RIVERSIDE HIGH SCHOOL

ENGINEERING PATHWAY HANDBOOK

2019 - 2020

Riverside High School

3218 Rose of Sharon Road

Durham, NC 27712

(919) 560-3965

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I. Welcome

Dear Parents and Students:

Welcome to the Riverside High School Engineering program.

As you are aware, our offering is more than a rigorous four-class academic curriculum. It has evolved into what we believe is one of the best college preparatory courses of study in Durham Public Schools, with many "extras" that lead to an enriching high school experience. Positioned in a school like Riverside, with its emphasis on academics (18 AP courses) and full access to all the arts and athletics choices available elsewhere, we deliver on that promise.

Thanks in large part to the efforts of the Riverside Engineering Parents Action Council (REPAC), we have developed this handbook as a guide to enhance your understanding of the various features the program has to offer. The amount of information can be daunting at first glance. So to help you navigate around, the aim of this handbook is to introduce you to the curriculum, program highlights, history, faculty, calendar, and REPAC. It is our hope that you will find most of the answers to your questions about the program, as well as links to resources that are time sensitive and subject to change.

Established in 2003, this program has come a long way over the years, and we still have plenty of room to improve. From acquiring new equipment to nurturing the development of a professional and alumni network, there is much work yet to do.

As a parent, you will be an integral part of an important volunteer effort to support this growth, as well as the extracurricular events arranged by the staff. We are counting on you to join in the fun and satisfaction of watching your child grow in this unique blending of scholastic endeavor and workplace skills development that the professional experience of our staff provides.

Just like the most successful companies who have survived only through continuous improvement, Riverside Engineering has a culture where we actively seek feedback from all stakeholders. From the end-of-course surveys we administer to students to our continuous interface with parents, our goal is to get better, and it is only through your candid, constructive feedback that we can do so.

So welcome to the team. We hope you enjoy the ride.

Tim Velegol

Engineering Program Coordinator

II. RHS Engineering Faculty

Engineering Program Coordinator

Mr. Tim Velegol   tim.velegol@dpsnc.net   919-560-3965 ext. 65170

Mr. Velegol earned a BS in Mechanical Engineering from Ohio State in 1983, a Masters in Nuclear Engineering while working for General Electric, and a Masters in International Business from the University of South Carolina in 1991. He is a certified Nuclear Plant Operations engineer, and has worked for Barnes and Noble and as a NASA subcontractor before entering teaching in 2006. He is certified to teach PLTW Digital Electronics, PLTW Principles of Engineering, and PLTW Computer Science Principles, and is the coordinator for Riverside Engineering. He is the faculty sponsor for Riverside's FIRST robotics team.

Staff

Ms. Sheena Brooks   sheena.brooks@dpsnc.net   919-560-3965   ext. 65330

Ms. Brooks is the Career Development Coordinator for Riverside High School. She earned her BS in Business and Marketing Education from East Carolina University. She worked as a business technology teacher for twelve years before assuming the position as Career Development Coordinator with Riverside's Career & Technical Education Department in 2008. Ms. Brooks is passionate about empowering students to be successful citizens, workers and leaders.

Mr. Adam Davidson   adam.davidson@dpsnc.net   919-560-3965   ext. 65460

Mr. Davidson is a 15-year teaching veteran with a B.S. in Technology Education from North Carolina State University and has been part of the Riverside faculty since 2007. He is certified to teach four PLTW courses: Aerospace Engineering, Civil Engineering and Architecture, Computer Integrated Manufacturing, and Introduction to Engineering Design. Mr. Davidson has been a lead instructor at the Duke Talent Identification Program's Academy Summer Studies for 3 years. Mr. Davidson was selected as Tar Heel of the Week for his work with engineering students, received NCSU STEM Education's Outstanding and Excellence in TED Education award, and was selected STEM Teacher of the Year in 2018. He earned his National Board Certification status in the fall of 2014.

Dr. Alan Huber   alan.huber@dpsnc.net   919-596-3965   ext. 65457

Dr. Huber received his PhD in Atmospheric Sciences from North Carolina State University and retired from the US Environmental Protection Agency in 2011 to enter a teaching career. He also holds a B.S. and M.S. in Aerospace Engineering from Penn State University. He teaches Principles of Engineering and Aerospace Engineering.

