

NORTH CAROLINA CHARTER SCHOOL APPLICATION

Public charter schools opening the fall of 2014

Queen City STEM School

Submitted to

North Carolina Department of Public Instruction
NCDPI/Office of Charter Schools
301 N. Wilmington Street
Raleigh NC 27601-2825
919-807-3491

By

Triad Math & Science Academy Company Inc.

March 1, 2013

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I. APPLICATION CONTACT INFORMATION

Name of proposed charter school: Queen City STEM School

Has the organization applied for 501(c)(3) non-profit status: Already received (**Appendix D**)

Name of non-profit organization under which charter will be organized or operated:

TRIAD MATH AND SCIENCE ACADEMY COMPANY INC

Provide the name of the person who will serve as **the primary contact** for this Application. **The primary contact** should serve as the contact for follow-up, interviews, and notices regarding this Application.

Name of contact person: Ali Tombak, Ph.D.

Title/Relationship to nonprofit: Board Member

Mailing address: 3529 Parkhill Crossing Dr., High Point, NC 27265

Primary telephone: 336-505-7089 **Alternative telephone:** 336-678-5223

E-Mail address: atombak@gmail.com

Name of county and local education agency (LEA) in which charter school will reside:

County: Mecklenburg County

LEA: Charlotte-Mecklenburg Schools

Is this application a Conversion from a traditional public school or private school?

No:

Yes: If so, Public or Private:

If yes, please provide the current school or organization web site address: **N/A**

If a private school, give the name of the private school being converted: **N/A**

If a traditional public school, give the name and six-digit identifier of the traditional public school being converted: **N/A**

Is this application being submitted as a replication of a current charter school model?

No:

Yes:

If replication, please provide the name of the charter school and the state that charter school has been authorized to operate in. **Triad Math and Science Academy in Guilford County, NC and Triangle Math and Science Academy in Wake County, NC**

What is the name of the nonprofit organization that governs this charter school?

TRIAD MATH AND SCIENCE ACADEMY COMPANY

Grade Levels Served and Total Student Enrollment:

Projected School Opening: Year **2014** Month **August**

Will this school operate on a year round schedule?

No:

Yes:

Proposed Grade Levels Served and Total Student Enrollment (10 Years)

Academic School Year	Grade Levels	Total Projected Student Enrollment
First Year	K-6	292
Second Year	K-7	358
Third Year	K-8	424
Fourth Year	K-9	490
Fifth Year	K-10	556
Sixth Year	K-11	622
Seventh Year	K-12	688
Eighth Year	K-12	754
Ninth Year	K-12	820
Tenth Year	K-12	820

The State Board of Education provides funds to charter schools, approves the original members of the boards of directors of the charter schools, has the authority to grant, supervise, and revoke charters, and demands full accountability from charter schools for school finances and student performance.

I certify that I have the authority to submit this application and that the founding board members and I were regularly involved in the development of this application. All information contained herein is complete and accurate. I realize that any misrepresentation could result in disqualification from the application process or revocation after award. I understand that incomplete applications may not be considered. The person named as the contact person for the application is so authorized to serve as the primary contact for this application on behalf of the applicant.

Signature

Title

Printed Name

Date

II. MISSION and PURPOSES

Mission:

State the Mission of the proposed charter school in **one hundred words or less**. The mission statement defines the organization's purpose and primary objectives, describing why it exists. The mission statement provides the foundation for the entire proposal.

The mission statement of the proposed charter school is as follows:

The mission of Queen City STEM School (QC-STEM) is to prepare students to become competent, responsible and successful individuals in our globalized and technology-based society through a strong academic program, school-family-community partnerships, and strong teacher-student relationships.

The purpose of QC-STEM is to provide a high-quality and enriching educational experience targeting 21st century outcomes for K-12 students in Mecklenburg County. Our core values are responsibility, respect, resilience, diversity, courage, and civility. Fundamental to our mission is commitment to active involvement of students, competent and caring staff and leadership, innovative and effective teaching strategies, and striving for academic excellence for all students.

Educational Need and Targeted Student Population of the Proposed Charter School

1. Provide a description of Targeted Population in terms of demographics. In your description, include how this population will reflect the racial and ethnic composition of the school system in which it is located. Describe the rationale for selecting the location and student body.

