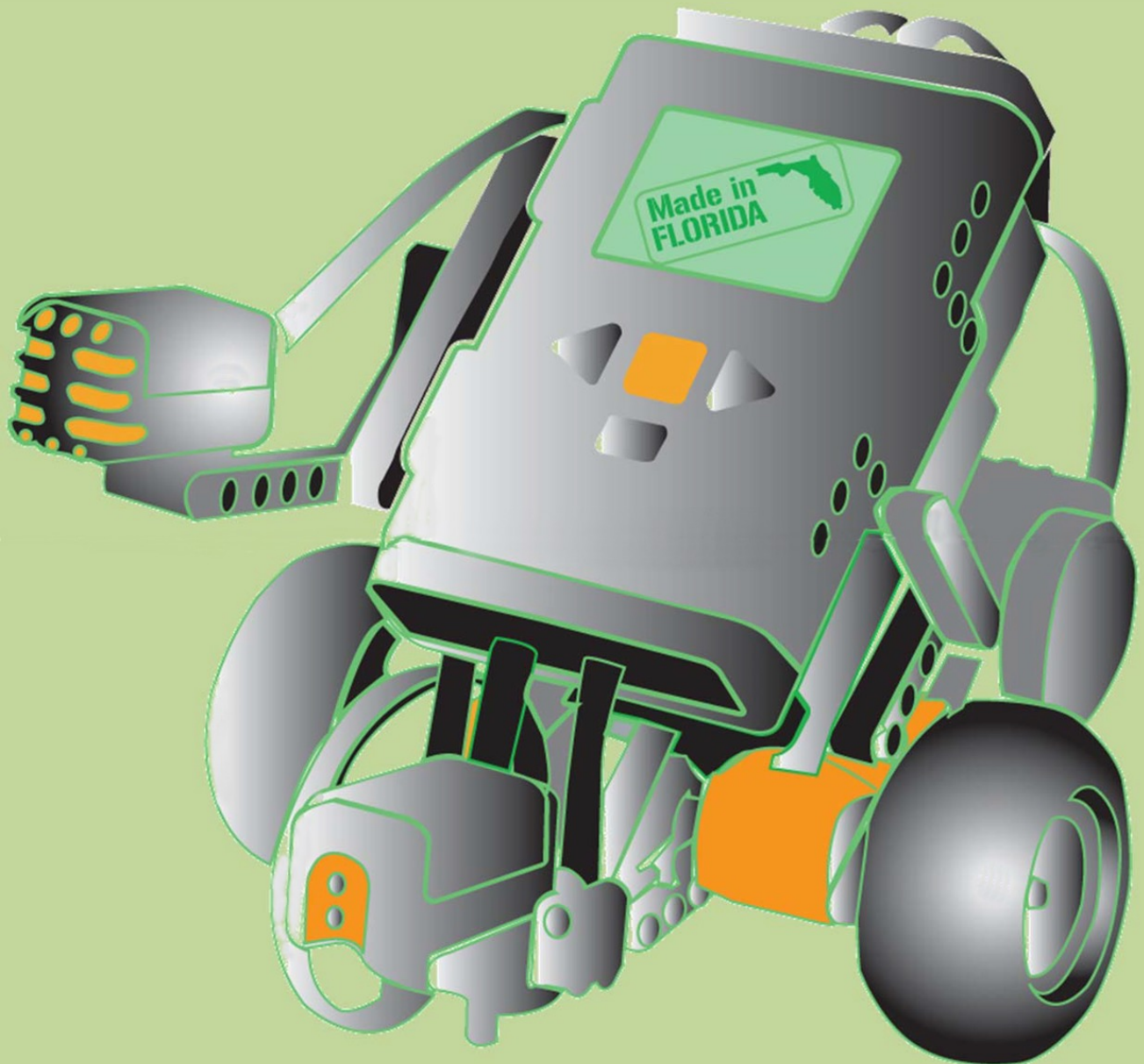




# Robotics Camp Survival Guide

*a FLATE Best Practices Guide*

[www.fl-ate.org](http://www.fl-ate.org)



# FLATE

**Florida Advanced Technological Education  
Center of Excellence**  
*a National Science Foundation  
Regional Center of Excellence*

10414 E Columbus Drive  
Tampa, FL 33619  
Tel. 813.259.6577  
FAX 813.259.6576

[www.fl-ate.org](http://www.fl-ate.org)  
[www.madeinflorida.org](http://www.madeinflorida.org)  
[flate.pbwiki.com](http://flate.pbwiki.com)

Hillsborough Community College

Developed by:  
Dr. Marilyn Barger  
Dr. Marie Boyette  
Mr. David Gula

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# Introduction

## **Interested in creating and implementing a middle school summer robotics camp?**

The *Robotics Camp Survival Guide* will provide the necessary tools to maximize the success of a summer robotics camp. This little booklet is packed full of sample materials to make the creation of a robotics camp easy, minimizing the time spent on a lengthy developmental process.

Since 2006, we at FLATE have evolved from co-sponsoring a camp experience to providing the total package. FLATE does not claim to have all of the answers, but if what FLATE has learned helps another organization successfully create and implement a summer robotics camp then FLATE is successful too.

The purpose of this guide is to assist in the creation of a summer camp; FLATE's focus is on robotics. Over the past 3 years, we have helped a number of organizations to start and grow FLATE robotics camps at other locations. If your organization is interested in starting a FLATE robotics camp, we will help you get started. Logistics and support vary at each location.

Our materials can be applied to camps offering science, technology, engineering and mathematics (STEM) or other curriculum. This material may also help educators choose between "wants vs. needs," and provide useful ideas. We at FLATE, hope the *Robotics Camp Survival Guide's* provided instruction will be a successful and inspiring part of your camp experience.

Learn more about us at: **[www.fl-ate.org](http://www.fl-ate.org)** or **[www.madeinflorida.org](http://www.madeinflorida.org)**

We welcome your feedback and ideas about the materials, your experience using them, and suggestions to include new topics.

