Our AP Calculus AB topic outline is designed to be in alignment with the AP Calculus Course Description. Please look over the attached description provided my collegeboard.com.

**MATERIALS**

Textbook: Calculus of a Single Variable by Larson, Hostetler, and Edwards.

**Binder** probably a 2 inch or larger, paper in some form, pencils (all graded work must be done in pencil, BYOD, TI83/84 Calculator, etc.

**OBJECTIVES**

Course objectives are to develop a foundation for subsequent math courses in high school and college and to be successful on the AP Exam. A consequent focus is the “Rule of Four,” approaching Calculus graphically, numerically, analytically, and verbally.

**EXPECTATIONS**

Having completed math courses on an accelerated college preparatory track, students are familiar with the high expectations of honors level math, and subsequently the rigor that will be involved in taking Advanced Placement Calculus AB. The date of the AP exam will be acknowledged regularly and students will frequently be reminded that a primary goal is to get credit for college via a sufficient score. Released AP exam questions are used frequently to reinforce concepts and understanding in order to become accustomed to the type and difficulty of questions that will be seen on the actual exam. Students will hopefully recognize early in the year that the expectations of Calculus are much greater than any previous course, but also that the benefits of demonstrating a strong foundation for college math and doing well on the AP exam are ultimately very rewarding.

**TECHNOLOGY AND COMPUTER SOFTWARE**

Students are taught to use the TI-83/84 PLUS graphing calculators to graph functions, verify solutions, experiment with data, support conclusions, and perform operations that are otherwise impossible or impractical to do by hand. Each student is required to purchase a graphing calculator and have it available for use daily. Guided practice, individual assignments, projects, and tests may require use of a graphing calculator. Students also have access to software and online resources including manuals on any TI graphing calculator, a Calculus help webpage (CalcChat), study guides, quizzes, and concept reviews.

**20% Homework**

Homework completion is very important for a number of reasons. First, it helps you to understand the concepts from the lesson that you understood or did not understand. It gives you questions to present in class the next day that initiates discussion of homework. Second, it helps the teacher to know what concepts you understand. The attention to detailed, written explanations sheds light on the level of understanding that you have of mathematical concepts. Additionally, your detailed work and written explanations set you apart from other students, and it is only those students who work the very hardest and who master the content with deep understanding who deserve to make a top grade of an A in an AP course. Homework packets will be due at the end of a unit for a 50 point completion grade. Throughout the unit, you will periodically have homework quizzes during which you will provide solutions to various homework problems. These will be graded on accuracy and will be recorded as 15 point grades. Typically, I will choose 5 problems for which you must provide your solution from your homework assignment.

**30% Quizzes**

Quizzes are given periodically and are always announced on the syllabus. If the assignment sheet says that there is supposed to be a quiz, then you will have a quiz whether or not I told you in class that there will be a quiz. Quizzes are typically always a combination of 6 multiple choice problems and 1 free response problem. Quizzes will either be totally calculator permitted or totally non-calculator permitted. There will be a total of 18 points available on each quiz and a grade out of 100 will be recorded. Quizzes are timed to an entire class period

**50% Exams and Projects**

All exams will be announced and will be in true AP format, with both calculator active and non-calculator active sections. Each calculator active section will have 7 multiple choice and one free response item. Each non calculator active section will have 7 multiple choice items and one free response item.

You will receive 100 point grades for each test. In other words, a 100 point grade will be recorded for the calculator permitted test and a 100 point grade will be recorded for the non-calculator permitted test. On each section, there is a total of 18 points available. You will receive a percentage grade out of 100 based on the scale in the table to the right. Because exams contain cumulative questions that assess not only material learned for a particular unit but also material from past units, an adjusted scale like this must be used. It is important to understand that you will only be graded according to this scale if all of your homework for the unit has been completed and on time. Any lapse in this expectation and your tests will NOT be graded according to this adjusted scale.

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| --- | --- |
| 18 | 100% |
| 16 – 17.9 | 95% |
| 15 – 15.9 | 90% |
| 13 – 14.9 | 85% |
| 11 – 12.9 | 80% |
| 9 – 10.9 | 75% |
| 7 – 8.9 | 70% |
| 5 – 6.9 | 65% |
| 0 – 4.9\*  (With serious attempt) | 60% |

There will be 2 to 4 projects given throughout the year. Each will count as ¾ of a test.

**Sequence**

Lap 1 – Limits and Continuity

Lap 2 – Understanding the Derivative

Lap 3 – Rules of Differentiation

Lap 4 – Applications of the Derivative Part 1

Lap 5 – Applications of the Derivative Part 2

Lap 6 – Basic Integration and Application

Lap 7 – Advanced Integration and Applications

Lap 8 – AP Test Prep

**IWA Late Work Policy – Fall 2015**

To ensure accurate reporting in grades, all teachers at IWA will categorize assignments and assessments into two categories: Formative and Summative. You will distinguish between the two because all Summative Assessments will be designated as so in the teacher’s grade books.

