

# 12003 Analytic Geometry and Calculus II (5)

## **Knowledge**

The students should be able to develop their deeper understanding of the concepts they learned in Calculus I: limits, continuity, derivatives, rates of change, linear approximation and differentials, definite and indefinite integrals, inverse functions. They should also study the techniques and applications of integration; trigonometric, logarithmic and exponential functions; polar coordinates; vectors; parametric equations; sequences and series.

## **Comprehension**

Should be able to decide whether the given series is divergent or convergent. Should understand the notions of tangent vectors, equations of lines and planes.

## **Application**

The main and most important application is to solve many different problems related to the subject.

## **Analysis**

Should be able to use the analytic techniques to attack geometric problems.

## **Synthesis**

Should get used to combine their skills from elementary mathematical courses to solve the more advanced problems in Calculus.

## **Evaluation**

Should be able to decompose the function into power series.

## **Class Activities**

To solve problems and prove Theorems in class.

## **Out of class Activities**

To submit every week home assignments.