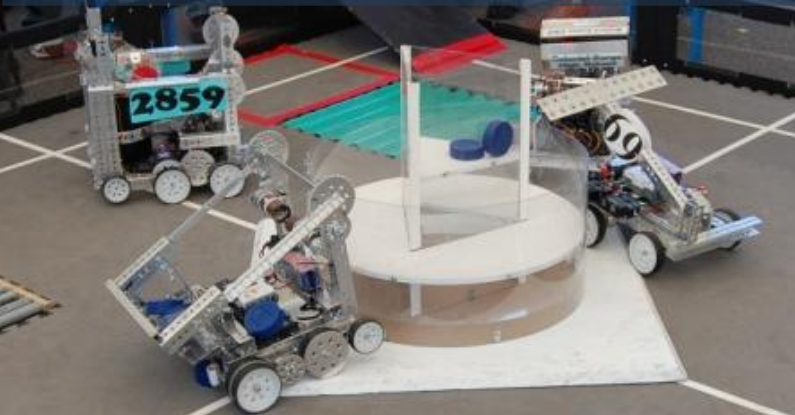


High School Summer Robotics Camp at The GW Community School



Session I: July 12 - 23, 2010
ROBOTC for Lego™ Mindstorms™

Mon – Fri from 9:00 am - 2:30 pm
\$800.00

Session II: August 2 - 13, 2010
ROBOTC for Tetrix™

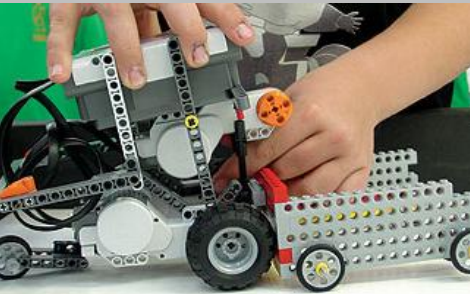
(Pre-requisite: Session I or permission from instructor)

Mon – Fri from 9:00 am - 2:30 pm
\$800.00

- Experience the wonder and excitement of designing and programming robots in a collegial environment
- Camps taught by Gary Lindner, coach of state co-champion robotics team and GWCS faculty member
- Curriculum designed by the Robotics Academy at Carnegie Mellon University
- Class size is limited to 10 – rising 9th thru 12th grade
- Each student receives a lap top computer to use
- Two – three students per robot



ro·bot *rov bat, -bot/ [roh-buh t, -bot]*—**noun** **1.** a machine that resembles a human and does mechanical, routine tasks on command. **2.** a person who acts and responds in a mechanical, routine manner, usually subject to another's will; automaton. **3.** any machine or mechanical device that operates automatically with humanlike skill.



Learn:

Industry-Standard C Programming
Task Analysis
Time and Project Management

Experience:

Team Work
Positive Competition
Real-World Problem Solving

Achieve:

Proficiency in Programming & Mechanics
Leadership
Effective Communication



SPACE IS LIMITED – SIGN UP TODAY!

GW COMMUNITY SCHOOL
9001 Braddock Road, Suite 111
Springfield, VA 22151

TEL: (703) 978-7208 FAX: (703) 978-7226
www.gwcommunityschool.com www.coyoterobotics.org

GWCS Summer Robotics Camp - Sample Schedule

• ROBOTC™ for LEGO™ MINDSTORMS™

❖ 2 Weeks – Mon – Fri, July 12 – 23, 9:00 am – 2:30 pm

❖ Week 1

- Introduction to Robots, Engineering and Programming
- Building Robots
- Programming in ROBOTC™
 - Hardware, Firmware and Software
 - Introduction to Programming in ROBOTC™
 - Movement Forward/Backward/Turning
 - Touch and Ultrasonic Sensors
 - Motor Encoders
 - Light Sensing and Line Tracking
 - Sound Sensors
 - Variables and Functions
- Warehouse Programming Challenge

❖ Week 2

- Programming in ROBOTC™
 - Automatic Threshold Calculations
 - Variables and Functions
 - Counting
 - Patterns of Behavior
 - Debugging
 - Remote Control
- Final Challenge/Competition

❖ Maximum 12 students

- 2-3 Students per MINDSTORMS™ Kit
- Each student issued own notebook computer

• ROBOTC™ for TETRIX™

❖ 2 Weeks – Mon - Fri, Aug 2 – 13, 9:00 am – 2:30 pm

- Prerequisite – ROBOTC™ for LEGO™ MINDSTORMS™ or approved equivalent

❖ Week 1

- TETRIX™ Hardware
- TETRIX™ Electronics
- ROBOTC™ Programming
 - Movement
 - Sensing
- TETRIX™ Programming Challenges

❖ Week 2

- TETRIX™ Engineering Challenges
 - Robot Mining Challenge
 - Robot Mine Removal Challenge
- Final Competition

❖ Maximum 12 Students

- 3 – 4 Students Per TETRIX™ Kit
- Each student issued own notebook computer

• Key Educational Outcomes

❖ Engineering Process

- Project management
- Time management
- Design tradeoffs
- Iterative testing
- Problem-solving strategies
- Troubleshooting

❖ Technology

- Advanced NXT programming
- Advanced sensor technology
- Learn industry-standard C programming

❖ Communication

- Teamwork
- Brainstorming
- Reasoning