Mr. Conner Bolen   conner.bolen@dpsnc.net   919-560-3965   ext. 65449

Mr. Bolen is a graduate of NC State University with a Bachelor's degree in Technology, Engineering, and Design Education with a minor in Graphics Communications. He is an Eagle Scout and alumnus of the RHS PLTW program. He has experience with multiple student organizations - FIRST and Vex Robotics and Technology Student Association (TSA). He teaches Introduction to Engineering Design, Principles of Engineering and Drafting 1.

Mr. Russell Strand-Poole   russell.strand.poole@dpsnc.net   919-560-3965   ext. 65520

Mr. Strand-Poole received his master's from Appalachian State University. A six-year veteran of the field, he has experience teaching computer science to students from kindergarten to 12th grade. He is also a curriculum facilitator and helps train computer science teachers across North Carolina. He teaches PLTW/AP Computer Science Principles and Introduction to Computer Science.

Mr. Seth Stallings   seth.stallings@dpsnc.net   919-560-3965   ext. 65519

Mr. Stallings holds a Bachelor of Applied Science from Campbell University and a Masters in Technical Education from North Carolina State University. As a Professional Land Surveyor in North Carolina, he owned a surveying and subdivision design company prior to joining Riverside's faculty in 2012. Mr. Stallings has also worked within the fields of forestry and natural resource conservation. He teaches three PLTW courses: Digital Electronics, Civil Engineering and Architecture, and Computer Integrated Manufacturing. He has also taught Technology Engineering and Design, Career Management, and Honors Pre-Calculus!

III. Program Overview

About Project Lead the Way® (PLTW)

Project Lead the Way® (PLTW) is the leading provider of rigorous and innovative STEM (science, technology, engineering and math) education curricular programs used in schools throughout the nation. As a 501(c)(3) charitable organization, PLTW exists to prepare students for the global economy through its world-class curriculum, high-quality professional development, and an engaged network of educators, students, universities and professionals. PLTW's comprehensive curriculum has been collaboratively designed by PLTW teachers, university educators, engineering and biomedical professionals, and school administrators to promote critical thinking, creativity, innovation and real-world problem solving skills in students. The hands-on, project-based program engages students on multiple levels, exposes them to areas of study that they typically do not pursue, and provides them with a foundation and proven path to college and career success. Currently, more than 5,000 schools in all 50 states and the District of Columbia offer PLTW courses to their students. For more information, visit www.pltw.org.

Riverside Engineering is certified by the national Project Lead the Way® (PLTW) Initiative. The Riverside program became accredited by PLTW in 2008.

Through the Riverside Engineering courses, students may be eligible for up to seven 3-hour college credits based on their performance in the classes.

The Riverside Engineering program also fulfills the Durham Public Schools requirement for students to have a "concentration" in high school. Students are not required to be enrolled in the Engineering program in order to take the courses, provided the prerequisite requirements have been met. However, preferential placement in classes is given to those enrolled in the program. For those not in the Engineering program, the classes count toward math requirements.

In 2017-2018 Riverside was identified as one of 6 high schools in the state of North Carolina to be designated as a "PLTW Distinguished High School".
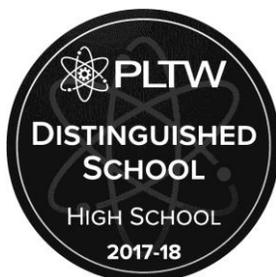
IV. PLTW Course Specifics and Recommendations

Three foundation courses are required for all engineering students. Typically, students take one per year for the 9th through 11th grade years. A fourth course, chosen from the specialty courses, is required to complete the PLTW program, as well as to satisfy the DPS requirement for a 4-course "concentration". With faculty approval, and as scheduling allows, students may choose to take as many additional engineering courses as are offered.

<u>Foundation Courses:</u>

Introduction to Engineering Design (IED)**:** The major focus of the IED course is to expose students to the design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation. The course assumes no previous knowledge, but students should be concurrently enrolled in college preparatory mathematics and science. Students will use a state of the art 3D solid modeling design software package to help them design solutions to solve proposed problems. They will also learn how to document their work and communicate their solutions to their peers and members of the professional community. This course is generally taken in the 9th grade.

Principles of Engineering (POE): POE is a rigorous survey course of engineering. Students will be exposed to major concepts that they will encounter in a postsecondary engineering course of study. To be successful in POE, students should be concurrently enrolled in college preparatory mathematics and science. This course is generally taken in the 10th grade.

