

Dear METS Student,

Congratulations!

I am happy to inform you of your acceptance into the most distinguished program at the School of Math Engineering Technology & Science at Olympic Community of Schools: the **Academy of Engineering (Energy and Advanced Manufacturing)**. It is truly the hallmark of METS.

This nationally recognized engineering and advanced manufacturing program has been structured to better prepare 21st century students so they are both college and career ready.

With the objective of placing you squarely onto a pathway for success in school, work, and life in the 21st century, our **Academy of Engineering (Energy and Advanced Manufacturing)** teams with some of the area’s most prestigious employers and colleges, including: Duke Energy, Siemens Energy, Coca-Cola, Piedmont Natural Gas, Areva, CPCC Advanced Technology Center, UNC-Charlotte, UNCC Energy Producing Infrastructure Center (EPIC), and the UNCC Manufacturing Innovation Institute would like to welcome you into the Academy of Engineering.









Again, congratulations on being able to enter such a prestigious program.

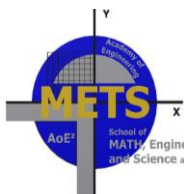
Sincerely,

John Davis

John Davis
 Director of Academy of Engineering
 School of Math Engineering Technology & Science

Made Possible by
Academy of Engineering Premier Partners

Mark Rohlinger Bosch Rexroth 	Pam Howze Siemens Energy 	Debby Hager Duke Energy 	Jennifer Westfall Coca-Cola 
Clifton Vann Livingston & Haven 	David Causey Areva 	Bill Dillon CPCC 	Denice Bailey Piedmont Natural Gas 



What is NAF?

The National Academy Foundation (NAF) is a leader in the movement to prepare young people for college and career success. For 30 years, NAF has refined a proven educational model which includes industry-focus curricula, work-based learning experiences, and business partner expertise.



Why Choose a School with a NAF

Academy of Engineering? (www.naf.org)

Career academies increase the engagement of high school students and provide a way for those beyond the walls of the school to enhance students' educational experiences.



NAF academies succeed with the investment of schools, students, businesses, and community leaders who believe young people deserve a high return on their education.

Our Vision:

The Academy of Engineering addresses the critical achievement gap in STEM fields and develops a pipeline of students prepared to pursue engineering, technology and science related degrees and professions in one of the fastest growing sectors of the economy.

The NAF Academy Internship Program

As part of a career-focused educational experience, NAF academy students take part in an ongoing series of work-based learning activities, culminating with a compensated internship completed typically during their 11th and 12th grade year.

The internship experience gives students a chance to gain real world, hands-on experience, make lasting professional connections, and discover more about their interest and proficiency along a specific career path.

Courses and Curriculum (www.pltw.org)

Introduction to Engineering Design (IED)

Students use industry standard 3D modeling software to help them design solutions to solve proposed problems, document their work using an engineer's notebook, and communicate solutions to peers and members of the professional community.

Principles of Engineering (POE)

This survey course includes mechanisms, energy, statics, materials, and kinematics. They develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges, document their work and communicate solutions.

Digital Electronics (DE)

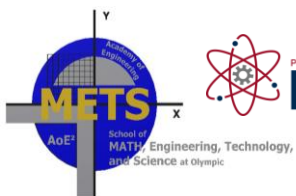
Digital electronics is the foundation of all modern electronic devices such as mobile phones, MP3 players, laptop computers, digital cameras and high-definition televisions. Students are introduced to the process of combinational and sequential logic design, engineering standards and technical documentation.

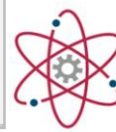
Computer Added Manufacturing (CIM)

How are things made? What processes go into creating products? Is the process for making a water bottle the same as it is for a musical instrument? How do assembly lines work? How has automation changed the face of manufacturing? While students discover the answers to these questions, they're learning about the history of manufacturing, robotics and automation, manufacturing processes, computer modeling, manufacturing equipment, and flexible manufacturing systems.

Engineering Design and Development (EDD)

In this capstone course, students work in teams to design and develop an original solution to a valid open-ended technical problem by applying the engineering design process. Students perform research to choose, validate, and justify a technical problem. After carefully defining the problem, teams design, build, and test their solutions while working closely with industry professionals who provide mentoring opportunities. Finally, student teams present and defend their original solution to an outside panel.