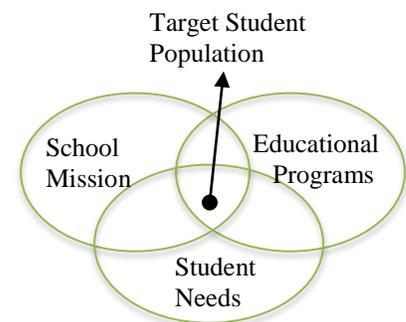
QC-STEM will attract students from all parts of Mecklenburg County and serve an economically and ethnically diverse student population. Low-achieving students from especially low income and socio-economically disadvantaged families will be attracted and helped using free after-school tutoring. High-achieving students will be offered special interest certification tracks and advanced curriculum opportunities, and will have a chance to prepare for nationwide and international competitions.

The overall profile of the prospective student population will likely represent the demographics of Charlotte-Mecklenburg Schools:

- 67 % Students of color
- 53 % Economically disadvantaged student ratio
- 33 % Limited English proficiency

Please refer to **Appendix A** and its subsections for the details of evidence of need

2. What will be the projected enrollment at the charter school and what percentage of the Average Daily Membership (ADM) does that reflect for the local LEA(s) that may be impacted?



The Year 1 enrollment at QC-STEM is targeted as 292 for K through 6. In each succeeding year the enrollment will be increased by 66, eventually reaching 556 at the end of Year 5. This total enrollment will have a negligible impact on the local district, which has over 140,000 students.

3. Explain how the charter school’s education plan will compare to or differ from that of the local LEA(s).

QC-STEM is modeled after two previously established successful charter schools in North Carolina’s Triad and Triangle regions. Triad Math and Science Academy (TMSA) of Greensboro, established in 2009, was recently designated as the “School of Distinction” based on the percentage of students performing at grade level and on whether students have learned as much as they are expected to learn in one year. Based on this success, Triangle Math and Science Academy of Raleigh was established in 2012. Now we are aiming to replicate this successful model emphasizing STEM education, technology integration, parent involvement, and extended programs both for over- and underachievers in Charlotte-Mecklenburg District.

4. In the appendices (Appendix A), you must provide evidence through a narrative or visual of this educational need through survey data, or times and locations of public meetings discussing this proposed charter school. (Please do not provide more than one sample survey form).

We have held public meetings in several Mecklenburg County Public Libraries. Please see **Appendix A** for times and locations of these meetings and detailed survey data.

Purposes of the Proposed Charter School

In one page or less, describe how the proposed charter school will achieve one or more of the six legislated purposes, as specifically addressed in the NC charter school statute GS 115C-238.29A, and the proposed school’s operations.

The Six Legislative Purposes of a Charter School are:

1. Create new professional opportunities for teachers, including the opportunities to be responsible for the learning program at the school site.

QC-STEMS will facilitate collaboration and teamwork among the school personnel including teachers, administrators and staff to maximize the continuing professional development. It will be encouraged to translate research into practice through membership and attendance to professional organizations and subscription to professional journals. Professional development opportunities including on-site and off-site trainings will be provided for teachers and other staff to keep up with the emerging standards, particularly in mathematics, science, and technology. Teachers will train on how the students’ assessment results could be used to inform educational decisions making process. Additional professional development opportunities will be provided about multicultural learning environment, diverse learners, classroom management and guiding positive behavior, English language learners, child and adolescent development, and various technology tools.

2. Hold schools accountable for meeting measurable student achievement results.

QC-STEM, by law, is subject to performance-based accountability through state-mandated tests. Similar to other charter schools, QC-STEM is also subject to performance-based accountability before the parents and students by being a school of choice. Additionally, QC-STEM is subject to financial accountability through use of the allocated funds for its programs.

3. Provide parents and students with expanded choices in the types of educational opportunities that are available within the public school system.

The following educational opportunities will be available for parents and students: strong mathematics and science focused curriculum; open enrollment that accepts all students around the district; small class size and low teacher-to-child ratio; compliance with federal and state regulations (e.g., Title 1); facilities such as science lab, biology lab, computer lab, gymnasium, auditorium, and designated spaces for specialized professionals; miscellaneous community projects such as field trips, guest speakers from institutions, and site visits; college credits and advanced programs; extended weekend and summer programs; before and after school programs; project-based programs with dedicated staff; Student clubs (e.g., chess clubs, table tennis clubs, language clubs); opportunities to participate in school-wide, state-wide and nation-wide competitions like the science/STEM fairs, home visits, parent volunteering, newsletters; free tutoring.