Digital Electronics™ (DE): DE is the study of electronic circuits that are used to process and control digital signals. The major focus of the DE course is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation. This course is appropriate for 10th or 11th grade students interested in electronics. Other than their concurrent enrollment in college preparatory mathematics and science courses, this course assumes no previous knowledge.

Specialty Courses:

Aerospace Engineering (AE): AE is the study of the engineering discipline which develops new technologies for use in aviation, defense systems, and space exploration. Students will analyze, design, and build aerospace systems. This course is appropriate for 11th and 12th grade students interested in Aerospace.   It is recommended that students are concurrently enrolled in college preparatory mathematics and science courses and have successfully completed the Principles of Engineering (POE) course.

Civil Engineering and Architecture (CEA): CEA is the study of the design and construction of residential and commercial building projects. The major focus of the CEA course is to expose students to the design and construction of residential and commercial buildings, design teams and teamwork, communication methods, engineering standards, and technical documentation. CEA is appropriate for 11th or 12th grade students, and while completing POE is a pre-requisite, this course assumes no previous knowledge.

Computer Integrated Manufacturing (CIM): Computer Integrated Manufacturing (CIM) is the study of manufacturing planning, integration, and implementation of automation. Students will apply knowledge gained throughout the course in a final open-ended problem to build a factory system. CIM is a high school level course that is appropriate for 10th, 11th, or 12th grade students. It is recommended that students are concurrently enrolled in grade level mathematics and science courses and have successfully completed the Introduction to Engineering Design (IED) course.

Computer Science Principles (CSP): CSP is a project- and problem-based course, with students working in teams to develop computational thinking and solve open-ended, practical problems that occur in the real world. The course aligns with the College Board's CS Principles framework. The course is not a programming language course; it aims instead to develop computational thinking to generate excitement about the field of computing and to introduce computational tools that foster creativity.   Students completing the course will be well-prepared for a first course in Java or other object-oriented language. Students should be sophomores in good standing.

There is also a "STEM Credential" which students can earn thanks to a partnership between PLTW and the College Board. A combination of three courses from 6 PLTW classes (IED, POE, DE, CIM, CEA, and AE) and AP classes (Biology, Chemistry, Environmental Science, Physics, Calculus AB, Calculus BC, and Statistics) with set exam results can lead to this recognition.

Course Recommendations:

Riverside offers Drafting I and II. These courses are not required, but taking at least one is highly recommended since experience in Auto Cad is an excellent tool to take away from high school. Feedback from our graduates informs us that the skills they gleaned while studying Drafting and learning how to use the computer design software have proved to be valuable assets in their engineering classes.

The North Carolina High School graduation requirements are inadequate for admission to UNC system schools. UNC System schools require two years of the same world language for admission. None are required for high school graduation. In addition, graduation and UNC-system minimum course requirements only require three years of science. Depending on the college and program of study selected, more may be required. Students should carefully review the websites of colleges in which they are interested – engineering programs often have requirements beyond the minimum course requirements.

For More Information: Access Riverside High School Website: www.riverside.dpsnc.net.

Click: 1) About Us
       2) Engineering

V. Grading for PLTW Classes and College Credit

Engineering courses are graded similarly to AP courses with 1 extra quality point added for GPA computation. This weighting reflects the rigorous nature of the classes.

The final exams for the Riverside Engineering classes are nationally normed exams produced by the Project Lead the Way® program. As with AP courses, college credit may be earned by achieving a cut score. The student must also earn an 85% or higher grade in the course. After the final exam, students are notified of their eligibility for college credit.

Credit for all courses with the exception of Aerospace Engineering and Computer Science Principles is given through Rochester Institute of Technology (RIT). AE and CSP credit is given through the Milwaukee School of Engineering (MSOE). RIT charges $225 for the college credit, and MSOE charges $200. Students will receive a transcript from RIT or MSOE reflecting the grade earned (or an S). Each course counts for 3 semester hours of college credit. These courses will generally be considered transfer credits and may count toward graduation. Generally, universities do not consider the grades from transfer courses in computing the student's cumulative college GPA.

Rochester Institute of Technology returns $20 from the $225 college credit fee to Riverside High School as a grant. This money is used at the discretion of the Program Coordinator for the continued success of the Engineering program. Application for college credit must be made no later than a November deadline of the ensuing academic year (specific date varies from year to year).

VI. PLTW® Program Features

The Engineering Faculty supplements the dynamic curriculum with several other elements that comprise the engineering experience at Riverside:

Junior and Senior Year Interviews: The Program Coordinator and Career Development Coordinator conduct one-on-one interviews with all Juniors and Seniors in the program to map out post-high school plans. They discuss the college application process, financial aid, summer jobs, and internship searches.

