EDTC 5630 ROBOTICS IN THE CLASSROOM **July 9, 11, 16, 18, 23, 25**
5:00 – 9:00 p.m. beckmann@webster.edu
Instructor: Mary Beckmann ponotoc2@yahoo.com

WEEKS 05 and 06

1. More advanced bots - programmable
    a. Demo iCybie –
    b. String programming robot from the kit – how can you use it in the classroom?

2. Discuss basic energy and movement
    a. Playground equipment – push – pull
    b. Create string merry-go-round
    c. Pneumatics http://www.fpef.org/EarlyEducation/pneuCurriculum.htm
        i. Rubber bands, gears/pulleys, motors, Solar Power, hydraulics, pneumatics, and balloons can power chassis-based bots – we'll discuss and build a pneumatic tipper truck
        ii. To demo, use cotton balls – does it work? Why / why not?
        iii. Look at the description page from The Commotion Company for hydraulics. Examine the principle behind hydraulics / pneumatics.

3. **The final project**
    a. create groups if you want, or decide to work alone
    b. choose a topic
    c. choose a robot – test the bot to make sure it works and does what it's supposed to do
    d. create a lesson idea around the bot and topic in Word or Excel
    e. create one activity
    f. search for one activity
    g. you and your partner will be the 'teacher' – the rest of the class will be your 'students' – you will create a lesson that involves building a robot, include curriculum topic, method to assess that you will explain to your 'students' - there will be no robot building, we will pretend only
    h. decide on a method to assess
    i. create the rubric or check list with graphics

    j. presentations begin on night six – last night of class – at least 10 minutes, no longer than 20 please

REFERENCES

★ Greene, P. J. "Lego Mindstorms Robolab." Learning & Leading with Technology **27**(8): 64.
★ O'Neil, J. (1995). On technology in schools: A conversation with Chris Dede. *Educational Leadership*, 53(2), 6-12.
★ Papert, S. (1980). *Mindstorms: Children, computers, and powerful ideas*. New York: Basic Books.