Freshman Courses

AoE: Project Management

- English 1
- Algebra 1
- Earth / Environmental Science
- World History
- Health / PE
- Elective
- Elective

Sophomore Courses

AoE: Introduction to Engineering Design (IED)

AoE: Principles of Engineering (POE)

- English 2
- Geometry
- Biology
- Civics
- Foreign Language I
- Elective

Junior Courses

AoE: Digital Electronics (DE)

AoE: Computer Integrated Manufacturing (CIM)

- English 3
- Algebra II
- Physics (recommend) or Chemistry
- US History (part 1)
- US History (part 2)
- Foreign Language II

Senior Courses

AoE: Engineering Design & Development (EDD)

AoE: Career & College Promise (CPCC)

AoE: Internship (May be completed during summer between 11th & 12th grade)



- English 4
- AFM or Higher Math
- Elective
- Elective
- Elective

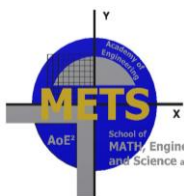
Suggested Elective: Select one listed below.

- CPCC (Energy Studies)
- CPCC (Mechtronics)

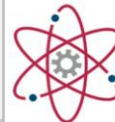
**Academy of Engineering
Core Classes:**

- Project Management
- Introduction to Engineering Design (IED)
- Principles of Engineering (POE)
- Computer Integrated Manufacturing (CIM)
- Digital Electronics (DE)
- Engineering Design & Development (EDD)
- Internship
(May be completed during summer between 11th and 12th grade)



Career and Technical Education



Print Student's Name Here

STUDENT PERFORMANCE CONTRACT

Student Name (Please print or type)

I agree to:

- Commit a minimum of 4 years to the completion of the METS Academy of Engineering program track including the required PLTW classes and internship.
- Enroll in appropriate METS Academy of Engineering and related courses.
- Abide by the METS Academy of Engineering and district attendance policy for the entire year, based on the Student Rights and Responsibilities Handbook.
- Maintain a 2.50 minimum GPA overall.
- Maintain a 3.00 minimum GPA in Academy of Engineering courses.
- Maintain an acceptable disciplinary record for **all classes**.
- Participate in all Academy of Engineering field trips conducted during the school day when space is available.
- Participate and take an active role in the academy's student organizations, either TSA, VEX Robotics or both.
- Demonstrate progress toward gaining industry certification through active participation in industry certification assignments, activities, or requirements.

Students may be accepted on a provisional basis as listed below. Students who fail to meet the above criteria or are accepted on a provisional basis and fail to fulfill the above requirements will be placed on Academy probation as outlined in the Academy of Engineering Handbook. The student will have one nine-weeks grading period to improve his or her academic performance in order to be removed from probation.

Should the student fail to meet the above criteria, the recommendation can be made for the removal of the student from the program. **Students who exceed five days of absence during any term or a total of ten undocumented excused absences may be prohibited from participating in field trips requiring out of school time.** Cases will be reviewed on an individual basis for recommendation of probation, dismissal, or field trip participation.

Student Acceptance: (to be completed by Academy Director)

Full acceptance—must maintain enrollment qualifications as stated above

Provisional acceptance based on

- Acceptable attendance while enrolled in the Academy of Engineering
- Acceptable behavior while enrolled in the Academy of Engineering
- Acceptable academic progress while enrolled in the Academy of Engineering

By my signature, I do hereby certify that I have read this agreement and I agree to abide by all rules, statements, and provision contained herein.

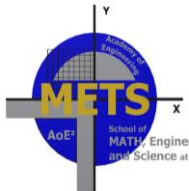
Student Sign Here

 Student Signature _____
 Date

Parent Sign Here

 Parent Signature _____
 Date

 John Davis, METS AoE Director _____
 Date



Part I: Student Information (To be completed by Student Applicant)

SECTION I-A: Student Information

Student's Legal Name (Last, First, Middle)	Student's Preferred or Nickname (For use on identification badge)	Gender <input type="checkbox"/> M <input type="checkbox"/> F	Grade (Current School year) <input type="checkbox"/> 9 th <input type="checkbox"/> 10 th	Birth Date (MM/DD/YY)
Home Address	City	State	Zip Code	
Home Telephone Number <i>(area code first)</i>	Student E-Mail Address	Parent/Guardian E-Mail Address		
Parent/Guardian Name	Parent/Guardian Address			

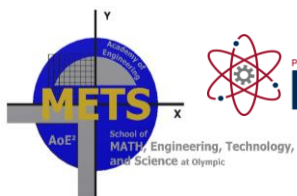
SECTION I-B: Student Essays. Essay must be keyed and attached to the application. Essay should be no more than one page in length. Choose one of the following:

ESSAY #1: Using your persuasive talents, explain to us why are you interested in participating in the Academy of Engineering?