Faculty Recommendations: The engineering faculty is happy to help students with letters of recommendations for college applications and scholarship programs. However, they **request a 30 day notice** for preparing these recommendations.

Speaker Days: Twice a year, up to 6 speakers from industry, education and government address students on the careers and rewards associated with STEM degrees. All students in the program are invited to attend these semi-annual events.

North Carolina State University Visit: Juniors participating in the Engineering program are invited to attend a day-long field trip to visit both engineering campuses at NCSU each year. They learn details of university life and can tour the Engineering Department of their choice. NCSU is the flagship program for Engineering in the UNC system.

Program-wide and Class-focused Field Trips: The Engineering faculty work to arrange curriculum appropriate field trips for each engineering course during the school year. At the end of the school year, a fun field trip to a STEM related event is offered for all interested students.

Assemblies: Assemblies are held to familiarize students with programs and expectations.

Social Events: The Riverside Engineering Parent Action Council (REPAC) sponsors a "Welcome (Back) Picnic" to introduce new freshman families to the faculty and returning families in the program. REPAC also sponsors a Senior Party for those graduating from the program.

Spirit Wear: REPAC sponsors sales of Riverside Engineering T-Shirts, Sweatshirts, and other gear.

VII. PLTW® Enrichment Opportunities

FIRST Robotics: The FIRST Robotics Club is open to all Engineering students. In this club, students design, build, and enter competitions with robots. Students not only learn mechanical and design skills, but they also become familiar with programming software.

Community Service: Community service activities are organized for engineering students to help promote a sense of responsibility to the community.

Student Contests: The Engineering Faculty will coordinate and/or make the students aware of contest opportunities such as the Hour of Code, Doodle for Google, the Verizon App Challenge and other contests that may occur.

STEM Premier: The Engineering Faculty strongly encourages students to register themselves on a professional networking website called STEM Premier. Posting academic and related information can bring students exposure to internships, college opportunities, scholarship applications and availability through RedKite. It's also a great web-enabled place for developing their resumes.

VIII. Engineering Department Recognitions/Awards

The Engineering faculty annually presents an award to the outstanding senior student(s). A perpetual plaque of past winners is on display in the trophy case in the Riverside High School lobby. The awards for the VEX Robotics Championship, Verizon App Challenges and other Engineering student achievements are also displayed in the Lobby.

The Engineering Faculty also maintains a "Wall of Fame" in the Program Coordinator's classroom, recognizing Riverside Engineering graduates' accomplishments beyond high school. College graduations and Military Service are recognized by individual plaques. The Faculty also encourages students to send in banners from their respective universities or branches of service to be displayed on the Wall of Fame.

The National Technical Honor Society provides recognition for students in Career and Technical Education for achievement and leadership. The national organization also seeks to provide scholarship opportunities for its members. At Riverside High School, students are invited to join based on their achievement. To receive an invitation, a student must be enrolled in his/her third CTE (which includes all PLTW courses) class, have an unweighted GPA of at least 3.0, be recommended by a CTE teacher and have a 90 average or higher in CTE classes already taken. Member students wear honor cords at graduation. For more information, visit NTHS.org.

Project Lead the Way awards recognition in the form of graduation regalia. All students completing at least the three foundation courses (Introduction to Engineering Design, Principles of Engineering, and Digital Electronics) AND earning a cumulative total of 15 points or more based on their Stanine score for each course final exam will be eligible to purchase PLTW honor cords. Concentrators completing at least four courses and accumulating 32 or more Stanine final exam points (based on the three foundation courses and their highest result in a fourth course) will be recognized with a stole for their achievement. **This will be changing with a new assessment system in 2019 – 2020.**

The faculty also routinely recommends students for various annual scholarships, including the Durham Engineer's Club Scholarship, NC State's Park Scholarship, UNC's Morehead-Cain Scholarship, UNC-Charlotte's Levine Scholarship, the Gates Scholars Program and the Centennial Scholarship with the College of Textiles at NCSU.

IX. Expectations of Students

Admission to the Engineering PLTW program is a privilege. Students are expected to maintain a C average in all classes. Failure to maintain a minimum GPA will result in expulsion from the program. A student may also be expelled from the program for behavioral issues, failure to pass classes, or absenteeism. If an expelled PLTW student does not reside in the Riverside HS district, he or she will be recommended for revocation and reassigned to his or her home school at the discretion of the Office of Student Assignment.   The pathway transfer agreement form can be found at the end of this handbook on page 28.