4. Improving student learning.

QC-STEM will employ active learning methods that aim to enhance learning process by shifting the focus of teaching from teacher to learners. In its active learning structure, QC-STEM will also apply the following techniques to improve student learning: **1) Curriculum-led improvement** focusing on improving the quality, pattern and structure of day-by-day learning activities in the classroom. **2) Technology-integrated instruction** for inquiry of communication, construction, and expression. Classrooms will be equipped with smart boards, document cameras, iPads and other instructional technology. **3) Family-school-community partnership** facilitated through classroom and school newsletters, parent-teacher conferences, home visits, parent volunteering, family nights, collaboration with the local colleges and universities, and field trips. **4) Extended programs** before and after school and on the weekends including, but not limited to homework help, tutoring, foreign language learning, sports, music and art. **5) A community-centered learning environment** will be created to help students build confidence and believe that “they can do well, find the meaning and value in the material learned and feel that they are valued members of the learning community” via partnership with local colleges/universities. **6) Small class sizes** targeting a teacher-to-student ratio of 1:16 with a maximum class size of 22. **7) Assessment-driven instruction** employing online Progress Monitoring System (PMS) such as by deploying “Measure of Academic Progress” (MAP) testing. **8) Cognitively oriented instruction** to promote the use of metacognitive skills such as reflecting student’s own thinking process and developing effective learning strategies.

5. Increasing learning opportunities for all students, with a special emphasis on at-risk or gifted students.

Our approach to students at risk of academic failure is “catch them before they fall” through on-going observation and assessment. Increasing students’ self-efficacy and motivation to learn,

providing supplemental and extended instruction, and if necessary, an intense and individualized intervention are among our key approaches in addition to individualized student instruction, tutoring, small group instruction, family involvement, and extended programs. Instruction designed to enhance language acquisition as well as content comprehension of English Language Learner students will be provided.

Academically or Intellectually Gifted (AIG) Students will be identified by Test of Cognitive Skills (TCS) and will be offered individualized educational plans (IEP). Highly qualified teachers will be recruited. Collaboration with higher education institutions, participation in academic competitions, summer camps, and advanced curriculum opportunities will also be offered for AIG students.

6. Encourage the use of different and innovative teaching methods.

Problem-based learning, based on using the knowledge as a means to apply and solve the problem, will be used both as a pedagogical approach and curriculum design methodology. Technology integration is the primary signature of QC-STEM. Technology will be simultaneously incorporated in teaching and curriculum, as the integration of *technology* will serve *for inquiry, communication, construction and expression* as well as for assessment. Action research will be employed as a practical, yet systematic research method to help teachers investigate their own teaching and their students’ learning in and outside the classroom.

Goals for the Proposed Charter School

- 1. How will the governing board know that the proposed public charter school has attained their mission statement? What metrics will be used to gauge that success, and how often will the metrics be reviewed in your analysis?**

Consistent with our mission statement, the governing board will utilize the following metrics to ensure that QC STEM is preparing students to become competent, responsible and successful individuals in our globalized and technology-based society. The governing board will know whether the proposed school has been attaining our mission during its periodic review as shown below.

Metric	Benchmark/Target	Reviewed
Growing Enrollment	Meeting proposed Annual Enrollment Targets	Quarterly
Academic Performance	Scoring above county and state averages on EOG exams	Annually
Staff Retention	Maintaining lower staff turnover than county and state averages	Quarterly
Fiscal Performance	Maintaining balanced budget each year	Monthly
College Prep	# of graduates who are admitted to a Four-college	Annually once 12 grades graduate
STEM Attainment	More than half of our # of students pursuing a college degree will be in STEM fields.	Annually once 12 grades graduate

2. Provide specific and measurable student achievement performance goals for the school’s educational program and the method of demonstrating that students have attained the skills and knowledge specified for those goals. These goals should include specific and measurable performance objectives over the first five years of the schools existence.