OR

ESSAY #2: A good portion of your class time being in the academy will be spent in collaborative work. You and your teammates will work together to complete a project within certain parameters. You will work with teachers, fellow students, and business/community leaders in a way that requires teamwork, compromise, and active participation. In a well-written essay no more than one page, explain to the selection committee how your participation in the collaborative setting of the academy will benefit you. Focus on these questions:

- What kinds of collaborative experiences have you had?
- What have you learned from those experiences?
- What skills and personality traits do you have that make you especially suited for collaborative activities?
- What personal learning and growth do you expect from having the opportunity to be a part of such collaborative activities?



PART II: Recommendation

(To be completed by faculty member, counselor, and/or administrator)

SECTION II-A: SCHOOL RECORD

Please select only one of the following in support of student's school record. Please attach a school transcript from student services to the application. To have a consistent format for GPAs, the student's grade point average must be based on the 4-point scale that follows, regardless of the scale previously used at different schools: A = 4.0, B = 3.0, C = 2.0, D = 1.0. GPA is figured for all semesters completed during middle/high school. No extra weight is given to accelerated or honor courses. Plus and minus grades are not to be counted in the computation.

Enter Grade Point Average (GPA):

OR

Check here if student is in upper one half of his/her class

OR

If this student does not meet GPA/class standing requirements but shows exceptional promise, check here to indicate that letters of recommendation are attached from two teachers and/or community members with expertise in business, hospitality, tourism, culinary arts and/or technology.

SECTION II-B: EVALUATION

Please note: A student who is not successful in a regular school environment is unlikely to be successful in the Academy of Engineering. Recommend only students who are willing and able to attend and fully participate in the entire Academy, including PLTW or TSA VEX Robotics and Academy assignments and field trips.

Please check the appropriate box, using this scale: 1 = indicates a low demonstrated ability to 5 = a high demonstrated ability.

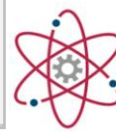
You may attach a separate keyed page providing comments or examples to support your evaluation. Include any unusual circumstances in this applicant's life that create a particular need for consideration.

Check here if you are attaching a separate page of comments

SCALE:	1 (low ability)	2	3	4	5 (high ability)
Applicant has the ability and desire to cope successfully with advanced concepts, materials and activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applicant has a positive attitude about exploring new and different concepts and areas of study.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applicant shows maturity and consideration for others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applicant has demonstrated the ability to meet or exceed expectations of behavior.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applicant can participate fully in a demanding schedule of activities and classes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applicant can use self-directed time wisely.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applicant is likely to participate fully in collaborative experiences, including student-created projects and presentations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Signature Recommending Person	DATE:		Relationship to Student		

Recommending Person Sign Here





Part III: UNDERSTANDING / CONSENT FORM (To be read and signed by Parent/Guardian and Student Applicant)

This section ensures that parents/guardians and applicants fully understand their responsibilities if applicants are selected to participate and become a part of the METS Academy of Engineering. Signatures of both student applicants and parents/guardians are required.

1. **I understand** that students are responsible for attendance at all Academy activities. Leaves-of-absence are granted for students only in case of medical or family emergencies. **I consent** to these terms.
2. **I understand** that the **METS Academy of Engineering** is partially publicly funded and that the names, addresses, and school affiliation of students completing the program will become a matter of public record. **I consent** to such information becoming a matter of public record.
3. **I understand** that the student and/or family must arrange transportation to and from all Academy events and activities. **I consent** to providing transportation to and from the Academy, and in the event that Academy officials deem transportation necessary in case of illness, disruptive/non-participatory behavior, or other unforeseen circumstances.
4. **I understand** that **METS Academy of Engineering** students may attend Academy-sanctioned events off campus. **I consent** to my student being transported to selected venues off campus with legal drivers authorized by the Academy.
5. **I understand** that it may be necessary for Academy officials to obtain emergency assistance in case of accident or sudden illness and that the parents/guardians of students will be responsible for costs of medical care. **I consent** to emergency treatment of my student during his/her participation in the Academy.
6. **I understand** that Academy students will be surveyed regarding Academy classes, activities, administration, and student perceptions. **I consent** to Academy student surveys.
7. **I understand** that students may be interviewed and/or photographed or filmed as part of news coverage or promotion of the Academy (including on its website). **I consent** to such interviews, photographs, and film being published or broadcast.
8. **I understand** that work generated at the Academy may be shown publicly on the Academy website and in other venues associated with the Academy. Work chosen for this reason will be represented as illustrative of high standards and performance. **I consent** to the public showing of student work associated with the Academy.
9. **I understand** that the **METS Academy of Engineering** will establish and enforce reasonable rules necessary to create a safe, healthy, and respectful environment. **I consent** to reasonable rules.