X. Riverside Engineering Parent Action Council

History and Mission:

In 2003, Project Lead the Way® was brought to Duke University and placed under the direction of the Affiliate Director, Edmund T. Pratt School of Engineering. Four high schools, including Riverside, were soon invited to participate in this program.

Riverside Engineering Parents Action Council (REPAC) was originally formed in February 2008, for the purpose of supporting and advocating for the accreditation of Project Lead the Way at Riverside High School.   Once accreditation was achieved, REPAC evolved into a group of parents acting to support the engineering faculty and to provide extracurricular activities, community service opportunities and social events for the students to enhance their engineering experience.

In July of 2016, REPAC registered as a North Carolina non-profit corporation and was approved as a 501(c)(3) in September of the same year.

All engineering parents are members of REPAC. Parents are encouraged to participate as volunteers. The executive board is elected in May and will recruit parents to lead and support various committees and associated activities. A brief description of our various committees and chair responsibilities can be found below. If you are interested in volunteering as an executive board member, committee chair or volunteer, please contact the REPAC president to obtain more detailed information about the duties involved. A calendar of events can be found at the end of this handbook. Volunteers do not need engineering experience, only the desire to make our children's high school experience the best it can be.

REPAC's agendas and minutes are promulgated via the GoogleGroup emails that members receive monthly. To sign up, contact the REPAC president.

Expectations, Financial Policy and Meeting Dates:

REPAC is organized and operated for the charitable and educational purposes of supporting and promoting engineering education at Riverside. Through programs and activities, REPAC supports engineering faculty and students. Past REPAC activities have included organizing events such as the Welcome Back Picnic and Speaker Day, helping students to organize Field Trip fundraising, and pursuing corporate grants for program equipment and materials. Suggestions for other activities to improve the

program are always welcome and should be directed to the engineering program coordinator.

REPAC Financial Policy: REPAC finances are managed through an annual budget. The budget is developed each year by the treasurer, in conjunction with the REPAC Executive Board and Finance Committee.   The budget is presented to the REPAC membership for approval during the first meeting of the fiscal year. Any proposed amendments to the budget during the year requires the approval of the general membership.

The REPAC treasurer is responsible for maintaining all applicable records and filing taxes and any other paperwork related to REPAC's 501(c)(3) status.

REPAC Meetings: REPAC meets on the second Thursday of the month at 6:00 PM in the Media Center (refer to calendar on pages 23 – 24).   The Engineering Program Coordinator and other faculty attend these meetings regularly.   All parents are encouraged to attend and participate in our events. If you are unable to do so, however the minutes are distributed to keep you up to date on our activities.

Our meetings typically run 1¼ hours long, consisting of committee reports and planning for upcoming events. Time is also allotted for a town hall-type discussion on a specific topic addressing the needs of the engineering students and parents. Our Engineering Program Coordinator leads the town hall section of the meeting. These topics will be listed on the agenda which is sent out prior to the monthly meeting.

REPAC Officers and Committees:

Officers and Committee Chairpersons for 2018 through 2019

President	Jeff Koweek	koweekj@yahoo.com
Vice President	Amanda Powell	sarmbpowell@gmail.com
Secretary	Sara Neal	fiveneals@yahoo.com
Treasurer	Todd Patton	toddcpatton@gmail.com
At Large Board 1	Kellie Rigsbee	kellie_rigsbee@hotmail.com
At Large Board 2	Karen Seifert	karenseifert88@yahoo.com
Community Liaison	Doreen Sanfelici	dsanfelici@gmail.com

Extracurricular Chair/Service	Meredith Marley	meredithmarley1968@gmail.com
Bulls Volunteer chair	Mandy Summerson	MSummerson@nc.rr.com
Extracurricular Chair/Trips	Michele Vincent	missmcv@aol.com

Hospitality /Social Chair	Jill Bosecker	sj3bosecker@gmail.com
Programs & Grants Chair	Kim Bowers	KLBowersTarheel@gmail.com
Marketing Chair	Cindie Burns	cindiejburns@gmail.com
Chair Emeritus	Patti McLendon	patti.mclendon@gmail.com
Chair Emeritus:	Victoria Hurtado	vvh7163@gmail.com
Chair Emeritus:	Kirsten Berlin	KirstenABerlin@gmail.com
Chair Emeritus:	Jennifer Bartnik	jenthehockeymom@gmail.com
Chair Emeritus:	Lori Von Alten	lori.vonalten@gmail.com

