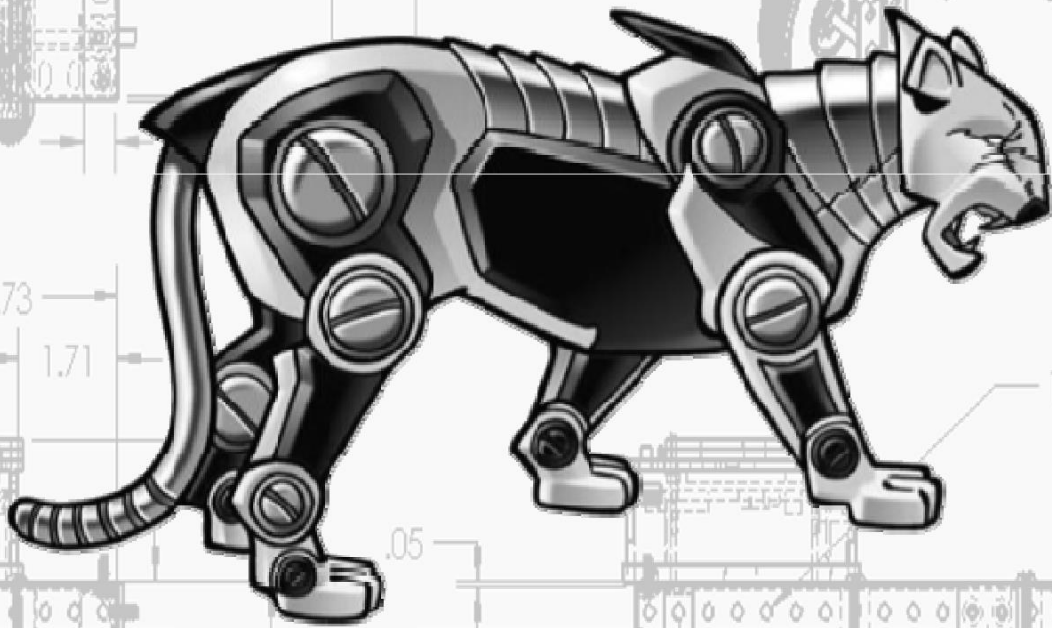


Forest Lake Education Center Robotics Academy Cultivating Future Innovators

2018-2019 Application Kit



**Back to Back to Back
Adventist Robotics League
Champions
2014, 2015 and 2016**

Dimensions are symmetrical about the line A-A.



Forest Lake
EDUCATION CENTER

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Phone: 407-862-7688
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University ring	Dwg. Title: Assignment R07	Inst.: PAC	Scale: 1:3	Dwg. No.: R07
	Drawn By: Grant Oehler, Luke Burgett, Rhys Davis, Ryan McLaughlin	Hour: 8:00	Units: INCH	Date: 2/17

FLEC Robotics Academy

Launched in August of 2012, the Forest Lake Education Center (FLEC) Robotics Academy is a STEM+C (science, technology, engineering, mathematics and computer science) initiative for students in grades 6-8. During the year, the students will participate in an innovative and rigorous curriculum that will develop within each participant the 21st Century Skills (technical foundation and soft skills), STEM Resilience, and STEM Identity needed to successfully pursue an academic STEM career at the post-secondary level and prepare them to compete in the FIRST® (For Inspiration and Recognition of Science and Technology) LEGO League (FLL) Robotics Competition.

Topics covered will include: the engineering design process, software development process, project management, ideation, robot math, vehicle dynamics, vehicle mechanics, computer programming, CAD, 3D printing, product development cycle, public speaking and technical writing.

Computer applications used will include: Labview graphical programming environment, Microsoft® Project, Sketchup Make (Computer Aided Design software), Lego Digital Designer, MIT App Inventor, Microsoft® Visio, Microsoft® Publisher, Microsoft® Word and Microsoft® Power Point.

The culmination of all the hard work for the students will be to compete in the Adventist Robotics League FLL Southern Challenge Robotics Competition.

FLL events are much like sporting events! Referees monitor and score the robot game. Judges review team presentations. Teams earn awards and trophies. The competition is composed of two parts - the project and the robot course. The robot course requires the students to design, build and program an autonomous robot that can complete a number of pre -designed missions in 2 minutes 30 seconds. The research project requires the students to invent (analyze, research, design and develop) a solution or product that solves real problems that scientist and engineers face today. The students will be judged in five categories: robot design, robot programming, research, teamwork and the robot challenge. The students will have the opportunity to apply for a U.S. patent for their product or solution and enter it in the FLL Global Innovation Award Competition.

The Impact of Robotics

The U.S. Department of Labor reports that there are more the 1 million unfilled STEM related jobs in the U.S. This is due to the lack of students pursuing STEM degrees, just 6%, and the high attrition rates of among those students. More than two thirds switch majors or drop out school after the first year because they lack the academic foundation and resilience needed to complete their degrees. Research indicates that students who participate in a k-12 robotics program are more likely than their counterparts to successfully pursue a STEM degree.

According to FIRST:

- 99% of FIRST Alumni reported graduating high school.
- 89% of First Alumni went on to college.
- Among those that went to college, 41% reported that they majored in a STEM discipline, the national average is only 6%.
- 33% of female FIRST alumni reported majoring in a STEM discipline, the national average for females is 2%.
- 27% of African Americans FIRST alumni reported majoring in a STEM discipline, the national average for African Americans is only 5%.
- 47% of Hispanic FIRST alumni reported majoring a STEM discipline, the national average for Hispanics majoring is only 6%.