Student Performance Goals	Annual Performance Objectives	Method of Demonstration
Subject Level Competency	Students should score higher than county and state averages at every level on EOG tests in every year	EOG Test Results
Academic progress via National Norm Test	All students should increase performance/knowledge in core subjects indicating their academic progress by a national norm test in every year.	MAP Testing Analysis (Administered 3 times a year (Fall/Winter/Spring))
STEM Attainment/Participation	More than 90% of students school-wide should actively participate in STEM fair with a project in every year.	Annual School STEM Fair
Character/Behavioral Development	Campus violence and other disruptive behaviors should decrease every year in order to maintain safe and healthy learning environment.	# of Discipline referrals & Online demerit system to track student behavior.
Full-time Matriculation	Maintaining no less than 90% monthly average attendance.	Monthly ADM reports
Graduation	We will maintain a graduation percentage that is equal to or higher than the state average in every year.	Number of diplomas each year.

III. EDUCATION PLAN

NOTE: *All sections of the Education Plan should align with all other sections of this application. The State Board of Education shall give priority consideration to the applicants who demonstrate potential for significant, meaningful innovation in education. Provide precise and clear explanations. Lack of response to any question or proper documentation could deem the application incomplete.*

Instructional Program

Provide a detailed description of the overall instructional program of the proposed charter school, including major instructional methods, assessment strategies, and explain how this instructional program and model meet the needs of the targeted student population.

K-8 Curriculum and Instructional Design:

Describe the basic learning environment (e.g., classroom-based, independent study), including class size and structure.

Queen City STEM's curriculum has been adopted from the *Triad Math and Science Academy* model, a charter school in Guilford County under NC Charter School Law. This model employs an inquiry-based curriculum, which is research-based and has been proven through extensive field studies across the nation. These studies showed that the curriculum has improved student learning and has been found appropriate for all student populations, including at-risk of academic failure and academically-gifted students. Our average class size is 20. We departmentalize starting with 4th Grade.

Using the Triad Math and Science Academy model, Queen City STEM will ensure students make expected progress towards successful high school graduation and college acceptance. The instructional approach and school environment will sharpen students' skills and prepare them to pursue a high profile career, preferably a STEM career through our Technology Integrated Education and Advanced Studies Programs.

Queen City STEM's teaching approach includes culturally responsive teaching by (1) acknowledging the cultural differences as they affect students' dispositions, attitudes, and approaches to learning, (2) incorporating cultural differences as a content to be taught in the formal curriculum and (3) using instructional strategies that meet the needs of students with different learning styles¹. Thus, the learning environment will be positive and encouraging, and based on mutual respect, responsibility, and caring. It will operate based on the respect for the differences in beliefs, values and cultural variations. A sense of belonging will be created among the students.

Teachers meet the students at where they are. Learning activities will be built to meet students' existing needs, and take the student to a higher level as high and reasonable expectations will be held for all students. To accomplish this goal, students will be given assignments that are challenging, but can be accomplished; like using appropriate technology to build small projects,

¹ Gay, G. (2000). *Culturally Responsive Teaching: Theory, Research, & Practice*. New York: Teachers College Press.

presenting their projects, and communicating with experts, classmates, teachers about their projects.

Active engagement of students is also critical. Every student will be provided with opportunities to develop and learn. Students will be actively involved in their learning, by doing, writing, making, debating, role playing, brainstorming, discussing, designing, problem solving, creating, demonstrating, and so on. Starting with 2013-14 academic year the Board of TMSA schools is considering to require that 50% of science instruction will be hands on or labs.

Problem-based learning: As opposed to rote memorization of the knowledge through problem-based learning, students will apply the knowledge in real-life situations and solve the problem². Using problem-based learning prepares students to be effective communicators, effective collaborators, critical and creative thinkers and active learners.

Provide a synopsis of the planned curriculum, including:

1. One sample course scope and sequence (preferably in graph form) in the Appendices (Appendix B) for one core subject (specific to the school's purpose) for each division (elementary, middle) the school would ultimately serve.

Please see **Appendix B** for sample course scope and sequence for elementary and middle grades.

2. Identify how this curriculum aligns with the proposed charter school's mission, targeted student population, and North Carolina Accountability Model.