**Please contact us at: 813.259.6577, or [barger@fl-ate.org](mailto:barger@fl-ate.org)**

### *Copyright Disclaimer:*

*All materials connected with Lego™ in any way are under a strict copyright and should be treated as such. We are not connected to Lego™ or Lego Mindstorms™ products in any way. These products already have a connection with many campers and educators, and have excellent educational-support materials designed at the Carnegie Mellon University. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.*

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## **PROGRAM GOALS AND OBJECTIVES**

This program is designed to introduce campers to the fascinating and technical world of robotics. It will help them understand the science, technology, engineering, and mathematics, (STEM) concepts, used in modern manufacturing. The camps also expose campers to programming robotics through the use of software. In addition to the technological information the campers receive, the program enables them to learn and practice lessons in leadership skills, communication, and teamwork. Each summer camp is designed to be five days in length and involves classroom exercises, team experiences, field trips, and fun!

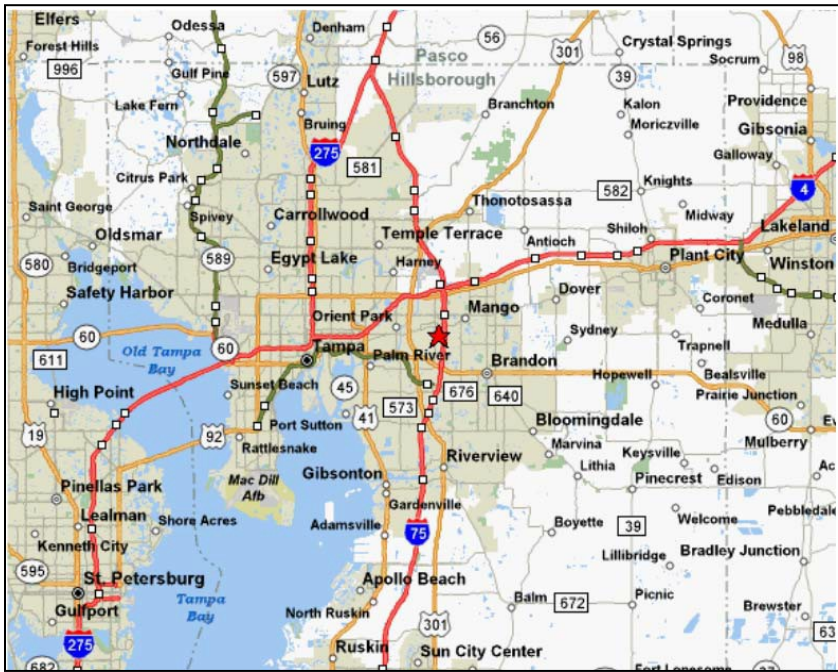
Our Introductory and Intermediate camps are primarily geared toward students in middle school, grades 6 through 8 and incoming 9<sup>th</sup> graders, entering STEM programs; all grade levels will follow a similar format. Due to popular demand, FLATE has expanded its basic camp model to several other Florida locations in partnership with other organizations and institutions; in addition to more remote locations, more camp offerings, camps for special groups and underrepresented. We've also added new topics including Industrial Robotics, Engineering, and Alternative Energy.

Our high school robotics / engineering camps are evolving. This camp is meant for rising 9<sup>th</sup> and 10<sup>th</sup> graders who have some "robotics" experience. Students work on open ended design problems with Lego™ NXT, but also learn more about CAD and produce designed prototypes. Additional robotics programming platforms are also introduced.



# How to get here?

## EXAMPLE MAP



### From North (Ocala):

I-75/Tampa (south) Exit at SR 574/Mango/Martin Luther King Jr Blvd Right onto Martin Luther King Jr Blvd. (west) Left onto Falkenburg Rd (south at first traffic light) Left onto E. Columbus Dr East (east)

### From South (Sarasota):

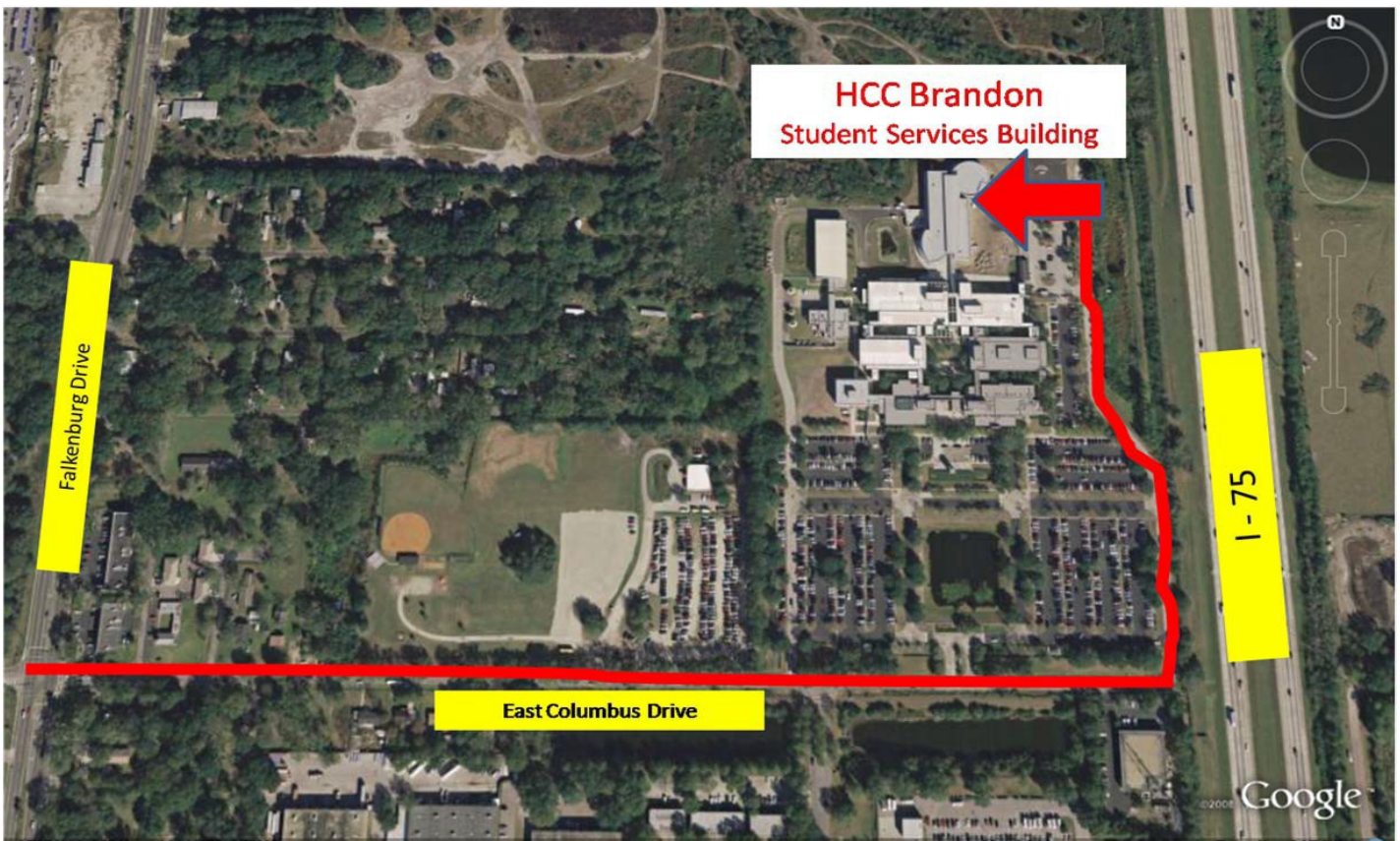
I-75/Tampa (north) Exit at SR-60/Brandon/Tampa Left onto SR-60 (west) Right onto Falkenburg. (North at the first light) Right onto E. Columbus Dr. East (east)

