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| |  | | --- | | **Delaware State University**  **Fall 2023 Course Syllabus** | |  |

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|  | |  |  |  |  | | --- | --- | --- | --- | | |  |  | | --- | --- | | **Course** |  | | MTSC-252 Calculus II | | |  |  | | --- | --- | | **Session** |  | | N1 and N2 | | |  |  | | --- | --- | | **Instructor** |  | | Dr. Zhongyan Lin | | |  |  | | --- | --- | | **Address** |  | | South Science Center 302 D | |  |  | | |  |  | | --- | --- | | **Phone** |  | | 302-857-6557 | | |  |  | | --- | --- | | **Email** |  | | zlin@desu.edu | | |  |  | | --- | --- | | **Website** |  | | https://dsuonline.blackboard.com/webapps/portal/execute/tabs/tabActiontab\_tab\_g | | |  |  | | --- | --- | | **Office Hour** |  | | MW 1:00am-3:00pm,TR3:00pm-4:00pm | | |  |  | | --- | --- | | **Meeting Time** |  | | M8:00-9:45,T14:00-15:45 | | |  |  | | --- | --- | | **Class Room** |  | | Ningbo 2nd Teaching Building 302 | | |  |  | | --- | --- | | **Textbook** |  | | Calculus Early Transcendental Functions, 6e, by Ron Larson and Bruce Edwards | | |  |  | | --- | --- | | **Description** |  | | This is the second course of calculus. It covers indefinite integral, definite integral, various applications of of integrals, ordinary differential equations and infinite series. This course is a foundations to many major courses in mathematics, computer sciences, physics and engineering. | |  |  | | |  |  | | --- | --- | | **Schedule** |  | | Techniques of Integration Integration by Parts  Trigonometric Integrals  Trigonometric Substitutions  Integration of Rational Functions by Partial Fractions  Numerical Integration  Improper Integrals  Applications of Definite Integrals  Volumes Using Cross-Sections  Volumes Using Cylindrical Shells  Arc Length  Areas of Surfaces of Revolution  Moments and Centers of Mass  Transcendental Functions  Inverse Functions and Their Derivatives  Natural Logarithms  Exponential Functions  Exponential Change and Separable Differential Equations  Indeterminate Forms and L扝opital抯 Rule  Inverse Trigonometric Functions  First-Order Differential Equations  Direction Fields and Numerical Methods  Separable Equations  First-Order Linear Equations  Infinite Sequences and Series  Sequences  Infinite Series  The Integral Test  Comparison Tests  Absolute Convergence; The Ratio and Root Tests  Alternating Series and Conditional Convergence  Power Series  Taylor and Maclaurin Series  Convergence of Taylor Series (Optional) | | |  |  | | --- | --- | | **Prerequisite** |  | | MT251 Calculus I | | |  |  | | --- | --- | | **Evaluations** |  | | Reading: 20% Class Quiz: 20% Homework: 20% Middle Exam: 20% Final Exam: 20% | |  |