

**St. Clement's School**  
**Course Outline**  
**Seventh Grade Advanced Technologies Elective**  
**One Semester Class**

This course outline is a general guide to familiarize students and parents with an overview of the computer education elective course for seventh grade. It is an approximation of the content and objectives of the one semester class. The rate of progress may vary depending upon the student's learning pace through the semester.

- I. Course content
  - A. What's inside a computer?
    - 1. Take apart a computer
    - 2. Identify and examine parts
    - 3. Reconstruct a computer
  - B. Introduction to robotics
    - 1. Qualities of a great website
    - 2. Examine various sites for validity of content
    - 3. History of robotics report
    - 4. Uses of robots today and implications for the future
  - C. Robotics construction
    - 1. Robot construction project using Lego NXT Mindstorms kit
    - 2. Test and refine construction
  - D. Desktop publishing
    - 1. Create a class robotics newsletter using Microsoft Publisher
    - 2. Edit, publish, and distribute the newsletter
- II. Learning objectives
  - A. Realize complexity of computer's construction
  - B. Make the connection that a robot is an extension of a computer
  - C. Explore impact of robotics on society
  - D. Build a working robot
  - E. Use applicable Internet websites to gather facts for a report
  - F. Evaluate website validity
  - G. Create a flyer to communicate and illustrate concepts learned
- III. Grading
  - A. Areas of evaluation
    - 1. Daily assignments
    - 2. Projects
    - 3. Tests – usually count as two grades
    - 4. Participation
    - 5. Effort
  - B. Major projects
    - 1. Evaluated for content and use of computer application/program
    - 2. Rubric used to communicate grading criteria
- IV. Class policies
  - A. School provides equipment and software programs
  - B. Late work
    - 1. Due dates allow for class time to complete assignments

2. Make up work allowed for excused absence

C. Absence

1. Make up work to be completed at school
2. Student schedules lab time with teacher

D. Homework

1. Occasionally gather materials for a project
2. Study for test