I certify that I have read and understood the foregoing information and consent to its terms and that the information in this application is correct to the best of my knowledge. I hereby consent to my son/daughter's nomination to the **METS Academy of Engineering**.

Parent Sign Here

Parent/Guardian Signature

Date

Address, City, State, Zip Code

Cell Phone:

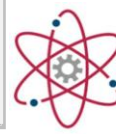
I certify that I have read and understood the foregoing information, that the information in this application is correct to the best of my knowledge, and that the information I have submitted is correct. I hereby submit my name for nomination to the **METS Academy of Engineering**.

Student Applicant's Signature

Date

Student Sign Here





Universal Field Trip Form

Parental Consent, Release, Program Description and Student Code of Conduct for Field Trip

Description:

In order for your son/daughter to take full advantage of the opportunities provided in the Academy of Engineering, we have created this “**UNIVESAL**” field trip form. This form is to be read, discussed, and completed by both you and your son/daughter. The Academy of Engineering will ALWAYS communicate to parent’s information about each field trip and/or extracurricular activity as they arise throughout the year.

Code of Conduct

In order to attend any Academy of Engineering field trip or extracurricular activity, your son/daughter must agree and pledge to the following:

- I promise to conduct myself in a professional manner at all times.
- I promise to behave in a courteous and respectful manner, refraining from language and actions that might bring discredit upon myself, my family, my school, or the Academy of Engineering.
- I promise to wear appropriate attire at all times.
- I promise to keep my advisor informed of my activities and whereabouts at all times.
- I promise to attend all sessions and activities.
- I promise not to use tobacco while attending the conference.

***Rule violation for any one of the following will result in immediate expulsion from the Academy of Engineering.**

- *I promise not to drink alcoholic beverages or use any form of narcotics.
- *I promise not to bring or possess any weapons.
- *I promise not to harm any of my fellow students or place myself or my fellow students in danger at any time.
- *I promise not to deface or damage any property or furnishings (individuals responsible for damaging or destroying school property or furnishings will be required to pay for their repair or replacement as deemed necessary by the school administration).

Student’s Signature

Date

Parent(s) Initials

CONDUCT DURING ACTIVITY

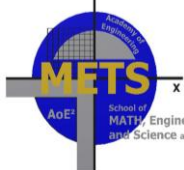
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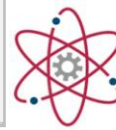
Parent’s Initial Here

I understand that my child’s participation in the activity is a privilege, and not a right. I acknowledge that I have spoken with my child about my child’s need to comply with the specific rules and requirements established for this activity; all District policies and procedures; rules of conduct set forth in the Student Code of Conduct; and, state and federal regulations and laws. I understand that all District rules and policies apply to my child and the other students during the course of the field trip.

TRANSPORTATION PERMISSIONS AND WAIVER

I also understand that private drivers, which may include my child (pending my written permission below), a teacher, an administrator, or the parent of another student participating in the activity, may be used to transport students to and from the activity. The owner of the vehicle must carry bodily injury insurance. The District’s insurance does not cover damages arising from, or related to, the operation of any private vehicle, failure to follow the directed driving route, or any personal negligence related to this activity. Any damages/harm resulting from a parent/guardian/or other designated driver (including student-drivers), arising from the operation of a motor vehicle in relation to the above listed activity, is hereby waived.





Please initial on the spaces to the left of each statement below to acknowledge your acceptance of the following permissions.

Parent's Initial Here

- My Child to Ride on School / Activity Bus**
- My Child to Ride with Private Drivers**
- My Child to Ride with Another Student Participating in Activity**
- My Child to Drive Their Own Personal Vehicle**
- My Child to Drive and Transport Other Students**

I also understand that I have the ability to refuse to sign this Form. In addition, that if I refuse to sign, my child will not be permitted to participate in the activity.

ACKNOWLEDGEMENT OF PERSONAL LIABILITY AND WAIVER

I also understand that this field trip may expose my child to some risks and I assume any such risk that may arise there from. I accept full responsibility for all medical expenses for any injuries that might occur to my child by reason of his/her participation.

