MATH F302 - FXA Differential Equations, 3 credits

Summer 2021

Instructor: **Dr. Nina Avdonina** **E-mail:** navdonina@alaska.edu

Class Time: Web-based 12:00 pm - 1:30 pm TR

My Office: Chapman 301A, Phone: 470 – 366-5478 (text, message).

Course Materials: Dennis G. Zill, A First Course in Differential Equations, chapters 1 – 7. The 11th edition by Zill published by Cengage.

Office Hours: Please email me if you need assistance on anything course related. Inquiries from students will be acknowledged promptly — if I do not respond within one business day please email me again. If you do not receive a response within two business days, please contact by telephone call.

Course Content: Scientists and engineers must know how to model the world in terms of differential equations, and how to solve those equations and interpret the solutions. The material covered in the Chapters 1—7 of the text book provides foundational tools and techniques for a variety of courses in science and engineering. The course includs: nature and origin of differential equation (DE), 1st order DE, Linear DE with constant coefficients, and power series and operational methods for DE.

Student Learning Objectives: A. Students can perform procedures for finding solutions to problems of differential equations. B. Students understand fundamental concepts of differential equations. C. Students prepare for success in disciplines which rely on differential equations, and in more advanced mathematics which incorporate these topics, such as Partial Differential Equations. D. Students can communicate mathematics effectively, with proper notation and terminology.

Instructional Methods: Homework will be assigned every class and collected once a week on Mondays. The deadline is 2:00 p.m., and no late papers will be accepted. 10% of the lowest scores will be dropped. There will be a weekly quiz on recent homework problems. Also, there will be two midterms announced at least one week in advance. The final exam is comprehensive. It is against the department policy to give earlier final exam.You will need a computer with access to the internet and ZOOM meetings. Home work assignments will be posted on blackboard.

Collaboration for homework: Although each student must write his/her own solutions in his/her own words, collaboration between students is accepted. Office hours can used both to ask me conceptual questions and to solve a problem yourself but with my feedback.

Attendance: Attendance is included as part of your activity grade. It would be counterproductive for you to skip class. You are responsible for familiarity with all information presented in the missed class. Students that have not participated substantially in the course (not attending class, failing four quizzes in sequence, failing the first exam) will be dropped.