* ***Formative a*s*sessments*** are on-going assessments in a classroom and can include homework, open lab activities, quizzes, and class work. Teachers use formative assessment to improve instructional methods and student feedback throughout the teaching and learning process.
* ***Summative assessments*** are typically used to evaluate the effectiveness of instructional programs and services at the end of an academic year or at a pre-determined time, such as at the end of each LAP. Summative assessments would be considered LAP tests, culminating projects, presentations, tests, and exams. The goal of summative assessments is to make a judgment of student competency after an instructional phase is complete. Summative evaluations are used to determine if students have mastered specific competencies and to identify instructional areas that need additional work. On Summative assignments no student can earn lower than 50%.
* **All Formative assessments will be treated with the following policy:**
  + During the course of each QUARTER, a student will have one NLP (No Late Penalty) assignment. When the late assignment is turned in, no late points will be deducted. If multiple assignments are missing and then turned in late, the NLP will be given to the assignment worth the most points.
  + Any **formative** assignment not turned in will always be due by the end of next LAP for partial credit. **THIS WILL BE LISTED ON THE FOLLOWING LAP.**
  + If work is turned in late, 50% is the only grade a student can receive.
  + After “2nd” LAP ends, assignments not turned in will be given a zero and will no longer be able to be turned in for credit.
* **All Summative assessments will be treated with the following policy:**
  + **If all the summative assessments are not completed, the student will FAIL the course.**
  + Completed is defined as took every summative offered in the course.
  + If a student misses a summative assessment (it will be identified on each LAP), it is the student’s responsibility to contact the teacher to make arrangements to reschedule.
  + However, once the Summative Assessment is missed, the grade will become a “LATE” or “ABSENT” which are tied to a zero, and the cumulative grade will become an “I” for Incomplete. **THE “I” WILL NOT BE REMOVED UNTIL THE STUDENT TAKES THE ASSESSMENT.**
  + **If a student does not COMPLETE A SUMMATIVE ASSESSMENT by the due date, she will receive a demerit from the teacher of the missing assessment.( If absent on the due date no demerit will be issued.)**
  + **Examples include:**
* **Not taking a test**
* **Not turning in an essay**
* **Not having a class presentation or speech ready on the assigned day**
* **Not turning in a project**
* **Not completing a yearbook spread by the deadline day**
* **Etc.**
  + Once a summative is missed the student will be required to be at school, in the Commons, the following Wednesday morning at 8:00 am. If the missing assessment is a test the student should come prepared to take the test. If the missing assessment is a project or a performance the student must have set up a time to make up the assessment with the teacher. The student will be required to be in the Commons, every Wednesday at 8:00 am until she no longer has any INCOMPLETES for missing summative assessments.
  + If a student has an INCOMPLETE in one class with a project or performance that cannot be completed in the Commons, the student is expected to use the time to complete other academic assignments.
  + If a student has multiple INCOMPLETES the guidance department will choose one summative to be completed/worked on during the time in the Commons.
  + FAILURE TO BE IN THE COMMONS WILL RESULT IN A 1D FOR A MISSED APPOINTMENT. The student will know if she is expected in the Commons because she will have missed a summative assessment in a class.

***RETAKES & REDOS***

* Once a summative assessment has been taken and student earns a failing grade (64% or below) the student will be required to retake or redo the assessment based on the policy for that class.
* Upon failing the summative assessment the gradebook will show REDO in the place where the grade goes. REDO will remain in place until the assessment has been retaken or redone. REDO is tied to a 50%.
* Upon completing the redo process the student grade will reflect the grade earned on the new assessment.
* Any **summative assessment needing to be redone** will always be due by the end of the last day listed on the LAP. **THIS DATE WILL BE LISTED ON THE FOLLOWING LAP.**
* Retakes/Redos can be completed in Open Lab/Testing Center or on Wed mornings. The decision will be at the discretion of the teacher.
* If a student fails to complete a required Retake or Redo, her grade will permanently remain a 50%, and she will receive a detention from the teacher of that class. Detentions are served on Friday mornings from 6:50-7:50 am.
* Once a detention has been given for the failed Summative it can no longer be retaken/redone. The student grade will remain a 50% and the gradebook will be changed from the word REDO to show a 50%.

**IT IS THE STUDENT’S RESPONSIBILITY TO CONTACT THE TEACHER.**

The student must communicate with the teacher by email and set up the assessment. Missing assessments due to absence go in the grade book as absent and the teacher and student set up a new deadline.

**IWA Grading Information**

* **ABSENT**: This means that the student was absent the day the activity was due.  (This counts as a zero until the assignment is turned in.)
* **LATE**: This means that the student was in class the day the activity was due, but did not turn in the assignment.  (This counts as a zero until the assignment is turned in.)
* **EXCUSED (EXC)**: This means that the student has been excused from completing this assignment.  (This has no effect on the grade.)
* **REDO**: This means a summative assessment has been taken but failed. This requires a student to retake or redo the assessment according to the class policy. The REDO score code is tied to a 50%.
* **T**urned **I**n **N**ot **G**raded (**TING**): This means the assignment has been received by the teacher and is in the process of being graded. This acronym (TING) will only be used for large term papers or projects that will require a lengthy grading process. It will not be used for daily assignments.

Once a student has been given an INCOMPLETE for a missed summative; upcoming assignments should be graded, scored, but no adjustment to the overall grade should be made until the summative is completed.