الجامعة التقنية الشمالية
الكلية التقنية الهندسية/ الموصل
قسم هندسة تقنيات الأجهزة الطبية

Technical college\Mosul	30 Weeks	No. of week hours		
Department: Medical Instrumentation Engineering		Th.	App.	Unit
		2	2	6
First Year	Subject: Mathematics (I).			

أهداف المادة: مساعدة الطالب على تفهم القوانين و المسائل الرياضية اللازمة لغرض حل الدوائر الكهربائية البسيطة و المعقدة .

Week	Syllabus
1st	Limits and theory of derivative. Derivative of trigonometric function .
2nd	Chain rule , applications of the derivatives .
3rd	Derivatives of the inverse trigonometric function .
4th	Exponential function and logarithmic function .
5th , 6th	Plane analytical geometry , parabola & ellipse , hyperbola .
7th	Polar coordinates .
8th	Theory of integrations .
9th	The definite and indefinite integration .
10th,11th,12th	Integral of trigonometric and inverse of trigonometric function, integral of exponential and logarithmic functions.
13th, 14th, 15th	Transcendental functions, the trigonometric functions, and inverse trigonometric functions, derivatives of trigonometric and inverse functions, derivatives of the exponential and natural logarithms functions .
16th	Hyperbolic and inverse hyperbolic functions with derivatives .
17th	Method of integration and numerical integration . Application of the definite integral .
18th	Arem of surface .
19th	Volume of revolution .
20th	Length of plane curve .
21st	Determents , properties of determents , solution of
22nd,23rd,24th	Linear equations by gramers's rule .
25th, 26th	Matrices, inverse of matrix, solution of homogeneous matrices .
27th	Eigenvalues .
28th	Eigenvectors .
29th, 30th	Vectors analysis , dot products , cross products .