Chapter 1 and 2: Introduction to Differential Calculus

1. **Section 1.1:** The Derivative
   Learner Outcome: The student will demonstrate the derivative of a function.
   Assignment: Worksheet 1.1

2. **Section 1.2:** Properties of Derivatives
   Learner Outcome: The student will determine the derivatives of linear combination functions.
   Assignment: Worksheet 1.2

3. **Section 1.3:** Derivative Notation and the Chain Rule
   Learner Outcome: The student will demonstrate use of derivative notations with the power rule and use the chain rule to differentiate compositions of functions.
   Assignment: Worksheet 1.3 Differentiation

4. **Section 1.3 Continued:** Derivative Notation and the Chain Rule
   Learner Outcome: The student will demonstrate use of derivative notations with the power rule and use the chain rule to differentiate compositions of functions.
   Assignment: Worksheet 1.3 Chain Rule

5. **Section 1.4:** Derivatives of Trigonometric Functions
   Learner Outcome: The student will differentiate trigonometric functions.
   Assignment: Worksheet 1.4

6. **Review** worksheet **1.1-1.4**

7. **Quiz 1.1-1.4**

8. **Section 1.5:** Using Derivatives in Graphing
   Learner Outcome: The student will find the intervals for which a function is increasing and decreasing and locate extreme points.
   Assignment: Worksheet 1.5 **(no graphing calculator allowed)**

9. **Section 1.6:** Concavity and the Second Derivative
   Learner Outcome: The student will find inflection points using the second derivative.
   Assignment: Worksheet 1.6 **(no graphing calculator allowed)**

10. **Section 1.7:** Applications with Derivatives
    Learner Outcome: The student will solve optimization problems using maxima and minima.
    Assignment: Worksheet 1.7 #1, 2, 3 **(no graphing calculator allowed)**

11. **Section 1.7 continued:** Applications with Derivatives
    Learner Outcome: The student will solve optimization problems using maxima and minima.
    Assignment: Worksheet 1.7 #4, 5 **(no graphing calculator allowed)**

12. Review of 1.5-1.7 **(no graphing calculator allowed)**

13. Quiz 1.5-1.7 (no graphing calculator allowed)

Chapter 2 Integration

14. **Section 2.1:** Indefinite Integrals
    Learner Outcome: The student will learn the process of integration.
    Assignment: Worksheet 2.1

15. **Section 2.2:** Integration by Substitution
    Learner Outcome: The student will integrate using an appropriate substitution.
    Assignment: Worksheet 2.2 Day 1

16. **Section 2.2:** Integration by Substitution continued
    Learner Outcome: The student will integrate using an appropriate substitution.
    Assignment: Worksheet 2.2 Day 2

17. **Section 2.3:** Definite Integrals
    Learner Outcome: The student will learn how to evaluate definite integrals.
    Assignment: Worksheet 2.3

18. **Section 2.4:** Area bounded by a region
    Learner Outcome: The student will sketch the described region between different functions and calculate the area using definite integrals.
    Assignment: Worksheet 2.4

19. Review of Chapter 2 worksheet

20. Quiz Chapter 2.1-2.4