p> |
| | <p>Note 1: First Year Engineering Elective: Click HERE to access the full list of first year engineering electives.</p> <p>Note 2: Professional Electives: MATS3003 (T1), MATS4002 (T1), MATS4003, MATS4004 (T2), MATS4005 (T3), MATS4006 (T3), MATS4007 (T3)</p> <p>Note 3: Students must also complete 60 days of approved industrial training throughout their degree. Click HERE for more info.</p> |

Bachelor of Materials Science and Engineering (3131)



2022 Commencing Students – Single Degree – Major in Process Metallurgy ([MATSG1](#))

Choose from available proposed courses in each year

| Year 1 | | |
|--|--|---|
| CHEM1811 (T1) | DESN1000 (T1, T3) | MATS1192 (T1, T3) |
| PHYS1121 (T1, T2, T3) OR PHYS1131 (T1, T2, T3) | MATH1231 (T1, T2, T3) OR MATH1241 (T1, T2) | 6 UOC First Year Engineering Elective (See Note 1) |
| MATH1131 (T1, T2, T3) OR MATH1141 (T1, T3) | COMP1911 (T1, T2, T3) OR ENGG1811 (T2) | |

| Year 2 | | |
|------------------|------------------|------------------|
| MATS2001 (T1) | MATS2004 (T2) | MATS2006 (T3) |
| MATS2003 (T1) | MATS2005 (T2) | MATS2007 (T3) |
| MATH2019 (T1) | MATS2008 (T2) | |

| Year 3 | | |
|----------------------|------------------|--|
| MATS3001 (T1) | MATS3004 (T2) | 6 UOC Professional Elective (See Note 2) |
| MATS3002 (T1) | MATS3006 (T2) | 6 UOC General Education |
| MATH2089 (T1, T2) | MATS3007 (T2) | |

| Year 4 | | |
|--|----------------------------|--|
| MATS4100 (T1) | MATS4100 (T2) | MATS4100 (T3) |
| MATS3003 (T1) | MATS4003 | 6 UOC Professional Elective (See Note 2) |
| 6 UOC Professional Elective (See Note 2) | 6 UOC General Education | ENGG4999 (See Note 3) |

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|-------|--|
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| | Note 2: Professional Electives: MATS3005 (T1), MATS4001 (T2), MATS4002 (T1), MATS4004 (T2), MATS4005 (T3), MATS4006 (T3), MATS4007 (T3) |
| | Note 3: Students must also complete 60 days of approved industrial training throughout their degree. Click HERE for more info. |