By signing this form, I hereby release Charlotte Mecklenburg Schools, its Board, its Board members, administrators, directors, officers, teachers, employees, agents, and volunteers (“released parties”) from and against any and all claims, demands, actions, complaints, suits or other forms of liability that any of them may sustain (a) arising out of my child’s failure to comply with local, state, and federal laws and District policies, procedures, and the Code of Conduct; (b) arising out of any damage or injury caused by my child; or, (c) arising out of a parent/guardian/or other designated driver’s operation of a motor vehicle in relation to this activity. I also agree to indemnify and hold harmless the released parties from the released claims, including any and all related costs, attorney fees, liabilities, settlements, and/or judgments.

Routine or Emergency Medical Treatment

I do voluntarily authorize Charlotte Mecklenburg Schools, School of Math Engineering Technology and Science, Academy of Engineering, assistants and/or designee to administer and/or obtain routine or emergency diagnostic procedures and/or routine or emergency medical treatment for the above named person as deemed necessary in medical judgment. I agree to indemnify and hold harmless the Charlotte Mecklenburg Schools, School of Math Engineering Technology and Science, Academy of Engineering, and said medical service coordinator and/or assistants and designees from any and all claims, demands, actions, rights of action, on account of said procedures and/or treatment rendered in good faith and according to accepted medical standards.

Home Phone # Area Code _____ - _____ - _____

Work Phone # Area Code _____ - _____ - _____

Health Care Provider _____ Policy # _____

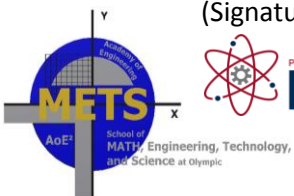
SIGNATURE

I confirm that I have carefully read this CONSENT AND RELEASE and agree to its terms knowingly and voluntarily. I also confirm that I am the parent or legal guardian of the child or I am a student 18 years or older. I have signed this CONSENT AND RELEASE this _____ day of _____, 20_____. This consent and release has been read and is understood by me.

Parent Sign Here

(Signature of Parent or Legal Guardian)

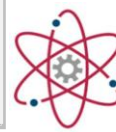
Date



Career and Technical Education

School of **Math, Engineering, Technology, & Science** @ Olympic

Attn: John Davis, Director, Academy of Engineering, Suite B, 4310 Sandy Porter Road, Charlotte, N.C. 28273, Phone 980-343-1101 ext. 4006216



Standard Photographic and Student Work Release

I, _____, parent or guardians of _____ do hereby grant to the Academy of Engineering (AoE) and the Charlotte-Mecklenburg School System the unlimited right to use and/or reproduce photographs, likenesses or the voice of my child in any legal manner and for the internal or external promotional/informational activities of the Charlotte-Mecklenburg School System.

I also agree to allow my child to be interviewed and/or photographed by representatives of the external news media in relation to any and all coverage of Academy of Engineering (AoE) and/or the Charlotte-Mecklenburg Schools System in which they are involved.

I also agree to allow my child's work and/or photograph to be published on the Academy of Engineering's web page and/or the Charlotte-Mecklenburg School System's Internet Web Pages.

I further understand that by signing the release, I waive any and all present or future compensation rights to the use of the above stated material(s).

(Signature of Parent/Guardian)

(Date)

Parent Sign Here

(Signature of Student)

(Date)

Student Sign Here

THIS INFORMATION TO BE COMPLETED BY SCHOOL OFFICIALS ONLY:

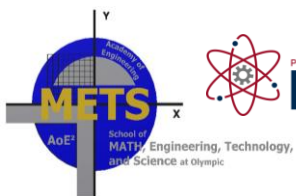
TYPE OF MATERIAL: Photograph ___ Slide ___ Videotape ___ Other _____
(Specify :)

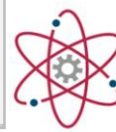
USE OF MATERIAL: _____
(Name of brochure, TV show, slide show, web pages, etc.)

YOUR NAME: _____ DATE: _____

Please return this form to:

Academy of Engineering
School of Math,
Engineering,
Technology, & Science
4301 Sandy Porter Road
Suite B
Charlotte, NC 28273





If you and your parents accept your admissions into the Academy of Engineering at the school of Math Engineering Technology and Science at Olympic community of schools please return or mail (return envelope provided) the completed application portion of this packet to:

METS School @ Olympic
Attn: John Davis, AoE Director
4301 Sandy Porter Road; Suite B
Charlotte, NC 28273

Academy of Engineering Participant

Student Information Survey

2016-2017

<http://www.quia.com/sv/748421.html>

Please visit the following website to complete the **REQUIRED** student information survey for the Academy of Engineering.