### From East (Orlando):

I-4/Tampa (west) Exit at I-75/Naples (south) Exit on SR 574/Mango/Martin Luther King Jr Blvd Right on Martin Luther King Jr Blvd (west) Left onto Falkenburg Rd (south) Left onto E. Columbus Dr. (east)

### From West (St. Petersburg):

I-275/Tampa (east) Exit on I-4/Orlando Exit at SR-574/Martin Luther King Jr Blvd East Right onto Martin Luther King Jr Blvd. (east) Right onto Falkenburg Rd (south) Left onto E. Columbus Dr. (east)



# What about funding and cost?

## **FUNDING**

- Camp organizers must first decide whether the robotic programs will be a revenue, or non-revenue generating initiative. Revenue generating types of camps require different planning and budgeting.
- Camp organizers can pursue several areas of funding to assist in financing the programs: outside funding and internal funding. Outside funding can be secured through industry sponsors, private, and/or local organizations, individual contributions, and grants. Materials for the camps may be secured through donations versus being purchased by the camp or campers. Inside funding can come from sources such as school, or organization contributions.
- Organizers can also consider whether they will pursue scholarships, or grants to assist campers with paying for camp registration rather than allowing the campers to self-pay.
- For example, each of our 1 week camps cost about \$250/camper on average. This does not include the investment of robots. To be as inclusive as possible, we charge \$150/camper and have 20-24 enrollments per week. We solicit sponsors to offset some of the overall costs. The remainder is supported by FLATE and our host institution, Hillsborough Community College.

## **EXPENSES**

There are different costs, which may be incurred for the camp: one-time expenses and recurring expenses. The structure of the camp can determine whether a cost occurs once or several times.

- An example of a one-time expense can be facility charges and equipment costs. The computers and software that are required for the camps will be reused during various sessions.
- The robots themselves can be a recurring expense, but that is dependent upon the structure of the camp. If the robots are reused by the different camps during the summer, then that is a one-time expense. If they are given to campers as "take aways," then that is an expense which will recur for each camp.
- Camp instructors – The use of volunteer instructors will greatly reduce the overall expense.
- Beverages – Recommended: bottled water only. Snacks and even lunches are all optional items to be considered.
- Miscellaneous supplies: paper for printing certificates and lessons, markers, extra batteries, rulers, name tags, pencils, replacement robot parts, etc., would be counted as recurring cost.
- Bus charters (if you don't have access to school buses) will typically run \$500 for ½ day tour.



# Facilities

## **THE BUILDING**

The cost of a facility is something to take into consideration when planning your camp. Organizers can search for options that can be procured free of charge through local organizations such as a school, Boys and Girls Club, etc., or you may elect to rent a facility.

It is beneficial to choose a location which is easily accessible for staff, campers, parents, and accommodate any special needs. The facility should have adequate parking for staff and a drop-off area for children. It should also be equipped with desks and chairs and have adequate restrooms that can accommodate staff and campers.

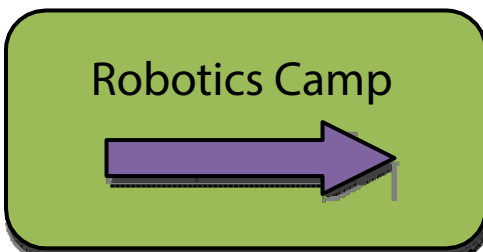
## **CAMP ROOM(S)**

Aside from the usual classroom layout with desks and chairs, layout for the robot challenges requires a minimum 20' square of clear space, level flooring, or carpet (a square space, 20 feet on each side), and a roll of painters tape (the blue kind) to lay out the course the robots will follow.

Classrooms equipped with computers and a LCD or Elmo type projector is also recommended for the camps. We use one computer per two students. It's also helpful if instructors have internet access within the teaching area. Internet access can allow instructors to show campers online videos and demonstrations which will complement the camp. An example of one such website is Stanford University's "How Everyday Things Are Made" (<http://manufacturing.stanford.edu/>).

Finally, be sure to point the way to the classroom with a colorful sign:

## **EXAMPLE – SIGNS**



# Equipment

## **HARDWARE/SOFTWARE**

In our programs, middle or high school, each team of two campers has a laptop and a LEGO™ MINDSTORMS education base set (model #979797) along with appropriate software to run the programming. This student to equipment ratio is not mandatory, but we found it ideal for maximizing overall learning experience.

## **MATERIALS LIST**

| MATERIALS   | PURPOSE  |
|---|--|
| Measuring devices: Meter sticks, rulers, and tape measures (teams could share).<br><i>Recommend 1 per team.</i> | Some activities require campers to do some simple measuring.   |
| Install the robotics engineering software on each camper computer.  | Campers will be working with both robots and software daily.   |
| Calculators: 1 per 2 campers (or use calculators on computers)  | Campers are required to make calculations for distance, averages, etc.   |
| Certificates/prizes for winners   | For each team challenge we need to be able to reward winning teams with a small prize/certificates. This could include candy, pencils/pens, etc. |
| Folders: 1 per team or 1 per 2 campers  | Folders to be used as team portfolios. All worksheets, reflection journals and team challenge material will be kept in these portfolios.         |
| Name Badges   | This is a great idea, just in case campers and teachers forget each other's names or wander off.   |
| Blue painters tape  | Campers will be using the tape when experimenting with the light sensors on their robots.  |
| 4 cases of water bottles (full)   | Water bottles will be used as points of reference and obstacles for the robots. This water is for the course ONLY-not for drinking.              |
| Batteries for robots (check robots for size and type)   | Make sure you check on the type and size before camp to ensure you have enough for the entire camp duration.                                     |

# Communication

Coordinators/camp directors are responsible for several areas in the creation and management of the camps. They assist in marketing, scheduling and camper registration, as well as coordinating logistics during the challenges/events.

