



# Completing a Mathematics, Physical Oceanography, Physics or Statistics major in a concurrent Bachelor of Engineering / Bachelor of Science

Never Stand Still

Faculty of Science

Science Student Centre

All students undertaking a Bachelor of Engineering degree at UNSW will complete second year Mathematics courses as part of their core Engineering program. However, when these students combine their Engineering program with a Bachelor of Science majoring in Mathematics, Physical Oceanography, Physics or Statistics, the second year Mathematics courses in the Engineering program will need to be substituted with core Mathematics courses for the Science major, as follows:

| Row | Engineering Core Mathematics Course   | Substitute with these courses for the Science major  |
|-----|---|--|
| A   | MATH2019 Engineering Mathematics 2E   | <ul style="list-style-type: none"> <li>MATH2011 or MATH2111 (Higher) Several Variable Calculus</li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>MATH2121 or MATH2221 (Higher) Theory and Applications of Differential Equations</li> </ul> |
| B   | MATH2089 Numerical Methods and Statistics   | <ul style="list-style-type: none"> <li>MATH2301 Mathematical Computing</li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>MATH2801 or MATH2901 (Higher) Theory of Statistics</li> </ul>  |
| C   | MATH2069 Mathematics 2A   | <ul style="list-style-type: none"> <li>MATH2011 or MATH2111 (Higher) Several Variable Calculus</li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>MATH2521 or MATH2621 (Higher) Complex Analysis</li> </ul>                                  |
| D   | MATH2099 Mathematics 2B   | <ul style="list-style-type: none"> <li>MATH2501 or MATH2601 (Higher) Linear Algebra</li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>MATH2801 or MATH2901 (Higher) Theory of Statistics</li> </ul>   |
| E   | CVEN2002 Engineering Computations for Civil Engineers <b>OR</b> CVEN2702 Engineering Computations for Environmental Engineers | <ul style="list-style-type: none"> <li>MATH2301 Mathematical Computing</li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>MATH2801 or MATH2901 (Higher) Theory of Statistics</li> </ul>  |
| F   | MATH2859 Probability, Statistics & Information  | MATH2801 or MATH2901 (Higher) Theory of Statistics   |

EXAMPLES:

***Mechanical Engineering***

Students in 3710 BE (Mechanical Engineering) have MATH2019 and MATH2089 as core Engineering Mathematics courses, and should take the relevant Science Mathematics courses as shown the third column of rows A and B (ie MATH2011, MATH2121, MATH2301 and MATH2801)

***Electrical Engineering***

Students in 3640 BE (Electrical Engineering) have MATH2069 and MATH2099 as core Engineering Mathematics courses, and should take the relevant Science Mathematics courses as shown the third column of rows C and D (ie MATH2011, MATH2521, MATH2501 and MATH2801).

***Renewable Energy Engineering***

Students in 3657 BE (Renewable Energy Engineering) have MATH2089 as a core Engineering Mathematics, and should take the relevant Science Mathematics courses as shown the third column of rows B. (ie MATH2301 and MATH2801)

***Civil Engineering***

Students in 3620 BE (Civil Engineering) have MATH2019 and CVEN2002 as core Engineering Mathematics courses, and should take the relevant Science Mathematics courses as shown the third column of rows A and E. (ie MATH2011, MATH2121, MATH2301 and MATH2801)

QUESTIONS:

If students have questions regarding this, they should contact the Science Student Centre (E: [sso@unsw.edu.au](mailto:sso@unsw.edu.au)) or the School of Mathematics and Statistics (E: [ug.MathsStats@unsw.edu.au](mailto:ug.MathsStats@unsw.edu.au))