FLEC Robotics Academy Application

Fill out the form below and return it to your child's teacher or the office by **August 15th 2018**. **There are a limited number of slots available. Acceptance into the program will depend upon the following factors: past academic performance, the interview process and recommendations.** If accepted into the Robotics Academy you will be notified by a letter. **There is a fee of \$300.00 for students in grades 6-8 and \$150.00 for students in grade 5.** If you have any questions or concerns contact Robert Henley, robotics director, at 407-489-2500 or robert.henley@myflec.com, or contact Rosalee Taylor, science lab director at 407-810- 6544 or rosalee.taylor@myflec.com.

Please Note: In order for your son or daughter to participate in FLEC Robotics a parent must attend the Parent Orientation Meeting.

Student name: _____ Grade: _____ Birth date: _____ Gender: M F

Father's Name _____ Home #: _____

Cell #: _____ Email address _____

Mother's Name _____ Home #: _____

Cell # _____ Email address _____

Parents we need your help so parental involvement is required.

- Coach – help coach and prepare teams prior to and at competitions
- Mentor – mentors share their expertise with the students
- Volunteer – assist with logistics, fund raising and help facilitate the operation of FLEC Robotics

This application is not complete until you have checked the following items below.

- I have read the entire registration kit.
- My child has completed the applicant questionnaire.
- My child has completed the skills cloud.
- Three recommendation forms have been turned in, 2 teachers and 1 mentor.
- I agree to support my child in this endeavor by encouraging him or her to do their very best and by either volunteering, coaching or mentoring.

Student's Signature _____ Date _____

Parent's/Guardian's Signature _____ Date _____

Skills Cloud

Circle three words that best describe your interests and/or personality.

Artistic Record Keeping Big Groups Small Groups Public Speaking

Hardware Design Take Things Apart Novice Building Advanced Building

Novice Programming Advanced Programming Creative Computers

Software Inquisitive Enjoy Research Writing

FLEC Robotics Application Recommendation Form Teacher

Name of Student: _____

Name of Teacher: _____

I have known this student for _____ months/years.

For parents and students: I hereby waive my right to access this recommendation and authorize the above -named person to provide an evaluation and all relevant information to the school for purposes of my or my child's application to attend the school.

Signature of parent or legal guardian or student over age 18: _____ Date: _____

Signature of student: _____ Date: _____

For persons submitting recommendation: The School would appreciate your candid assessment of the applicant's abilities. If the applicant and applicant's parent or legal guardian has signed the waiver above, your recommendation will be kept confidential to the extent permitted by

Purpose: We appreciate your cooperation in completing this form. Please be candid about this student's academic ability and motivation. We understand the difficulty in evaluating a student and are fully aware that children are constantly growing, changing and developing. This form is only one piece of the student's profile to be used in our assessment process. This form will not become a part of the student's permanent record. Thank you for your thoughtful attention to this request. Place this form in the envelope that accompanied this form, seal it and return it to front office.

CHARACTER AND PERSONALITY TRAITS	Excellent	Good	Average	Below average	Poor	No basis for judgment	Comments
Conduct							
Leadership							
Maturity							
Social relationship with peers							
Self-confidence							
Integrity							
Sense of humor							
Sense of responsibility							
Interaction with teachers/adults							
Creativity							
Respect for others							
ACADEMIC TRAITS	Excellent	Good	Average	Below average	Poor	No basis for judgment	Comments
Academic potential							
Academic achievement							
Self-motivation							
Effort/initiative							
Study habits/organization of work							
Intellectual curiosity							
Level of engagement							
Commitment to homework							
Ability to follow directions							
Ability to work independently							
Ability to work in a group							
Ability to express ideas orally							
Ability to express ideas in writing							
Participation in class							

FLEC Robotics Application Recommendation Form

Please submit the completed form to the school to which the student is applying.

Please take a few minutes to complete the following in-depth questions about this candidate.

1. How does this student respond to advice or criticism? Is he/she easily discouraged? Is he/she willing to work to overcome difficulties?

2. Please make any additional comments regarding this student's abilities, attendance, personal qualities, and special interests.

Submitted by: _____ Date:

Phone number where we may reach you: _____

Email: _____

FLEC Robotics Application Recommendation Form Teacher

Name of Student: _____

Name of Teacher: _____

I have known this student for _____ months/years.

For parents and students: I hereby waive my right to access this recommendation and authorize the above -named person to provide an evaluation and all relevant information to the school for purposes of my or my child's application to attend the school.

Signature of parent or legal guardian or student over age 18: _____ Date: _____

Signature of student: _____ Date: _____

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Submitted by: _____ Date:

Phone number where we may reach you: _____

Email; _____

FLEC Robotics Application Recommendation Form Mentor (Pastor, pathfinder leader, coach, music teacher or similar person)

Name of Student: _____

Name of Mentor: _____

I have known this student for _____ months/years.

For parents and students: I hereby waive my right to access this recommendation and authorize the above -named person to provide an evaluation and all relevant information to the school for purposes of my or my child's application to attend the school.

Signature of parent or legal guardian or student over age 18: _____ Date: _____

Signature of student: _____ Date: _____

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