## **BEFORE**

### *Marketing:*

- Place ads in local newspapers
- Place ads online with local news stations – for example [www.myfoxtampabay.com](http://www.myfoxtampabay.com)
- Advertise on “camp” websites ([www.summercamps.com](http://www.summercamps.com))
- Hang posters (as many places as you can)
- Hand out flyers (at local events)
- Email flyers to past campers (parents) and/or prospective campers (parents)
- Arrange for online payments if possible

*Tip:* To ensure that camp reaches maximum registration capacity, coordinators/camp directors should utilize local media and newspapers.

### *Registration:*

- Email confirmation letters with camp information, directions, permission slips such as for field trips, video/photo release forms, etc.
- Email reminders the week before camp
- Ensure you have all registration forms and payments for each camper
- Provide detailed location information

*\*If the coordinator/camp director plans to have press coverage of the camps, it's necessary to contact the media in advance. News stations can be difficult to “book,” therefore, the more notice they have, the better. Also, contact television stations that are interested in community events as you may be able to advertise on such stations at no charge.*

## **DURING**

- Email regarding the weeks activities and special events, such as field trips
- Email parents/campers the camp survey

## **AFTER**

- Email a “thank you” to campers and parents
- Email camp survey reminder (for those who haven't completed the survey)
- Email link to online photos from the camps

# Best Practices

## **PURPOSE**

The “Made in Florida” summer robotics camps capture the interest of campers of all ages. Our camps include middle and high school students, which also includes home-schooled campers of the same age and grade level. The curriculum is a mixture of Lego™ educational materials, STEM subjects and modern manufacturing information conducted in an environment of fun, team work and competitive problem solving.

## **PREPARATION**

Preparation for a robotics camp program is imperative and since it is important – do it yourself.

*Coordinators/instructors:* Take the time to conduct a pre-robotics camp simulation and determine the answers to the following;

- Can I put a robot together from its component parts?
- Are all of the robots the same and are they all functional?
- Are there enough computers available for programming the robots (if needed)?
- Can I program a robot to perform each of the tasks to be asked of the campers?
- Are all of the support supplies in place and properly stored and labeled?
- Is the camp space adequate in size, comfortable, and safe for middle school campers?
- Has the competition course been tested with your current robots?
- Are there adequate power outlets to avoid a “spaghetti” effect of extension cords, and to avoid fire/safety hazards?
- Is there adequate table space for each team to work by themselves on their robots?
- Is there space and seating capacity for family and friends during the last day of competition?  
Is there adequate help for the camp? *We recommend one instructor and one coordinator/helper for a camp of 20 or more campers (10 teams of 2). Both should be familiar with the robot challenges/lesson of the camp contact FLATE for some examples).*
- Is there a daily schedule that includes a variety of lessons and activities?
- Be as prepared as possible; allowing flexibility for the unexpected during the camp is important.

## **PARENTAL PARTICIPATION**

Getting the parents involved is a multiple step process.

*First*, understand that:

- Parents plan summer activities around work, vacations, day care, and other activities well in advance.
- Parents feel more confident when they have the opportunity to speak to someone who is not only knowledgeable, but who will actually be present at the camp.

*Second*, in order to overcome perpetual parental uncertainty, nothing takes the place of one-on-one contact. As all the details will never fit into a flyer, take the extra time to cover the following using a memory guide that covers:

- Benefits of the camp
- Camper drop-off and pickup policy (include time window)
- Assurance that activities are supervised by camp staff
- The camp’s lunch, snack, and food allergies policy
- The camp fee payment schedule and options

*Third*, follow up every registration with a personalized thank you note, indication of your anticipation of working with their child this summer, and again at the conclusion of the camp with resource information.

## **PRACTICAL PRACTICES**

- Provide a flyer that emphasizes the “Who says fun and learning cannot happen together” theme. Include camp related photos and cover the basic logistics and amenities included in the camp infrastructure.
- Provide detailed location information
- Post all policies related to camp activities and camper behavior expectations on your website. Provide the web address for this information in all camp flyers.
- Notify employees at your institution of the camp as a great opportunity for their children.
- Notify your campus leadership and public affairs office to help develop press and T.V. coverage for camp.
- Start promotion and registration activities in February and continue through opening day.
- Provide a minimum of 90 days to plan and prepare for your summer camp.
- Build a database of parents of participants as well as serious inquiries that did not result in a camp registration last year.
- Support your camp instructors’ interest and enthusiasm for camp innovations.
- Provide tangible products to campers related to the educational aspects of camp that encourage further learning.
- Cultivate camper leadership and promote teamwork, critical thinking, and problem solving.
- Establish a non-refundable fee structure that commits parents to delivering campers to camp each day.
- Establish a “late pick up” fee to encourage prompt retrieval of campers at the end of the day.
- Select instructors based on their knowledge and enthusiasm who connects well with campers.
- Provide instructors with a good honorarium, but don’t hire an instructor just because they want the money.

## **FOLLOW UP**

- A great follow up activity is to have a “Parents’ Night” or “Open House” where you talk about all the different technical school programs in your area (have a representative from your school district), include Q&A and offer an enticing door prize.
- Hold an “open house” at a partner college and include campers and their parents on the invitation list.
- Take that opportunity to present the importance of STEM subjects in the school curriculum, promote next year’s camp, and of course, another opportunity to take pictures!

## **PERFORMANCE**

- Measure your impact - Learn how you can improve your next camp by using a simple paper survey handed out to campers on the last day of the camp. Additional feedback from parents and instructors can be tracked by using an online survey, such as Survey Monkey.

