

Broward College

MAP 2302 – Differential Equations

Instructor:	Carlos Sotuyo	Term/Session:	Summer Term 2019-3/Session 1 5/13 – 8/6/2019
Instructor's BC E-mail:	csotuyo@broward.edu	Reference No.:	619023
Office Hours: Office:	Tues & Thurs: 2:50 pm – 3:50 pm Room 255A, Bldng 69	Class Days:	Tuesday & Thursday
		Class Time:	4.00 pm – 5:50 pm
Math Department Phone Number:	(954) 201-8920 (954) 201-8975 (FAX)	Classroom:	Bldg 70, Room 107
Emergency Phone Number:	(954) 201-4357 (Safety) (954) 201-4900 (Hotline)	Withdrawal Date: Withdrawal with W:	Last day drop 100% refund: 05/20/2019 07/03/2019

TEXTBOOK:

Fundamentals of Differential Equations, 9th Edition, R Kent Nagle, et al
ISBN-13: 978-0321977069 ISBN-10: 9780321977069

Class website: <http://www.imathesis.com/map2302.html>

PREREQUISITE:

MAC2312 Calculus II with a grade of C or higher, or permission of the Mathematics Department

DESCRIPTION:

Upon successful completion of this course, the student should be able to set up and solve the ordinary differential equations that model typical applied problems occurring in physics, chemistry, biology, economics, and the social sciences.

TECHNOLOGY REQUIREMENTS:

A graphing calculator (TI 84 or lower, Casio fx9750) is highly recommended and may be allowed on some tests. A TI 89 may be helpful at home; however, they will not be allowed on any test or final.

PRIOR KNOWLEDGE REQUIREMENT:

- Sequences, series, mathematical induction, matrices, determinants, and systems of equations. Also included are polynomial, rational, exponential, and logarithmic functions and equations and polynomial and rational inequalities
- Trigonometry, trigonometric equations, trigonometric identities, solving triangles, vectors, polar coordinates and equations, and parametric equations
- Analytic geometry, functions, limits, continuity, derivatives and their applications, transcendental functions, antiderivatives, and definite integrals
- Techniques of integration, polar coordinates, indeterminate forms, L'Hopital's Rule, proper integrals, infinite series, parametric equations, improper integrals, volume, arc length, surface area, work, and other applications of integration

IMPORTANT DATES:

Last day for 100% refund: 05/20/2019

Last day to withdraw with "W": 07/03/2019

Final Exam: 08/06/2019

ASSISTANCE:

Academic Success Center (ASC):

The ASC centers at Broward College are here to ensure your success in this class. You will benefit from an array of academic support services provided in a comfortable, collaborative atmosphere specifically designed to advance your academic achievement: <http://www.broward.edu/studentresources/lrc/Pages/default.aspx>

Here are just some of the services provided at the ASC:

- Academic Support Labs (Science Center, Math Lab, Writing Center)
- Collaborative Project Space
- Open Computer Centers (Printing)
- Study Groups
- Textbook Reserves
- Tutoring by Certified Tutors (All subject areas)

Seahawk Support Program:

The Seahawk Support Program is a coordination between students, faculty, the Office of Student Success, and the ASC designed to support students in order to increase their chances of success. If you are contacted by a representative of the Office of Student Success or the ASC, please take full advantage of this excellent opportunity to improve your success in this course.

EVALUATION:

You grade will be determined by your performance *throughout* the semester. Your performance will be evaluated using timed cumulative tests.

Tests: 20% each

There are four in class tests and a final exam. These tests are mostly show your work problems but may contain multiple choice. On the problems where work is required to be shown, partial credit will be awarded. The only materials allowed on tests are pencil, eraser, and a on some tests, a calculator. There are no breaks during the exam. Please make sure you are physically prepared as well as mentally prepared. (Use the restroom before). The final exam may replace a low-test grade, if the final exam grade is better.

Best Practice: The best way to pass a test is to be prepared. This does not mean just do the homework and you'll be fine. You not only need to know the material, but you need to know it under pressure. Practice testing. One way to practice testing is to pick a handful of problems and set a ticking timer. The ticking timer simulates the pressure/stress on test day.

GRADING POLICY:

Your grade will be determined by taking the average of your test scores, homework and Final Exam:

Grade	Grading Scale
A	90 – 100%
B	80 – 89.9%
C	70 – 79.9%
D	60 – 69.9%
F	0 – 59.9% or if a student commits an act of cheating/plagiarism
W	Official Withdrawal – by the student by the Withdrawal date
WN	Withdrawal for Non-Attendance

COURSE WITHDRAWALS:

During the second week of class, professors are required to report students who have never attended, and these students will be administratively withdrawn. Following this attendance verification, it is the student's sole responsibility to withdraw from the course and to verify that the withdrawal is properly recorded through the Registrar's Office prior to the withdrawal deadline of July 3rd. The professor cannot process withdrawals from any reason other than the above-stated student non-attendance. A withdrawal is considered an attempt.

