



Institiúid Teicneolaíochta Chorcaí
Cork Institute of Technology

MATH6046: Technological Maths 2 (Elx)

Module Details

Short Title:	Technological Maths 2 (Elx)	APPROVED
Full Title:	Technological Maths 2 (Electronic)	
Module Id:	4467	
Official Code:	MATH6046	NFQ Level: 6
		ECTS Credits: 5

Coordinator:	KEVIN J KELLY
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Description:	Technological Maths for students of Electronic Engineering.
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Learning Outcomes:

On successful completion of this module the learner will be able to...

1. Perform complex number operations and apply complex expressions to problems in electronic engineering
2. Differentiate functions by rule
3. Apply differentiation to tangents, rates of change and optimisation
4. Integrate functions using a table of standard integrals and by substitution.
5. Apply integration to engineering disciplines.

Pre-requisite learning

Module Recommendations

This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named CIT module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).

370	MATH6014	Technological Mathematics 1
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Incompatible Modules

These are modules which have learning outcomes that are too similar to the learning outcomes of this module. You may not earn additional credit for the same learning and therefore you may not enrol in this module if you have successfully completed any modules in the incompatible list.

No incompatible modules listed

Module Requirements

This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed. You may not enrol on this module if you have not acquired the learning specified in this section.

No requirements listed



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Module Content & Assessment

Indicative Content

- **Complex Numbers**

Complex operations, polar form, negative and fractional powers, applications.

- **Differentiation**

Limits, definition and graphical interpretation of a derivative. Derivatives of sums, products and quotients. The chain rule. Applications of differentiation.

- **Integration**

Integration as antidifferentiation. Standard Integrals. Summation and definite integration. Applications.

Assessment Breakdown

	%
Course Work	30%
End of Semester Formal Examination	70%

	Outcome addressed	% of total	Assessment Date
Formal End-of-Semester Examination	1,2,3,4,5	70%	Semester End

Coursework Breakdown

Type	Description	Outcome addressed	% of total	Assessment Date
Short Answer Questions	In class written assessment	1,2	15	Week 5
Short Answer Questions	In class written assessment	3,4	15	Week 10

The institute reserves the right to alter the nature and timings of assessment



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Module Workload & Resources

Workload		Full-time mode		
Type	Description	Hours	Frequency	Average Weekly Learner Workload
Lecture	Formal Lecture	3	Every Week	3.00
Tutorial	Tutorial	1	Every Week	1.00
Independent & Directed Learning (Non-contact)	Study and Skill Practice	3	Every Week	3.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				4.00

Workload		Part-time mode		
Type	Description	Hours	Frequency	Average Weekly Learner Workload
Lecture	Formal Lecture	2	Every Week	2.00
Tutorial	Tutorial	1	Every Second Week	0.50
Independent & Directed Learning (Non-contact)	Set Worksheets with feedback	1	Every Week	1.00
Independent & Directed Learning (Non-contact)	Reading and skill practice	1	Every Second Week	0.50
Independent & Directed Learning (Non-contact)	Reading and skill practice	3	Every Week	3.00
Total Weekly Learner Workload				7.00

Resources
<i>Recommended Book Resources</i>
• John Bird 2007, <i>Engineering Mathematics</i>, 5th Ed., Elsevier Science & Technology [ISBN: 9780750685559]
<i>Supplementary Book Resources</i>
• K A Stroud 2007, <i>Engineering Mathematics</i>, 6 Ed. [ISBN: 9781403942463]
<i>Other Resources</i>
• Website: Mathsonline http://mathsonline.cit.ie