Calculus I, sections 4, 5, and 6. Rough draft schedule,

Features:
>This follows more or less the department schedule but with less time for the very theoretical parts and more time for the technical parts.
>The midterm comes early, before the class is half over.
>Homeworks should be collected Mondays before class.
>Quizzes should take 20 minutes total – including handout and handin time.
>There are readings assigned for each week from both texts. It is particularly helpful for students to do the reading before class.

SHE – Salas, Hille, Etgen, **Calculus I: One Variable,** the main text
KR – Kleppner and Ramsey, **Quick Calculus**, the auxiliary text

	Monday	Wednesday
Week 1		Sept 8 **Limits** SHE: Review chapter 1 up to page 38 skipping conic sections. Read 2.2, 2.3, 2.4(skim) KR: Review 1 – 39. Read and do 97 through 115 Assign hw 1
Week 2	Sept 13 **Derivative definition** SHE: Review pp 39 – 52. Read 3.1 KR: 116 through 159. Note that the physicists use notation and terminology slightly differently than mathematicians.	Sept 15 **Rules of differentiation** SHE: 3.3, 3.4 KR: 160 through 197 Assign hw 2
Week 3	Sept 20 **Derivatives as rates of change.** SHE: 3.4, KR: review starting 116	Sept 22 ==Quiz 1== **The chain rule.** SHE: 3.5 KR: 198 through 208. Note that 203 and 205 have a different derivation of the quotient rule. The quotient rule is true for many reasons. Assign hw 3
Week 4	Sept 27 **Review trig functions,** **Derivative of sine & cosine** SHE: Review pp 40 – 44. Read 2.5 (skim this difficult material, focusing on formula	Sept 29 **Derivatives of trigonometric functions** SHE: 3.6 KR: 213 – 221

	(2.5.5) and what follows "**Remark**" on page 107.). KR: Review 40 – 74. Read and do 209 - 212	Assign hw 4
Week 5	Oct 4 **Implicit differentiation and differentials** SHE: 3.7, 3.8 KR: 273 - 284	Oct 6 <mark>**Quiz 2**</mark> **Linear approximations** SHE: 3.9 KR: 262 – 272 (don't worry about the examples involving exponentials and logs.) Read: **Supplement on differentials** from the course web site. Assign hw 5
Week 6	Oct 11 **Graphing using derivatives** SHE: 4.1 (pay attention to Figures 4.1.1 and 4.1.2 and skim the rest), 4.2 (the derivative test is obvious, so skim to the examples.), 4.3 (what they call "critical number" is commonly called "critical point".), 4.6, 4.8 -- lots of easy material. KR: 160 – 169, 242 – 259	Oct 13 **Max and min problems**. SHE: 4.5 KR: 285 - 287 Assign hw 6
Week 7	Oct 18 **Velocity, acceleration, marginal price** SHE: study and review KR: review 116 - 135	Oct 20 <mark>**Midterm**</mark>
Week 8	Oct 25 **Integral as area** SHE: 5.1, 5.2. These halfway explanations of very theoretical material seem out of place in a calculus book. A function is *differentiable* if the slopes have a limit. A function is *integrable* if the Riemann sums have a limit. KR: 290-299. KR and SHE cover the material in a different order. If you read them together, each provides a preview for the other. They come together again after next week	Oct 27 **Indefinite integral** SHE: 5.3, 5.4. SHE really drags out this part. This should be an easy week. KR: 300 – 308, 326 – 333. Assign hw 7
Week 9	Nov 1 **Fundamental theorem** SHE: 5.5 KR: 334 – 348. 353 – 358 are also interesting but are not part of the course	Nov 3 **Applications of integration** SHE: 5.6 KR: 359 - 361 <mark>**Quiz 3**</mark>

	this year.	Assign hw 8
Week 10	Nov 8 **Integration by substitution I** SHE: 5.7. KR: 309 - 325	Nov 10 **Integration by substitution II** SHE: review KR: review Assign hw 9
Week 11	Nov 15 **Area and volume by slice** SHE: 6.1, 6.2 KR: 366 – 374.	Nov 17 **Volumes by slice and shell** SHE: 6.3, skim 6.4 (We do not cover it.) KR: nothing <mark>**Quiz 4**</mark> Assign hw 10
Week 12	Nov 22 **Review of functions, log I** SHE: 7.1, 7.2 KR: 75 – 96.	Nov 24 **Probability (optional)** This is an optional lecture on probability using integration and differentiation for those who have not already left for Thanksgiving. It should be easy and interesting. Assign hw 11
Week 13	Nov 29 **Log and exponential** SHE: 7.3, 7.4 KR: look at the examples you skipped along the way that involve e^x or $ln(x)$.	Dec 1 **Applications of exponentials** SHE: 7.6 (easy), 7.6 (very important for applications) KR: review <mark>**Quiz 5**</mark> Assign hw 12
Week 14	Dec 6 **Inverse trig functions** SHE: 7.7	Dec 8 **Integration by parts** SHE: 8.2 Assign hw 13
Week 15	Dec 13 **Review**	