

No.	Information of NE 5026 MathCAD	
1	Unit name:	MathCAD
2	Code:	NE 5026
3	Classification:	General subject
4	Credit value:	2.5
5	Semester / Year Offered:	2/5
6	Pre-requisite:	NE 4024 Introduction to Reactor Engineering NE 5025 Reactor Engineering
7	Mode of delivery:	Presentation , Practical, Classwork,
8	Assessment system and breakdown of marks:	Practical Exam, Tutorial, Classwork activity
	Practical/Practical Exam	60 %
	Tutorial	40 %
9	Academic staff teaching unit:	Department of Nuclear Technology
10	<p>Course outcome of unit:</p> <p>After completion of this course, students will be able to</p> <ol style="list-style-type: none"> 1. understand the function of mathematical programmable language 2. apply the MathCAD program with complex mathematical calculation 3. apply the MathCAD program with critical calculation of fuel lattice cell 4. solve neutron-physics problems with MathCAD program 5. graph 2D graphics in MathCAD program 	
11	<p>Synopsis of unit:</p> <p>MathCAD is the industry standard technical calculation tool for engineers worldwide. MathCAD delivers all the solving capabilities, functionality, and robustness needed for calculation, data manipulation, and engineering design work. Calculation standardization and reuse through MathCAD ensures standards compliance. By combining calculations, graphs, text, and images in one document, MathCAD enables knowledge capture and publication that aid management of large projects. MathCAD allow the students to document their calculations in the language of mathematics, because MathCAD combines a powerful computational engine, accessed through conventional math notation, with a full-featured word processor and graphing tools.</p>	
12	<p>Topic:</p> <ol style="list-style-type: none"> 1. Welcome to Mathcad 2. Getting Started with Mathcad 3. Online Resources 4. Working with Math 	

	<ul style="list-style-type: none"> 5. Range Variables and Arrays 6. Working with Text 7. Mathcad Worksheets 8. Calculating in Mathcad 9. Solving 10. Inserting Graphics and Other Objects 11. 2D Plots 12. 3D Plots 13. Symbolic Calculation
13	<p>Main reference:</p> <p>User's Guide, Mathcad 14.0, February 2007</p>
14	<p>Additional references:</p> <p>(1) INTRODUCTION TO NUCLEAR ENGINEERING, 3rd Edition, John R. Lamarsh and Anthony J. Baratta</p> <p>(2) NUCLEAR ENGINEERING HANDBOOK, 2nd Edition, Kenneth D. Kok, 2017</p>