REPAC Officer Responsibilities:

President and Vice-President:

- The president presides at all REPAC meetings; vice president to preside in absence of the president.
- With the Executive Board, appoint necessary committees to carry out council functions.
- Work with the Engineering Program Coordinator in developing meeting agendas.
- Assist Engineering Program Coordinator in developing an annual planning calendar.
- Work with the Marketing Chair to coordinate marketing of RHS engineering merchandise (t-shirts, hoodies, bumper stickers, etc.).
- Research information needed for RHS website and DPS website.
- Work with the Engineering Program Coordinator in establishing the content of the RHS engineering webpage and lobbying the District for more information on the DPS website.
- Update REPAC Handbook in August and January of each new school year and the annual REPAC calendar.
- Responsible for organizing and executing the annual Engineering Welcome Back Picnic in August, and the Senior Celebration and Award Evening in May (in conjunction with the Program Coordinator).
- Responsible for recruiting new leadership for REPAC and installing new officers at the final REPAC meeting in May. Also assist in the transitioning of these new officers into their new roles the following school year. Per the by-laws, recruiting new leadership is the responsibility of the Nominating Committee, of which the president is one of the members.

Secretary:

- Record minutes at each council meeting.
- Send REPAC meeting minutes to Engineering Program Coordinator for distribution to the REPAC membership.
- Send minutes when requested to interested parties (Principal, DPS CTE Director).
- Request posting of REPAC meeting minutes to RHS Engineering website.

Treasurer:

- Manage all aspects of REPAC finances.
- Develop an annual working budget in conjunction with the Executive Board.
- Based on the budget, identify the need for fundraising to cover expenditures incurred by field trips, community service projects or other approved Engineering Program activities. Work with the Fundraising committee to determine appropriate methods for meeting the financial goals.
- Provide a monthly financial report to the Executive Board and members of the council.
- Manage deposits to and disbursements from the REPAC account.
- Work with the RHS Bookkeeper to maintain records of Engineering monies managed through RHS. This will include the PLTW account and any field trip funds.
- File taxes and any other financially related documents to ensure compliance with non-profit status requirements.

REPAC Committee Chair Responsibilities:

Community Liaison:

- Identify opportunities in the Greater Durham Area for building relationships with businesses, nonprofit organizations and government institutions interested in helping to develop the RHS Engineering Program and providing learning opportunities for our students.
- In coordination with RHS Engineering Faculty, identify and help recruit businesses willing to provide internships for RHS Engineering students.
- Identify public relations opportunities to improve the exposure of the RHS Engineering Program.
- Through building business relationships in the community, identify and coordinate information about potential speakers for speaker day and/or special programs that can benefit our engineering students.
- Serve as a resource advocate for FIRST Robotics.

Extracurricular Coordinator: Organizing and leading a subcommittee focused on the following functions:

- Identify opportunities and coordinate information for field trips that support the RHS Engineering curriculum.
- Organize at least two Community Service opportunities for our engineering students each year.
- Coordinate the end of year field trip.

Hospitality Coordinator: Organizing and leading a committee to host the following Engineering Department events:

- STEM Faculty Luncheon, as scheduled
- Hospitality during student volunteer week
- Teacher Appreciation Breakfast
- Teacher Appreciation Week activities
- Speaker Day Food/Refreshments/Gifts
- The Annual STEM Career Fair in conjunction with the Career Development Coordinator at RHS

Marketing Chair: Organizing and leading a committee responsible for:

- The design (in conjunction with the Program Coordinator), updates, ordering and inventory of REPAC merchandise and promotional materials. Included in this are:
  - PLTW Pamphlets
  - T-shirts and hoodies
  - Bumper stickers
- Maintaining and updating the RHS Engineering Wall of Fame honoring Riverside engineering graduates.

Programs and Grants Chair: Duties include:

- Identifying, defining and developing funding sources to support existing and planned program activities.
- Coordinating the development, writing and submission of grant proposals to third-party entities.

Durham Bulls Concessions Coordinator: Duties include:

- Coordinating the recruitment and staffing for the REPAC sub-group of the Support Our Schools collaboration with the Durham Bulls concessions.