*FLATE has resources for camp planning and curriculum ready to share with your team – sample documents can be found in this guide.*



# Classroom Teaching Materials

*This is the first Lego™ Mindstorm Lesson/Challenge. It is simple and easy for most children to complete successfully.*

**Example Lesson Plans/Challenges (additional lesson plans are included on the CD)**

**LESSON TITLE:** *Team Challenge: The Bottle Touch*

- 1 hour time limit
- The objective is, for the campers to apply the knowledge gained in the “Full Speed Ahead” lesson, and to find a solution to a team challenge. Campers will estimate the distance to a fixed point and then program their robots to get as close as possible to that point.
- Standards: Math, Science, and Technology

**MATERIALS:**

- Lego Mindstorms programming software
- Robotics Engineering software
- Blue tape
- Water bottle
- Rulers or meter sticks
- Teaches right angle block and ruler for measuring distance from front axle to bottle line.

**LESSON SUMMARY:**

A water bottle is placed a predetermined distance (only the teacher will know what this distance is) from the starting line. Campers program their robots to come as close as possible to the bottle without pushing the bottle over. Campers should be able to use what they learned about the circumference of the wheel to calculate the necessary rotations needed for the robot to come close to the bottles.

**LESSON DETAILS:**

Each team will be allowed three trials to get their robot as close as possible to a water bottle that has been placed a predetermined (by the teacher) distance from the starting line. Campers do not know what the actual distance is from the starting line to the water bottle. Campers are given a ruler and the following instructions: Teams are not allowed to measure the actual distance from the starting line to the water bottle or any line parallel to that distance. Teams should come to the realization that the tile floor provides a measurable pattern. Each team is allowed three trials. The goal is to program the robot to come as close to, or even touch the water bottle without pushing it over. At the end of the first trial we will measure the distance from where the robot stopped to the water bottle. If a team thinks they can do better than their first trial, then they may reprogram and try again, but they will not be able to use their first trial towards their final score. If a team decides to try a second trial, then the results of the first trial are cancelled. If the team decides to try a third trial, then the results of the second trial are cancelled. The best possible score will be the number closest to zero but not zero itself. If Team A pushes the bottle over on their third trial their assigned score is X. If Team B comes within .5 cm of the bottle their assigned score is .5. If team C comes within 2 cm of the bottle their assigned score is 2. In this scenario the winning team would be Team B. *See appendix for an example weekly schedule.*

# Media Resources

Researching the Internet for “robots” will supply organizers with infinite amount of resources for industrial, medical, space exploration, or educational robotics. Below are some “key words” to help you begin your journey.

- [FANUC / d a Vinci surgery](#)
- [Sony robotics / Toyota robotics,](#)
- [ASIMO / NASA robotics](#)
- [Aldebaran NAO](#)

## Take Aways

Pens, pencils, lanyards, T-shirts, nametags and team flags can all be used as take/give aways during the camp. Each child can/should be given a certificate of completion. Also, certificates will be given to the overall challenge winners, and other outstanding performances during the week. Be creative! Give certificates for special behaviors, like helping other teams etc...


## Trips and Tours

Based on your particular camp genre and to stimulate interest in STEM , manufacturing careers and diverse robotic applications, make arrangements to take campers to visit local, modern manufacturers, or colleges with robotics lab so that campers can see robotics in real-life applications. You can also take campers to the movies, or show movies that are related to of robotics. Have parents complete a field trip release form before taking campers off camp grounds. Your local school district can supply you with a release form which you may use for your camp. (See *appendix for sample forms.*)

## Camp Food (Snacks and Lunch)


Campers can bring their own snacks and lunches; this option avoids issues of campers with food allergies or food preferences and leaves the meal choice up to the family. To accommodate the campers’ food, it is recommended that the camp’s facility contain refrigerators or coolers. We provide bottled water and non-sugar snacks twice during the day, but have the campers bring their lunches, which they take to the campus cafeteria to eat away from the robots and computer equipment.

## Example Camp Flyer



# 2013 Robotics Summer Camps


**HCC**  
Hillsborough Community College - Brandon Campus



2013

Lego  
Mindstorms

ROBOTICS  
CAMPS



|                |   |
|----------------|---|
| Jun 17-21      | Intro Robotics Camp – Middle School <b>GIRLS ONLY</b>       |
| Jun 24-28      | Intro Robotics Camp – Middle School - All                   |
| Jul 08-12      | Intro Robotics Camp – Middle School - All                   |
| Jul 15-19      | Intermediate* Robotics & Engineering Camp (A) Middle School |
| Jul 22-26      | Intermediate* Robotics & Engineering Camp (B) Middle School |
| July 29-Aug. 2 | Advanced – Engineering - High School                        |

8:00am to 4:00pm Daily  
Registration Fee: \$150  
Camp Benefits

- Enhance campers' 21<sup>st</sup> century skills needed to succeed in manufacturing, robotics, and other STEM related careers.
- Develop increased problem solving skills, critical thinking skills, teamwork, and communication strategies.
- Field Trips to Advanced Manufacturing Facilities

For more information about the camps and registration questions, contact:

**Desh Bagley**  
Email: [camps@fi-ate.org](mailto:camps@fi-ate.org)  
Phone: (813) 444-CAMP (2267)

The Summer Robotics Camps are being conducted through a partnership between the Florida Advanced Technological Education Center and Hillsborough Community College.

|  |   |
|--|---|
| <p style="color: gray; font-weight: bold;">INTRO</p> <p style="color: gray; font-weight: bold;">Middle School</p>  | <ul style="list-style-type: none"> <li>Program &amp; Reconfigure Lego® Mindstorms® Robots</li> <li>Participate in Team Challenges</li> <li>Tour of an Advanced Manufacturing Facilities</li> <li>Learn about the science, technology, engineering &amp; math used in today's high-tech industries</li> </ul>  |
| <p style="color: gray; font-weight: bold;">INTERMEDIATE*</p> <p style="color: gray; font-weight: bold;">Sessions A &amp; B</p> <p style="color: gray; font-weight: bold;">Middle School</p> <p style="color: gray; font-size: 0.8em;">*requires experience</p> | <ul style="list-style-type: none"> <li>Review and apply previously learned robotics skills</li> <li>Solve Lego® Mindstorms® Robotics challenges through original robot design, construction and programming</li> <li>Tour of Advanced Manufacturing Facilities</li> <li>Hands on CAD Design and demonstration of 3D Printing</li> <li>Participate in more complicated and exciting Team Challenges</li> </ul> |
| <p style="color: gray; font-weight: bold;">ADVANCED</p> <p style="color: gray; font-weight: bold;">ENGINEERING</p> <p style="color: gray; font-weight: bold;">High School</p>  | <ul style="list-style-type: none"> <li>Solve robotic challenges using Lego® Mindstorms® Robots</li> <li>Use Arduino Uno Microprocessor and to build digital systems</li> <li>Hands on CAD Design and demonstration of 3D Printing</li> <li>Write programs for the NAO Humanoid Robot</li> <li>Tour of an Advanced Manufacturing Facility</li> </ul>   |



## Parental Consent Forms

Parental consent forms will vary by institution. Be sure to consult with your legal department to determine what is required. The samples shown (CANNOT be used for any real camp registration) on this page are unique to our institution and are provided as an example only.

