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جامعة فلسطين التقنية – خضوري
دائرة الجودة والنوعية
طولكرم- ص.ب ٧
هاتف: ٠٩/٢٦٧٧٩٢٣ -٠٩/٢٦٧١٠٢٦
فاكس: ٠٩/٢٦٧٧٩٢٢
بريد إلكتروني: quality@ptuk.edu.ps

Course Specification Template

1. General information about Instructor:

Name	**Taqwa Al_Khader**			**Class Time & Office Hours**				
Phone	**Internal**	**1647**	**Day**	SUN	MON	TUE	WED	THU
	External							
Mobile	**0599226127**		**Class Time**	**10-11 11-12**		**10-11 11-12**		**10-11 11-12**
Instructor's E-mail	**Taqwa.alkhader@hotmail.com**		**Class Room**	**E107 E227**		**E107 E227**		**E107 E227**
			Office Hours	**9-10**	**8-9:30**	**9-10**	**8-9:30**	**9-10**

2. General information about the Course

No	Requirements						
1	Course Title	**Engineering mathematics 1**					
2	Course code & Number	**15010229**					
3	Credit hours	Theo. (CH): 3			Practical (CH):		
4	Faculty	**Science and Arts**					
5	Department / Division that offers the course:	**Applied Mathematics**					
6	Course type	Compulsory			Elective		
		Uni. ☐	Fac. ☐	Dep. ☐	Uni. ☐	Fac. ☐	Dep. ☐
7	Level and Semester	The second semester 2016-2017					
8	Prerequisite(s) – If any	Calculus 2					
9	Co-requisite(s) – if any						
10	Program/programs for it/them the course is offered	Engineering					
11	Instruction Medium:	English ☐			Arabic ☐		

3. Course description:

Part 1:Linear Algebra
Ch1: Matrices and systems of linear equations.
Ch2: Determinants.
Ch3: Vector spaces.
Ch4: Linear transformations.
Ch6: Eigenvalues.
Part 2: Differential Equations
Ch1: Introduction.
Ch2: First order differential equations.
Ch3: Second order differential equations.

4. General Course Objectives

On successful completion of this course the student will be able to achieve the following objectives:

1. Solve systems of linear equations.
2. Find a determinant of a matrix and use matrices to solve a linear system.
3. Define a vector space, subspace, basis, dimension and linear transformation.
4. Find eigenvalues and eigenvectors of a matrix.
5. Define a differential equations and solve first and second order linear Des.

5. Intended Learning Outcomes/ILO's (please specify the learning outcomes of the course as outlined below):

A) Knowledge and understanding

Defining a matrix, determinant, vector space, subspace, basis, dimension and linear transformation, eigenvalues, eigenvectors, differential equations and initial value problem.

B) Intellectual/Cognitive skills

Dealing with vector spaces and finding eigenvalues for matrices.

C) Subject specialization and practical skills

Solving systems of linear equations using matrices and solving first and second order differential equations.

D) General and transferable skills

Solving systems of linear equations and solving second order linear differential equations.

6. Topics covered and Calendar:

A. Theoretical parts (Please state the titles of the subjects you intend to cover each week)

Number	Topics	Number of hours
1.	Matrices and systems of linear equations.	9
2.	Determinants.	6
3.	Vector spaces.	9
4.	Linear transformations.	3
5.	Eigenvalues.	6
6.	Introduction.	3
7.	First order differential equations.	6
8.	Second order differential equations.	6

7. Student assessment methods based on ILO,s

No	Assessment method	Week	Mark	Percentage to overall mark
1.	First Exam		**30**	**30**
2.	Second Exam		**30**	**30**
3.	Mid-term Exam (if any)			
4.	Coursework			
5.	Final Exam		**40**	**40**

8. References and other resources

Recommended Textbook(s): two maximum

1. **Elementry Differential equations and boundary value problems, 7th edition. Author: W.E.Boyce and R.C.Diprima.**
2. **Linear algebra with applications. Author: Steven J.Leon, 7th edition.**

A. Other references

Advanced Engineering Mathematics, by Erwin Kreyszing, 9th edition.

B. Electronic resources, Websites related to the course

1.
2.

Name & signature of Head of department/ program leader

Name: …… signature: ……Date: …….

Name & signature of Quality rep. in your faculty

Name: …… signature: ……Date: …….

Course Tutor's name and signature

Name: Taqwa Al_Khader … signature: ……Date:1/2/2017….