Nominating Committee Chair: Duties include:

- Organizing a committee which includes: the REPAC president, one additional board member, and at least one general member no later than March.
- Seeking nominees and developing a slate of candidates to present for election.
- Notifying slate to membership as soon as possible, but no later than 72 hours prior to the May meeting.
- Soliciting additional nominees from the floor during the meeting at which elections are being held.

XI. General Information and Frequently Asked Questions

ABET Certified College Engineering Programs:

The Accreditation Board for Engineering and Technology (ABET) is the global leader in accrediting Engineering, Science and Technology education (abet.org). The website offers students an opportunity to search for certified program by discipline (e.g. Mechanical Engineering) and location. ABET accredits Engineering Schools as well as individual programs. The five ABET accredited Engineering programs in North Carolina are: North Carolina State University Engineering, Duke University Pratt School of Engineering, North Carolina A&T University School of Engineering, UNC Charlotte School of Engineering and East Carolina University. There are also a number of accredited Computer Science programs at other North Carolina universities. Other schools with ABET accredited programs can be found on the ABET website.

Riverside High School Grading Scale:

For honors courses, one-half (0.5) point is added to the value of each grade percentage. For AP and PLTW courses, one (1) point is added.   For Example: a student making a 94% as a final grade in Introduction to Engineering Design (IED), would receive 4.00 points for the 94% plus 1 point for the PLTW class, giving him/her a 5.00 for the course. A 94% in an honors course would earn a student 4.00 points plus 0.5 points for honors, giving him/her a 4.50 for the course. After the extra points are added, simple averages are computed (scores from all courses taken are added together and divided by the total number of courses.)

RHS Engineering/REPAC Calendar

2019 – 2020

August	Calendar Review
Thursday, August 15th	REPAC Meeting to Plan Picnic
Sunday, August 25th	Welcome (Back) Picnic
Monday, August 26th	First Day of School
Friday, August 30th	Engineering Assembly
September – October	Senior Interviews
Monday, September 2nd	Labor Day Holiday
Thursday, September 12th	First REPAC Meeting
Wednesday, September 18th	Early Release for students
Wednesday, October 9th	Teacher Workday
Thursday, October 10th	REPAC Meeting
Saturday, October 12th (est.)	Engineering Service Project
Friday, October 25th	Fall Speaker Day
Monday, October 28th	End of 1st Grading Period
Friday, November 1st	Teacher Workday
Monday, November 4th (est.)	Deadline for RIT college credit
Wednesday, November 6th (est.)	Freshman Engineering Assembly
Monday, November 11th	Veterans' Day Holiday
Wednesday, November 13th	Early Release for students
Thursday, November 14th	REPAC Meeting
Wednesday, November 27th – 29th	Thanksgiving Holidays
December – February	Junior Interviews
Wednesday, December 11th	Early Release for students
Thursday, December 12th	REPAC Meeting
Monday, Dec. 23rd – Jan 3rd	Winter Holidays
January	Handbook Review
Thursday, January 9th	NO REPAC Meeting
Monday, Jan 13th – Fri Jan17th	1st semester Final Exams
Monday, January 20th	MLK, Jr. Holiday
Tuesday, January 21st	Teacher Workday
Wednesday, January 22nd	Teacher Workday

Wednesday, February 12th	Early Release for Students
Friday, February 28th	Spring Speaker Day
Friday, March 6th (est.)	NC State University Field Trip
Saturday, March 7th (est.)	Science Olympiad Service Project
Wednesday, March 11th	Early Release for Students
Thursday, March 12th	REPAC Meeting
Friday, March 13th (est.)	SAS Field Trip
Thursday, March 26th	End of 3rd Grading Period
Friday, March 27th	Teacher Work Day
Thursday, April 9th	REPAC Meeting
Friday, April 10th	Teacher Workday
Monday, April 13th – Thursday, April 16th	Spring Break
Friday, April 17th	Teacher Workday
Wednesday, May 6th	Early Release for Students
Thursday, May 7th	REPAC Meeting
Friday, May 15th	Engineering Field Trip
Monday, May 25th	Memorial Day Holiday
Thursday, June 4th – Wed, June 10th (est.)	2nd semester Final Exams
Friday, June 5th	Senior Celebration
Thursday, June 11th	Last Day of School/Early Release
?????	Graduation