Forms Include:

1. Registration Form and Medical Release Form
2. Participant Release Form and Photo/Videography Release
3. Code of Conduct Agreement
4. Field Trip Form

### 1. Registration and Medical

**FLATE 2013 Summer Energy Camp**  
Registration Form and Medical Release Form

Campers may not begin program activities until the below form is completed, signed and on file at FLATE at Hillsborough Community College (HCC).

Any changes to information on these forms must be provided to FLATE staff on arrival to camp.

**YOUTH INFORMATION:**

|  |                  |              |          |
|--|------------------|--------------|----------|
| Last name                                  | First            | Middle       | Male/F   |
| Birth Date                                 | Age at Camp      |              |          |
| Home Address                               | City             | State        | Zip Code |
| Custodial Parent/Guardian                  | Telephone Number | Cell Number  |          |
| Second Custodial Parent/Guardian           | Telephone Number | Cell Number  |          |
| Emergency Contact (if above not available) | Telephone Number | Relationship |          |

I, \_\_\_\_\_ (print parent/guardian's name) as the parent/guardian of \_\_\_\_\_ (print child/ward's name) permit my child to participate in the FLATE 2013 Summer Energy Camp at HCC.

The FLATE 2013 Summer Energy Camp is held at the HCC South Shore Campus located 551 24th Street North East in Ruskin.

The Camp is held Monday (7/8), through Thursday (7/11) from 9:00 a.m. to 4:00 p.m.

I understand the program is coordinated by FLATE Staff, Hillsborough County School Educators, and HCC Students.

Children will be provided with snacks, drinks and a boxed lunch each day.

I have reviewed the FLATE 2013 Summer Energy Camp descriptions and I understand the informal activities of the program provided to me.

### 2. Participant and Photo/Videography Release

**Florida Advanced Technological Education Center**  
**HILLSBOROUGH COMMUNITY COLLEGE (HCC)**  
**PARTICIPANT RELEASE FORM AND PHOTO/VIDEOGRAPHY RELEASE**

In consideration of and as a condition for your participation or the participation of your child/ward you accept the following terms and enter this Assumption of Risk and Indemnity Agreement ("Agreement").

Please carefully read and consider the terms of this Agreement. Sign in the space at the end to indicate your understanding and acceptance of such terms and your entry into the Agreement on behalf of yourself and your child/ward.

- I, \_\_\_\_\_, individually or as parent/guardian of \_\_\_\_\_, a minor, sign this Agreement on behalf of myself and my child/ward. I acknowledge receipt of written materials and instructions relating to the FLATE 2013 Summer Energy Camp and all associated activities and acknowledge that I have had an opportunity to review these materials prior to enrolling in the Camp. I agree that I and my child/ward will follow the policies of the FLATE 2013 Summer Energy Camp and the instructions given by Camp staff. I understand that FLATE has the right to refuse or remove any participant who fails to follow such policies and instructions.
- If signing on behalf of a child or ward, I acknowledge that I am the natural parent (biological or adoptive) of a child/ward and that I also have legal custody of the child/ward.
- I acknowledge having knowledge and experience with the health and capabilities of my child/ward superior to Camp staff. I certify that I and/or my child/ward are in good health and does not have any health or mental/physical impairments or conditions that would be aggravated by attendance or participation at the Camp or that make such attendance or participation unsafe or otherwise inappropriate for myself or my child/ward, or other participants. I further certify that I and/or my child/ward do not currently have upper respiratory disease or illness (e.g. colds, flu, etc.) I and/or my child/ward is/are not on medication that suppresses immune function or has possible side effects that would interfere with the Camp, and that I and/or my child/ward does not have open sores, open wounds, cuts, scrapes, skin irritations or other outward signs of illness.

I understand that there are inherent RISKS involved in these activities, including but not limited to scrapes, bites, cuts, bruises and/or more serious injuries or illnesses such as bodily injury, even death. I and/or my child/ward have voluntarily enrolled in the Camp and agree to ASSUME ALL RISKS, known and unknown, of personal injuries, possible death and damage to loss of property, stemming from attendance and participation at Camp.

- I agree to release FLATE, HCC, its Board, employees, agents, successors and assigns (the "Released Parties") from any and all claims, losses, demands, damages, expenses, lawsuits, causes of action and judgments, whether foreseeable or unforeseen, known or unknown, present or future, resulting from, arising out of or in any way connected with my and/or child/ward's participation in the 2013 Summer Energy Camp including but not limited to, any claims for personal injuries, including death, illness and/or damage to or loss of personal property, FURNISHED OR CAUSED IN WHOLE OR IN PART BY THE PRESENT OR FUTURE NEGLIGENCE, FAULT, STRICT PRODUCT LIABILITY, BREACH OF CONTRACT OR OTHER ACT, CONDUCT OR STATUS OF ANY OF THE RELEASED PARTIES.

### 3. Code of Conduct

**HCC**  
**FLATE and HILLSBOROUGH COMMUNITY COLLEGE**  
**CODE OF CONDUCT AGREEMENT for SUMMER CAMP PROGRAMS**  
(To be COMPLETED BY CAMPER AND PARENT/GUARDIAN)

This statement, when signed by both camper and parent, serves as an Agreement with FLATE and Hillsborough Community College (HCC).

Due to the nature of FLATE's programs, all participants are expected to act in a responsible and courteous manner at all times. Upon arrival to the program, FLATE staff will review examples of acceptable and unacceptable behavior. Participants are expected to adhere to the guidelines set forth by FLATE staff. If a behavior problem arises, FLATE staff will first discuss the problem with the individual. If the problem continues, the participant may forfeit participation in future program activities. If the problems are severe, the parent/guardian will be contacted to discuss the problem. Finally, if the problem is not rectified, the student will be asked not to return for the remaining duration of the Camp.