ACADEMIC ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES:

If you are requesting academic accommodations, you must first register with Accessibility Resources (contact information is provided below). Accessibility Resources will evaluate your request and determine eligibility. If approved, you will be provided with an Accommodation Plan that you must deliver to me either electronically or in person. Once received, we will discuss which accommodations you are requesting for this class, and in accordance with Broward College policy 6Hx2-5.09 you will be provided with the appropriate accommodations. Students who wait until after completing the course, or an activity, to request accommodations should not expect any grade to be changed, or to be able to retake the course or activity.

South Campus; Miramar Centers; Pines Center; Weston Center: 954-201-8913

ATTENDANCE POLICY:

You are required to attend all classes. There will be no penalty for a student who is absent from academic activities because of religious holiday observances in his/her own faith, the student's serious illness, death in immediate family, or attendance to statutory governmental responsibilities. The student must notify the instructor of these absences, providing necessary documentation. It is the student's responsibility to make up the work missed.

STATEMENT OF ACADEMIC DISHONESTY:

Broward College expects its students to be honest in all their coursework and activities. Breaches of academic honesty include, but are not limited to, cheating, plagiarism, misrepresentation, bribery, and the unauthorized possession of examinations, papers, or other class materials that have not been formally released by instructors. A student's academic work must be the result of his or her own thought, research, or self-expression. The term "cheating" includes but is not limited to, copying homework assignments from another student; working together with another individual on a take-home test or homework when specifically prohibited from doing so by the instructor, looking at test, notes or another person's paper during an examination when not permitted to do so. (See current BC catalog statement at www.broward.edu/catalog/).

Course Schedule/Suggested Homework:

Do odd-numbered only, unless otherwise stated. Answers to odd-numbered problems are in the back of the textbook. Homework will not be collected or graded.

Date	Section(s)	Assignments (odd numbered only)
5/14	Course Introduction 1.1 Backgrounds 1.2 Solutions and Initial Value Problems (verify solutions) 1.3 Isoclines	1.1 - Pg. 5 #'s 1 – 16 1.2 - Pg. 14 #'s 1 – 27 1.4 - Pg. 28 #'s 1 – 10 all 2.2 - Pg. 43 #'s 1 – 25 & 37
05/16	1.2 Solutions and Initial Value Problems (IVP) 1.4 The Approximation Method of Euler	2.3 - Pg. 51 #'s 1 – 21 & 35 2.4 - Pg. 61 #'s 1 – 25, 29, 30 2.6 - Pg. 74 #'s 1 – 41
05/21	2.2 Separable Equations 2.3 Linear Equations	
05/23	2.4 Exact Equations 2.6 Substitutions and Transformations	
05/28	Test 1 Review	
05/30	Test 1	
06/4	4.2 Homogeneous Linear Equations: The General Solution 4.3 Auxiliary Equations with Complex Roots	4.2 - Pg. 164 #'s 1 – 31 & 37 – 41 4.3 - Pg. 173 #'s 1 – 27, 31 4.4 - Pg. 180 #'s 1 – 36 4.5 - Pg. 187 #'s 3 – 39, every other odd
06/6	4.4 Non-Homogeneous Equations: The Method of Undetermined Coefficients	
06/11	4.5 The Superposition Principle and Undetermined Coefficients Revisited	4.6 - Pg. 193 #'s 1 – 17 4.7 - Pg. 199 #'s 1 – 19
06/13	4.6 Variation of Parameters	
06/18	4.7 Variable-Coefficients Equations	
06/20	Test 2 Review	
06/25	No class	
06/27	Test 2	
07/02	7.2 Definition of The Laplace Transform 7.3 Properties of The Laplace Transform	7.2 - Pg. 360 #'s 1 – 29 7.3 - Pg. 365 #'s 1 – 19 7.4 - Pg. 374 #'s 1 – 29 7.5 - Pg. 382 #'s 1 – 21, 25, 29, 35
07/09	7.4 Inverse Laplace Transform 7.5 Solving Initial Value Problems	
07/11	Test 3 Review	
7/16	Test 3	
07/18	6.2 Homogeneous Linear Equations with Constant Coefficients 6.3 Undetermined Coefficients and The Annihilator Method	6.2 - Pg. 331 #'s 1 – 21 6.3 - Pg. 337 #'s 1 – 33 8.2 - Pg. 435 #'s 1 – 33 8.3 - Pg. 445 #'s 1 – 27
07/23	8.2 Power Series and Analytic Functions 8.3 Power Series Solutions to Linear Differential Equations	
07/25	Test 4 Review	
07/30	Test 4	
08/01	Final Review	
08/06	Final Exam	

NOTE: Any changes in the Course Outline and Syllabus will be announced.