Bossier Parish Community College
Master Syllabus

Course Prefix and Number: MATH 251   **Credit Hours:** 4

Course Title: Calculus II

Course Prerequisites: A grade of "C" or higher in Math 250 or consent of instructor.

Textbook(s) (when applicable): Thomas, George B. <u>Calculus</u>, 14th edition. Pearson, 2018. ISBN: 9780134439020

Course Description: Topics include integrals of transcendental functions; techniques of integration, first-order differential equations; infinite sequences and series; parametric equations; and polar coordinates.

Learning Outcomes:
At the end of this course, the student will:
- A. Integrate transcendental functions;
- B. Utilize various techniques of integration.
- C. Analyze infinite sequences and series; and
- D. Write and graph parametric equations and polar coordinates;

To achieve the learning outcomes, the student will or will be able to:
(The letter designations at the end of each statement refer to the learning outcome(s).)
1. Define the logarithm as an integral; (A)
2. Analyze exponential change and separable differential equations; (A)
3. Define and use hyperbolic functions; (A)
4. perform integration by parts; (B)
5. integrate trigonometric integrals; (B)
6. perform trigonometric substitutions; (B)
7. perform integration using partial fractions; (B)
8. use integral tables; (B)
9. perform numerical integration; (B)
10. compute improper integrals. (B)
11. use sequences and series; (C)
12. perform the integral, comparison, ratio, and root tests; (C)
13. use alternating series to understand absolute and conditional convergence; (C)
14. find the power series of a function; (C)
15. find and use the Taylor and Maclaurin series for functions; (C)
16. determine the convergence of a Taylor series; (C)
17. parameterize plane curves; (D)
18. use calculus techniques with parametric curves; (D)
19. use polar coordinates for graphing; (D)
20. find areas and lengths in polar coordinates; (D)
21. analyze conic sections; (D)
22. analyze conics in polar coordinates; (D)

Course Requirements: All students are required to take a final exam. When this course is taken in an online environment, the department has established a minimum grade of 60% on the final exam required to earn a grade of "C" or higher in the course. If this minimum score is not obtained by the student, then the

student shall refer to the policy outlined in the course syllabus which will supersede the course grading scale shown below.

Course Grading Scale:
       90 – 100 = A
       80 – 89   = B
       70 – 79   = C
       60 – 69   = D
       0 – 59   = F

Attendance Policy: The college attendance policy is available in the BPCC Student Handbook.

Course Fees: This course is accompanied with an additional non-refundable fee for supplemental materials, laboratory supplies, software licenses, certification exams and/or clinical fees.

Nondiscrimination Statement: Bossier Parish Community College does not discriminate on the basis of race, color, national origin, gender, age, religion, qualified disability, marital status, veteran's status, or sexual orientation in admission to its programs, services, or activities, in access to them, in treatment of individuals, or in any aspect of its operations. Bossier Parish Community College does not discriminate in its hiring or employment practices.

Title VI, Section 504, and ADA Information
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Equity/Compliance Coordinator
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