Examples of behavior that may result in a participant leaving a program include, but are not limited to: consumption or possession of alcohol; use or possession of tobacco products or illegal narcotics; possession of a weapon; destruction of property; and stealing.

**Participant:** I have read and understand the above statement. By signing this agreement, I agree to participate in a responsible and courteous manner at all times. If I do not follow the guidelines set forth by FLATE staff, I understand that I may forfeit my participation in the program activities.

Print Participant's Name: \_\_\_\_\_  
Signature of Participant: \_\_\_\_\_ Date: \_\_\_\_\_

**Parent/Guardian:** I have read and understand the above statement. By signing this statement, I agree to arrange and pay for transportation if my child must leave the program early.

Print Name of Parent/Guardian: \_\_\_\_\_  
Signature of Parent/Guardian: \_\_\_\_\_ Date: \_\_\_\_\_

### 4. Field Trip

**HCC-FLATE Robotics Camp - Field Trip Release Form**

Along with your child, please fill in the form in one camper per form and provide an Emergency Phone Number on the Home Phone line. This trip will be on July 11, 2013 (Leaving at 1:00pm and returning at 2:00pm).

**Student Request**

I, \_\_\_\_\_, am a student in \_\_\_\_\_ Robotics Camp \_\_\_\_\_  
Print Name of Student \_\_\_\_\_ Print Name of Class \_\_\_\_\_  
class of \_\_\_\_\_ Hillsborough Community College, Brandon Campus, School \_\_\_\_\_  
My home address, including parent/guardian name: \_\_\_\_\_ ON FILE - SEE ATTACHED \_\_\_\_\_  
Print Parent/Guardian Name \_\_\_\_\_  
ON FILE - SEE ATTACHED \_\_\_\_\_  
Print Home Street Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
ON FILE - SEE ATTACHED \_\_\_\_\_ ON FILE - SEE ATTACHED \_\_\_\_\_  
Home Phone \_\_\_\_\_ Work Phone \_\_\_\_\_

The intent of this voluntary statement is to form a agreement in which I pledge my compliance with the policies of HCC-FLATE and to conduct myself or all field trips in such a manner as to bring honor to myself in return for the privilege of being included as a participant in field trip activities.

Student's Signature \_\_\_\_\_ Date of Signature \_\_\_\_\_

**Parent/Guardian Request**

As parent or guardian, I request that \_\_\_\_\_ Print Student's Name \_\_\_\_\_ participate in the field trip to \_\_\_\_\_ that will be conducted on \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Print Home of Trip Destination \_\_\_\_\_ Month / Day / Year \_\_\_\_\_  
I understand that transportation for the trip will be provided by \_\_\_\_\_

A private bus under charter to the HCC-FLATE

Signature of Student's Parent or Guardian: \_\_\_\_\_ Date of Signature \_\_\_\_\_

## **Example Sponsor Thank You**

*Dear Sponsor,*

*We are still excited about the success of the 2010 Summer Robotics Camps, and I want to personally express how important your support has been. Camp information via mass e-mail, school and media resources, and other contacts helped create a growing awareness about optional summer educational opportunities for middle school campers throughout Hillsborough County. This year we held eight camps which provided us with 200 participants and a definite increase in parental interest as well over 100 parents and relatives attended the three Friday afternoon "Final Challenges."*

*The 2011 summer plans are already in the works. Additional "Advanced Robotics for Middle School Campers" more "Girls Only" camps, and educational outreach to underserved areas is planned.*

*Again, thank you very much for your support of the program; we will obviously be seeking your support in the future, and we all hope you enjoy "showing off" the latest in robotic T-shirt wear!*

Sincerely, Marilyn  
Barger Executive  
Director  
Florida Advanced Technological Education Center of Excellence

Parent/Guardian:



**Example Check Return Letter**

*Dear Parent,*

*Enclosed is the registration check that was sent for the Robotics Camp. This year's camp is a much greater success than we had anticipated and we will schedule several more camps next summer.*

*Your application will go in our "first contact" file for next year's mail out, and you will be notified as soon as we schedule classes.*

*Thank you for your support of the program and the interest you are taking in your child's education. We hope to see you next summer!*

Lourdes Fleurima

Sr. Staff Assistant

FLATE, Florida Advanced Technological Education Center of Excellence

HCC, Brandon Campus [fleurima@fl-ate.org](mailto:fleurima@fl-ate.org) [www.madeinflorida.org](http://www.madeinflorida.org)

**Example Weekly Schedule**

| CAMP WEEKLY SCHEDULE |     |   |   |  |   |       |  |                                     |                                     |
|----------------------|-----|---|---|--|---|-------|--|-------------------------------------|-------------------------------------|
| July                 |     | 8 TO 9  | 9 TO 10   | 10 TO 11   | 11 to 12                                      | Lunch | 1 to 2                                   | 2 to 3                              | 3 to 4                              |
| 13 <sup>th</sup>     | M   | Intro Orientation                             | Made in Florida Morning Break                       | Lesson #1 Robotics: What do You know? (1hr)      | Lesson #2 Brief History of Robotics (30 mins) | Lunch | Lesson #3 Introduction to Robotics (1hr) | Lesson #4 Full Speed Ahead (1-2hrs) | Lesson #4 cont. Hello My Name Is... |
| 14 <sup>th</sup>     | T   | Lesson #5 Wheels and Distance                 | Lesson #5 cont. Morning break                       | Team Challenge A The Bottle                      | Team Challenge A cont.                        | Lunch | Team Challenge A Recognize winning team  | USF Solid Works                     | USF Solid Works                     |
| 15 <sup>th</sup>     | W   | USF Trip                                      | USF Trip  | USF Trip   | USF Trip                                      | Lunch | Review (4&5) Lesson #6 Right Face        | Lesson #6 cont. Team Challenge B    | Team Challenge B Obstacle Course    |
| 16 <sup>th</sup>     | T H | Lesson #8 Clap On Clap Off                    | Lesson #8 Clap On Clap Off cont. Morning Break      | Introduction to Team Challenge C Guided by Sound | Team Challenge C Guided by Sound              | Lunch | Team Challenge C Guided by Sound         | HAS 200 demo/Free time              |                                     |
| 17 <sup>th</sup>     | F   | Review Lesson #10 Follow the Guidelines (1hr) | Lesson #11 Faster Line Tracking (1hr) Morning Break | Team Challenge D (2hrs w/flex)                   | Team Challenge D (2hrs w/flex)                | Lunch | Team Challenge E The Final Challenge     |                                     |                                     |

## Example Parent Survey

Please talk to your student about the camp and answer the following questions.

