

# MATH 1020 MATHEMATICS FOR ENGINEERS 2 (WSTC ASSOCD)

**Credit Points** 10

**Legacy Code** 700102

**Coordinator** Zdenka Misanovic (<https://directory.westernsydney.edu.au/search/name/Zdenka Misanovic/>)

**Description** The content of this subject covers a number of topics that build on the student's calculus knowledge from Mathematics for Engineers 1. The subject matter includes: ordinary differential equations, Laplace transforms and multi-variable calculus. Offerings of alternate subjects are dependent on there being sufficient student enrolment numbers. If enrolments are low, the College may cancel delivery of the alternate subject.

**School** Eng, Design & Built Env

**Discipline** Mathematics

**Student Contribution Band** HECS Band 1 10cp

Check your fees via the Fees ([https://www.westernsydney.edu.au/currentstudents/current\\_students/fees/](https://www.westernsydney.edu.au/currentstudents/current_students/fees/)) page.

**Level** Undergraduate Level 1 subject

**Pre-requisite(s)** MATH 1017

**Equivalent Subjects** MATH 1019 - Mathematics for Engineers 2 LGYB 0454 - Mathematics for Engineers 2 (WSTC)

## Restrictions

Students must be enrolled at Western Sydney University, The College in 7022 Associate Degree in Engineering

## Learning Outcomes

On successful completion of this subject, students should be able to:

1. Recognise and solve various types of first and second order differential equations and some higher order ordinary differential equations.
2. Set up a linear 2D system of differential equations and investigate its solution and the nature of its critical points.
3. Apply Laplace transforms in solving problems.
4. Use multivariable calculus techniques competently.
5. Evaluate multiple (double and triple) integrals.
6. Use mathematical reasoning to solve problems and communicate mathematical ideas using standard practices.

## Subject Content

1. First Order Ordinary Differential Equations (O.D.E.) ? separable and linear equations and applicat

## Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/Group Task
Quiz	Approx. 30 minutes	10	N	Individual
Numerical Problem Solving	90 minutes	30	N	Individual
Quiz	Approx 30 minutes	10	N	Individual
End-of-session Exam	2 hours	50	Y	Individual

Teaching Periods

## Quarter 4 (2024)

### Nirimba Education Precinct

#### Hybrid

**Subject Contact** Zdenka Misanovic (<https://directory.westernsydney.edu.au/search/name/Zdenka Misanovic/>)

[View timetable](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=MATH1020_24-Q4_BL_3#subjects) ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=MATH1020\\_24-Q4\\_BL\\_3#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=MATH1020_24-Q4_BL_3#subjects))