XIII. Riverside High School Event General Information

EVENT/PROGRAM	DATE	DESCRIPTION	STUDENT NOTES	PARENT NOTES
Welcome (Back) Picnic	Weekend Event near the beginning of school	Social Event to introduce incoming freshmen and their families to Faculty, other students and their families		Parents are asked to bring a side dish or dessert to share
Engineering Assembly	During School day near the beginning of the year	Engineering students gather with the Faculty to meet new Engineering students, celebrate academic leadership, discuss the upcoming year's milestones and review best practices for high school success	ALL students should attend even if not enrolled in a Fall Semester Engineering Course	Parents do not attend
REPAC Meetings	Monthly (2nd Thursday at 6:00 p.m. usually in the Media Center)	REPAC is the Parent support group for the Engineering program; Meetings involve faculty reports on the program as well as opportunities for parental involvement	Students are welcome, but this meeting is much like a PTA for the Engineering program	All Parents are members of REPAC

Fall Speaker Day	Generally, a Friday in October	On Speaker Days, students are exposed to working Engineers, representatives of Engineering colleges and graduates of Riverside Engineering who have gone on to college Engineering programs.	Students are encouraged to attend even if they are NOT currently enrolled in an Engineering class.	Parents are needed to provide refreshments and lunch for speakers and Faculty; parent suggestions for speakers and assistance (through REPAC Community Liaison chair) in procuring Speakers is encouraged.
Spring Speaker Day	Generally, the Friday of National Engineers Week in February			
Rochester Institute of Technology and Milwaukee School of Engineering (MSOE) College Credit	Registration due November of the year following course completion	Students may be eligible for college credit for all PLTW classes based on the final exam scores. Students must earn an 85% in the course and a specific score on the nationally normed exams.	For credit, all students must maintain an 85% score in the PLTW class.	Parents will be notified by the Program Coordinator if their child is eligible. Parents and students are then responsible for sending in the fee (currently $225/$200) and appropriate forms. Applying for credit is not mandatory.
NC State Visit	October/November (full day field trip) – or early Spring	Juniors are given the opportunity to visit both Engineering Campuses at NC State	All Juniors in the Engineering program are encouraged to attend.	Beyond permission slips, parental involvement is generally not needed.
Freshman Assembly	November – after the first report card	Freshman PLTW students meet with the Program Coordinator and Career Development Coordinator	All freshman PLTW students should attend even if they are not enrolled in an Engineering course Fall Semester	The Faculty conducts the assembly during the school day. Parents do not attend.

National Engineering Week	Mid February	National Engineering Week celebrates the contributions Engineers make to society; Riverside seeks to celebrate with the Spring Speaker Day and a Community Service Project	All PLTW Students are encouraged to participate in the Spring Speaker Day and the Community Service Project.	Parents may be needed to contribute to Speaker Day (see above) and to make suggestions for Community Service to the REPAC extracurricular Committee. Parents may also be needed to help supervise and provide transportation for Community Service.
Spring Program-Wide Field Trip	Late April to mid-May	PLTW Students have the opportunity to attend a STEM Day at a theme park or other venue.	All PLTW students are eligible for the trip. REPAC may offer a fund-raiser to help students earn the cost of the trip.	Parent chaperones are needed as well as parents to donate and help the REPAC Treasurer coordinate the fund raiser.
Engineering Senior Celebration and Superlatives presentations	Friday near the end of School	PLTW Seniors are honored by the department coordinator with a Celebration Dinner	All Senior PLTW students are invited to attend with their families	Parents may be needed to assist the Social chair in planning for and hosting this event. REPAC also provides plaques for the Outstanding Student awards.

Career and Technical Education

Career Pathway Transfer

Student and Parent Commitment

Riverside High School

Student's Name _____

Science, Technology, Engineering, and Mathematics

Career Pathway:

_____STEM Education

Participation Guidelines

As a participant in a Career Pathway, we understand that the following commitments are mandatory for the continuation in my selected pathway at Riverside High School:

- Follow the prescribed curriculum for this pathway
- Demonstrate on-going commitment to learning as indicated by:

  - ✓ Maintaining a satisfactory academic progress (promoted to next grade)
  - ✓ Passing all courses in the pathway
  - ✓ 95% attendance in all classes
  - ✓ Conducting myself properly and respectfully in school

We understand that to be eligible to continue enrollment in the Career Pathway checked above, the student must meet the criteria stated above. Failure to meet any of these requirements will result in the revocation of your Career Pathway transfer, and you will be reassigned to the school in your resident attendance district.

_____ Date _____

Student's Signature

_____ Date _____

Parent's Signature