1 = Strongly Disagree    2 = Disagree    3 = Neutral    4 = Agree    5 = Strongly Agree

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. The location used for the robotics camp was convenient.  | 1 | 2 | 3 | 4 | 5 |
| 2. The facilities used for the camp were accommodating.   | 1 | 2 | 3 | 4 | 5 |
| 3. The robotics lessons were challenging.   | 1 | 2 | 3 | 4 | 5 |
| 4. The robotics lessons were enjoyable.   | 1 | 2 | 3 | 4 | 5 |
| 5. There was enough time allowed to program the robots and complete the various challenges.   | 1 | 2 | 3 | 4 | 5 |
| 6. The <i>Made in Florida</i> presentations helped relate middle and high school science, technology, engineering/robotics, and mathematics (STEM) courses to college programs and career choices in engineering and advanced technology programs using real examples from Florida advanced manufacturing industries. | 1 | 2 | 3 | 4 | 5 |
| 7. The <i>Advanced Manufacturing Industry Tour</i> helped relate the robots and activities experienced during the camp to the real world of Advanced Manufacturing in Florida.  | 1 | 2 | 3 | 4 | 5 |
| 8. The robotics instructors were knowledgeable and helpful.   | 1 | 2 | 3 | 4 | 5 |
| 9. The robotics camp provided a positive experience.  | 1 | 2 | 3 | 4 | 5 |
| 10. As a parent, I would recommend this camp to others.   | 1 | 2 | 3 | 4 | 5 |

**Example Camper Survey**

| Instructions: Read the questions carefully. Circle one best answer for each question. |       |         |          |                   |   |
|---|-------|---------|----------|-------------------|---|
| Strongly Agree  | Agree | Neutral | Disagree | Strongly Disagree | Questions   |
| 5   | 4     | 3       | 2        | 1                 | Please rate your familiarity with science, technology, engineering /robotics, and mathematics (STEM) courses, needed in middle and high school in order to prepare for careers in engineering and advanced technology college programs. |
| 5   | 4     | 3       | 2        | 1                 | How likely are you to take a course in engineering, technology, or robotics in school next year?  |
| 5   | 4     | 3       | 2        | 1                 | The camp helped me to better understand how science, technology, engineering and mathematics (STEM) are used in industry.   |
| 5   | 4     | 3       | 2        | 1                 | The field trip helped me make the connection between the camp activities and real world applications.   |
| 5   | 4     | 3       | 2        | 1                 | Programming the robot helped me to see how automated systems are programmed and controlled.   |
| 5   | 4     | 3       | 2        | 1                 | Learning to program the robot by thinking logically will help me when solving other problems in science, technology, engineering, and mathematics (STEM) subjects in school.  |
| 5   | 4     | 3       | 2        | 1                 | The camp provided opportunities for teamwork and collaboration with others.   |
| What did you like best about the camp?  |       |         |          |                   |   |
| What did you like least about the camp?   |       |         |          |                   |   |
| What would you change about the camp?   |       |         |          |                   |   |

# How to Print this Guide

If you would like to print your guide in a “booklet” format (from the original PDF file), please use the following steps, you will need a printer that can print double sided documents:

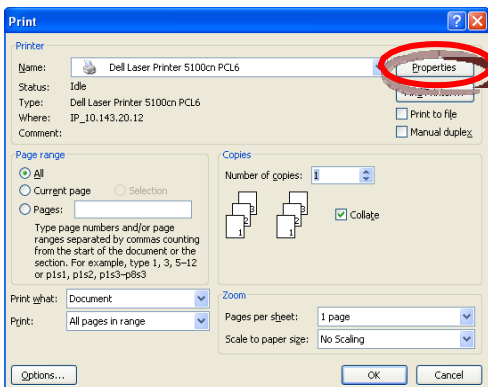
**Step 1 – select Properties** (please make sure you are using a printer that prints double sided documents).

**Step 2 – select Booklet/Poster/Mixed**

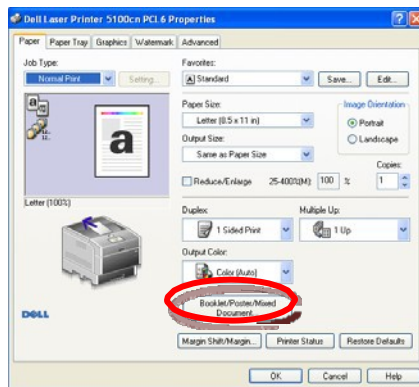
**Step 3 – select Booklet Creation and then click OK**

**Step 4—select Margin Shift/Margins, Print Position Tab, Center, then click OK**

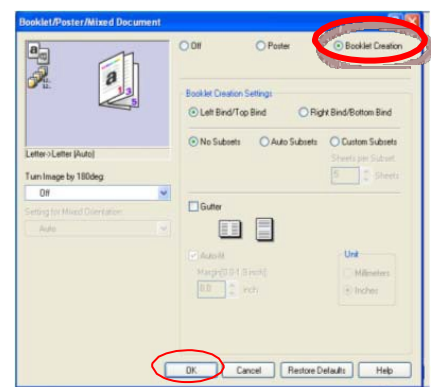
Step 1 – select *Properties*



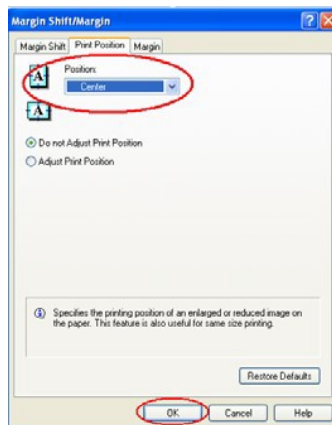
Step 2 – select *Booklet/Poster*



Step 3 – select *Booklet Creation*



Step 4 – select *Margin Shift/Margins*





# Contact us

## FLATE Florida Advanced Technological Education Center of Excellence

10414 E. Columbus Drive  
Tampa, FL 33619

Dr. Marilyn Barger, P.E. P.I.  
and Executive Director  
813 259 6577  
flate@fl-ate.org

*Please visit us on the web at:*

[www.fl-ate.org](http://www.fl-ate.org)

[www.madeinflorida.org](http://www.madeinflorida.org)

[flate.pbworks.com](http://flate.pbworks.com)

