**Mathematics 31 Course Outline**

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**Nature of the Course**The Math 31 course is designed to bridge the gap between the Math 10-20-30 program and the calculus course offered at the post-secondary institutions. The course emphasizes the theoretical and practical developments of topics in algebra of functions, trigonometry, differential calculus, and integral calculus up to a standard acceptable for entry into all first year programs in mathematics, science, engineering, and business.

Objectives:

* To develop a deeper understanding of the art of mathematics
* To apply mathematics to real life situations.
* To prepare students for university level mathematics courses
* To instruct Mathematics 31 as prescribed by Alberta Learning.

**Course Schedule**

The following topics are set out in the Alberta Education Mathematics 31 Program of Study

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| --- | --- | --- | --- |
| **Topics** | | | **Estimated Time** |
| Unit 1 | Pre-Calculus |  | ~6 days |
| Unit 2 | Limits |  | ~8 days |
| Unit 3 | Derivatives |  | ~11 days |
| Unit 4 | Applications of Derivatives |  | ~5 days |
| Unit 5 | Extreme Values |  | ~6 days |
| Unit 6 | Curve Sketching |  | ~10 days |
| Unit 7 | Indefinite Integrals |  | ~5 days |
| Unit 8 | Definite Integrals |  | ~3 days |
| Unit 9 | Applications of Definite Integrals |  | ~7 days |
| Unit 10 | Trigonometry |  | ~5 days |
| Unit 11 | Calculus Trigonometry |  | ~6 days |
| **Cumulative Exam # 1 – 15%** | | | |
| **In-Class Final Exam - 25%** | | | |

**Evaluation**Student course marks are determined on the basis of homework, class assignments, projects, quizzes, unit exams, and a final exam. The final mark is made up of the following components:

Note: Course work is 70% of the final grade and the diploma is 30% of the final grade.

|  |  |
| --- | --- |
| Mathematical competencies | 0% |
| Assignments | 18% |
| Unit Exams | 42% |
| Cumulative Exam | 15% |
| In-Class Final Exam | 25% |
| **Total** | **100%** |

Homework: Homework will be assigned based on the lesson given. Please get assignment form teacher PRIOR TO being absent. An assignment will be given in most classes. Time will be given to students to complete the questions in class, however it is required to complete the homework outside of class if not completed. Because of the nature of the course, you can assume you will have a piece of homework most nights.

Cumulative Exam: An exam will be given at the end of the course. The exact date of each test will be given in class. All tests must be written to receive credit in Mathematics 31. If you are absent on the day of the exam, it is expected that you inform me or have your parents excuse your absence. Students will be expected to write the exam the day they return unless other arrangements have been made.

Zeros:

Students will be given a zero if an assignment in not handed in on time. If you are absent or have to be away from class, please hand in homework BEFORE leaving. Any unexcused absence will result in a zero.

Preparation

Come prepared to every class with all necessary supplies and materials:

1. Math binder with lined paper and graph paper
2. **Pencil(s) and eraser (anything handed in must be completed in pencil)**
3. **Scientific calculator** (No graphing calculators allowed. Please see this link for the disapproved calculators <https://education.alberta.ca/media/3653374/using-calculators.pdf> )

**Late Procedure**

In order to maximize instructional time and limit disruption to the learning of others, students are expected to arrive in their classes prior to the late bell.

**Excused Absences**

Given the nature of the course, time missed may seriously affect your overall success. Therefore, you are expected to attend all classes and to take responsibility for any work missed. **If you know you are going to be absent, arrange to meet with your teacher in advance to get the work and material you will miss.**

**Unexcused Absences**

Quizzes and Unit tests that are missed as a result of an unexcused absence will be completed THE DAY THE STUDENT RETURNS. No exceptions will be made. Any assignments or labs that are incomplete due to an unexcused absence will not be accepted.

## Appeals

If you believe there has been a miscarriage of justice, either through procedural error or discriminatory marking, then you may appeal your grade. Simply disliking the instructor's marking scheme is not a legitimate grade grievance. Your grade may fall just below the instructor's cut-off for a higher grade; you cannot grieve this if your instructor clearly outlined how term marks are converted to grades.

As a rule, the informal approach is the appropriate and first step for settling a grade dispute. Voice your concerns with your instructor. Prepare your case point by point, outlining the areas of disagreement. Listen carefully to your instructor's reasons for assigning the grade

If your consultation with the instructor is unsatisfactory, please contact the school Principal.

**Extra Help**

ASK! Sign up my for math tutorials during focus blocks for extra help. If you are experiencing difficulties, do not wait until you are totally lost to get help. Ensure, however, that your effort during class time warrants extra help outside of class time.

**Food and Drink:**

No junk food will be allowed in class (i.e. No chocolate bars, M&M’s, chips, etc.). Sandwiches, fruits and vegetables, granola bars, etc. are acceptable. Pop and slushes are not acceptable. You will be asked to empty these in the sink.

**Electronic Devices:**

iPods, iPads, laptops, cell phones, etc. are allowed in class for educational purposes only and subject to the teachers discretion. Non-educational purposes will not be tolerated. Students found with active electronic equipment during exams will receive a 0% on the exam.