Differential Equations and Infinite Series for Engineering or Physics (Math 1005 E, Winter 2018)

Instructor: Dr. Gang Li

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Class Schedule

Class Times:	Tuesday& Thursday	4:05 pm - 5:25 pm	Azrieli Theater 102
Tutorial Times:	Tuesday	2:35 pm - 3:25 pm	TBA
Office Hours:	Tuesday	5:30 pm - 6:30 pm	HP 5218
	Or by appointment.		

Marking Scheme

In Tutorial Tests	4 (count best 3 out of 4)	45% total
Final Exam		55%

Text Book

Ordinary Differential Equations and Infinite Series. 2nd Edition Sam Melkonian. Nelson Publishing. (Hard copies available at the Carleton University Bookstore. **ebook** available from Nelson Education Ltd.) **Tentative Schedule**(This schedule is subject to change depending on the progress of the course.)

WEEK	SECTIONS	TEST	TOPICS
Week 1	Sec 1.1, 2.1,		Basic concepts, Separable equations, first-
	2.3		order Linear equations.
Week 2	Sec $2.2, 2.4,$		Functions of two variables, Partial derivati-
	2.5		ves, The Chain Rule, Exact equations, Ber-
			noulli's equation, Homogeneous equations.
Week 3	Sec 3.1, 3.2		Homogeneous linear equations with con-
			stant coefficients, Cauchy-Euler equations,
			reduction of order.
Week 4	Sec 3.3, 3.4	Test 1	Nonhomogeneous linear equations, method
			of undetermined coefficients, variation of pa-
			rameters.
Week 5	Sec 5.1, 5.2		Linear systems.
Week 6	Sec 5.2, 6.1	Test 2	Linear systems, Sequences.
Week 7	Sec 6.2		The integral test, p-series, estimation of
			sums, The comparison tests .
Week 8	Sec 6.2	Test 3	Alternating series, The ratio and root tests.
Week 9	Sec 7.1, 7.2		Taylor polynomials and approximations, Po-
			wer series .
Week 10	Sec 7.2	Test 4	Representation of functions as power series ,
			Taylor and Maclaurin series.
Week 11	Sec 8.1, 8.2		Fourier series.
Week 12	Review		Fourier series. & Review

Notes

- Withdrawal: The last day for academic withdrawal from the course is *April 11*, 2018.
- **Tutorial :** You are required to attend all tutorials. Tutorial will start on Tuesday, Jan 16. During the tutorial sessions, a TA will be present to work out selected problems,

to answer questions, and to administer the tests.

- In Tutorial Tests will be three 50-minutes, closed book tests given during regular tutorial session on *Tuesday*, *Jan 30*, *Feb 13*, *Mar 6*, *Mar 20*, *2018*.
 - You are expected to take all the tests. *No make up, early, or delayed tests*.
 - Any missing test will be counted as zero. For students who write and pass all tests, the best three out of 4 tests will be used to determine the test component of your final mark. 45%.
 - It is your responsibility to pick up your tests in the following tutorial hours. After that, TA's and I are not responsible for missing test/quiz papers.
 - It is your responsibility to make sure that your test/tutorial marks recorded correctly by visiting cuLearn.
 - Deadline to make any corrections on your test/tutorial marks is within one week when you receive them.
 - Students must bring their student card to each test and place it on the desk where it is visible.
- Final Exam will be 3-hours, closed book exam based on whole term. It is the responsibility of each student to be available at the time of the examination. In particular, no travel plans for the examination period in *April, 2018* should be made until the examination schedule is published. Students wishing to see their examination papers must make an appointment within three weeks of the examination to do this.
- Homework: Selected exercises, mainly from the text, will be posted on **cuLearn**. These exercises are not to be handed in and will not be graded. However, to succeed in the course it is **ABSOLUTELY ESSENTIAL** that you do the exercises on a regular basis.
- Calculators: Only non-programmable calculators are allowed for tests and the final exam. I reserve the right to confiscate any calculator during a test or final exam.
- Course Information: It is your responsibility to keep up with information announced in class, on **cuLearn**, or sent to your Carleton e-mail account.
- E-mail: According to Carleton University policy under the Freedom of Information of Privacy Act (FIPPA), please use your Carleton connect account for all course related emails.
- Important Dates: http://www5.carleton.ca/summer/dates-and-deadlines/

- Students with disabilities requiring academic accommodations in this course must contact a coordinator at the Paul Menton Centre for Students with Disabilities to complete the necessary Letters of Accommodation. After registering with the PMC, make an appointment to meet and discuss your needs with me in order to make the necessary arrangements as early in the term as possible. Please note the deadline for submitting completed forms to the Paul Mention Centre is *Mar 9, 2018*.For more details visit the PMC website: http://www2.carleton.ca/pmc/students/accommodations/
- **Pregnancy obligation:** write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: http://www2.carleton.ca/equity/accommodation/academic/students/
- Religious obligation: write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: http://www2.carleton.ca/equity/accommodation/academic/students/

Tutorial and TA Contact Information

Time: Thursday 5:35 pm - 6:25 pm

Section	TA Name	Where	TA E-mail
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