

LOCKHEED MARTIN



Science & Engineering Explorer Post 6201

Topics

- ☑ Welcome

- ☑ Exploring Program Overview
 - Hiawatha Seaway Council Representative

- ☑ Lockheed Martin Science and Engineering Post Overview

- ☑ Security & Logistics

- ☑ Current Projects

- ☑ Q & A

Lockheed Martin Post Program

◆ History of Our Post

- ☑ Started in 1996
- ☑ Strong Participation Response (avg. 200 explorers/yr.)
- ☑ Top Notch Advisor Team of Lockheed Martin Employees
- ☑ Excellent Hands-On Engineering Opportunities
- ☑ Strong Corporate Support

Lockheed Martin Post Program

◆ Participation Eligibility

- Co-Ed
- Open to Anyone Ages 14-20
- Must have completed 8th grade at time of registration

◆ How Students Get Invitation Letter?

- Involved in Post last year
- Career Interest Survey in School
- Word of Mouth

Post Structure and Activities

◆ Fall Segment (September – December/January)

- ☑ Different Themed Project Teams led by LM Employee Advisors
 - Variety of projects includes software, robotics, electronics
- ☑ Project Teams Meet Different Nights of Week
 - Depends on Project
 - Resource Availability
 - Advisor Availability
- ☑ Frequency of Project Meetings
 - Weekly or Every Other Week

◆ Winter Segment (January - May)

- All Post Activities 1-2 per month
- Field Trips
- Schedule will be released later in program

Security, Logistics and Emergency Info

◆ Security Rules

- ✓ **New for this year: All Explorers must have Picture ID with them every week (school ID, drivers license, etc)**
- ✓ All Explorers Must Sign in/out and Be Badged for Each Session
- ✓ Explorers Must Be Escorted in Facilities At All Times
- ✓ Explorers To Follow Safety Rules & Advisor Instructions
- ✓ Call Box at Gate – Identify you are here for Explorer Post meeting
- ✓ If on Higher Alert:
 - ✓ Occupants of Cars Must Show Photo ID to Guard at Gate

Security, Logistics and Emergency Info

- ◆ All project groups meet at 7:00PM in EP-6 Conference Center
 - ☑ All Explorers are Dropped off/Picked up In Front of EP-6 (same location as First Night Session)
 - ☑ Project Advisors will Escort Explorers from EP-6 to Project Locations in other buildings

Security, Logistics and Emergency Info

■ Emergency Contact During a Post/Project Meeting

- Call Patrol at 456-2917

■ Late Pickup Policy

- Advisor Will Wait 5-10 Minutes, Then Escort Explorer to Patrol in Building 7
 - Must Call Patrol at 456-2917 to Pickup Explorer at this point

Getting More Info

◆ General Post Contacts

- ☑ Post Advisor: Jeff Marier (456-4038)
- ☑ Explorer Post Hotline for Post 6201 is 456-6201
 - Call to find out about schedule changes and upcoming events
 - Leave message if you have a question
- ☑ Individual Project Leaders

◆ Communications

- ☑ Explorer Post Hotline
- ☑ Newsletter
- ☑ Website www.post6201.org

Security, Logistics and Emergency Info

◆ Meeting Cancellation Policy

- ☑ In Advance - Project Advisor will Contact Everyone
- ☑ Weather Related - Message Posted On Hotline (456-6201)
- ☑ Will use Liverpool School District as a Reference
 - when they close due to weather we will cancel

This Year's Project Line-up

- | | |
|---|-----------|
| <input checked="" type="checkbox"/> Design It, Build It, Ship It | Monday |
| <input checked="" type="checkbox"/> Robotics (Beginner) | Monday |
| <input checked="" type="checkbox"/> Java | Tuesday |
| <input checked="" type="checkbox"/> Programming with Python | Tuesday |
| <input checked="" type="checkbox"/> Introduction to Digital Electronics | Tuesday |
| <input checked="" type="checkbox"/> Electronic Construction | Tuesday |
| <input checked="" type="checkbox"/> Hovercraft Engineering Workshop | Wednesday |
| <input checked="" type="checkbox"/> Robotics (Advanced) | Wednesday |
| <input checked="" type="checkbox"/> Rube Goldberg | Wednesday |
| <input checked="" type="checkbox"/> Great American Engineer Challenge | Thursday |

Project Descriptions

◆ Design It, Build It, Ship It

- ✓ Product Development
- ✓ Material Purchasing
- ✓ Successful Negotiations
- ✓ Quality
- ✓ Manufacturing
- ✓ Build a product to customer specifications

Project Descriptions

◆ Great American Engineering Challenge

- ✓ Weekly team contests using Engineering and Leadership skills
- ✓ Egg Drop Competition (Mechanical Eng, Teamwork)
- ✓ Scavenger Hunt (Strategic thinking)
- ✓ Foil Boats (Physics, General Engineering)
- ✓ etc...

Project Descriptions

◆ Hovercraft Engineering Workshop

- Engineering Design
 - Assessing design strengths and weaknesses
 - How do materials factor into designs?
 - Improving designs through collaboration
- Design Building and Test
 - Several weeks will be dedicated to building hovercraft design
 - Indoor and Outdoor testing planned
 - Potential for Saturday session for Outdoor testing

Project Descriptions

◆ Java

- ☑ Basic Programming Techniques
- ☑ Java Syntax
- ☑ Classroom and lab time
- ☑ Intended for novice programmer

Project Descriptions

◆ Programming with Python

- ✓ Learn Python scripting language
- ✓ Use open-source software development tools
- ✓ Group application development using Python
- ✓ Geared for advanced students

Project Descriptions

◆ Robotics

- ✓ Design and build robots to meet a variety of challenges
- ✓ Weekly competitions
- ✓ Let your creative juices flow
- ✓ Lego Mindstorms kits – Beginner Session
- ✓ Build from Scratch – Advanced Session

Project Descriptions

◆ Rube Goldberg

- ☑ Machine to make a simple task become a complex one
- ☑ Multiple moving parts
- ☑ Uses scrap materials
- ☑ Competition between teams during Post Open House
at end of year

Project Descriptions

◆ Intro to Digital Electronics

- ☑ Use digital logic lab equipment to complete hands-on experiments
- ☑ Learn how basic digital electronics are designed

Project Descriptions

◆ Electronic Construction Project

- ☑ Basic electronic components
 - Resistors, Capacitors, Diodes, Transistors, LED's, IC's
- ☑ Learn to Solder
- ☑ Construct and Take Home 3 Kits
 - LED Blinkie
 - Theremin Sci-Fi Sound Effects Device
 - Robot

Signup Procedure

◆ Please provide all information requested:

- Name, Address, Phone
- Valid email address**
- Emergency Contact
- DOB, Sex, School, Grade

◆ Select your top 3 project choices

- Maximize the chance of getting assigned
- Make sure you indicate preference (1,2,3)
- Assignments will be dependent on popularity of projects
 - Physical limits on number of Explorers on projects

◆ Submit Registration Form and Payment

- Cash or Check - \$20
- Make checks payable to "Post 6201"

Project Assignment Notification

- ◆ Project Assignments will be made next week
 - ☑ Registration forms have to be entered into database
 - ☑ Assignments made based on best fit of:
 - Project preferences
 - Returning Explorer status
 - Explorer Grade Level
 - Project capacity requirement
 - Randomizing function applied if above criteria fills a project
 - ☑ Project team meetings should start first week in October
 - ☑ Late registrations will be assigned last to projects that still have openings (if available)