Queen City STEM is proposing a Science, Technology, Engineering, and Math (STEM) program which will customize TMSA's academic program with a specific focus on Mathematics & Science. Our mission includes developing students' capacity to succeed in college. The STEM program that we are proposing will prepare Mecklenburg County students for higher education especially in the field of technology as the U.S. demand for scientists and engineers is expected to increase four times the rate for all other occupations during the next decade³. At Queen City STEM, the curricula for all subject areas are rigorous and aligned with the NC Standard Course of Study. In addition, early years are important for building strong mathematics skills. Students with stronger mathematics skills at early grades perform better on mathematics and reading tests in upper grades. Thus, the focus of the: Grades K-3 is to build a strong language, literacy, and mathematics skills. Science and social studies are naturally integrated through themes. All instruction will be supported by the technology. Grades 4-5: Focus starts shifting from general elementary education towards more science related classroom activities and advanced mathematics while NC Standard Course of Study are followed. Grades 6-8, besides all core subject areas (NC Standard Course of Study and Common Core Standards), will have a strong focus on science and mathematics skills through integrated technology. Students will be exposed to high school math in middle school. For example, 8th grade students can take Geometry if they have met the prerequisites.

Triangle Math and Science Academy's curriculum explores such an education system in which all the students are required to be fully active. It aims to graduate students whom will take

² Boud, D. & Feletti, G. (1999). *The challenge of problem-based learning*. (2nd Ed.), London: Kogan Page.

³ http://www.usinnovation.org/state/pdf_stem/STEMEdMaryland2010.pdf

learning as a lifelong activity in order to meet the needs of this 21st century. All students from different socioeconomic levels, including low-income and underrepresented minority students, are welcome to Queen City STEM education program. For the economy and society, we should be encouraging more students to study STEM. While 40% of the world’s scientists and engineers resided in the U.S. about 30 years ago, today that number has shrunk to about 15%⁴. According to Rodney C. Adkins, senior vice president of [IBM](#)’s Systems & Technology Group we need to increase the size of the STEM education pipeline by motivating students for science, technology, engineering and math throughout high school and college; and to improve the composition of the STEM education to include more women and underrepresented minorities. [Mecklenburg County](#) is the second-largest school district in [North Carolina](#) with over 135,600 students enrolled in Charlotte-Mecklenburg Schools, where 67% are underrepresented minorities (as seen in the figure below).

Student Demographics:

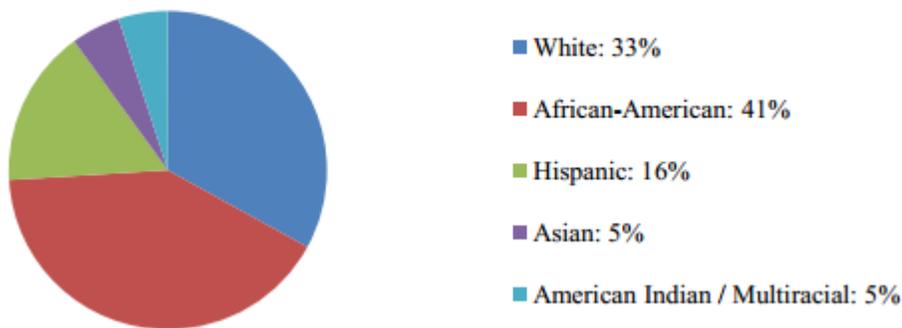


Figure 3.1: Student demographics. Adopted from 2011 Board Prize, Charlotte-Mecklenburg Schools.

Queen City STEM will participate in the NC ABCs Accountability Model and conduct the statewide testing required as in all NC public schools; hence achievement goals will be based on the results obtained from the assessments in the ABCs Accountability Model.

Specific achievement goals are given below for each academic school year:

The percentage of Queen City STEM students who score at Level 3 or above in reading tested in End of Grade (EOG) at any grade will exceed the same of 85% of non-charter public schools with similar demographics in Charlotte-Mecklenburg Schools.

The percentage of Queen City STEM students who score at Level 3 or above in mathematics tested in End of Grade (EOG) at any grade will exceed the same of 85% of non-charter public schools with similar demographics in Charlotte-Mecklenburg Schools.

The percentage of Queen City STEM students who score at Level 3 or above in writing tested in North Carolina Writing Assessments at grade 4* and 7* will exceed the same of 85% of non-charter public schools with similar demographics in Mecklenburg County Public School system. (*These assessments are currently piloted state-wide.)

The percentage of Queen City STEM students who score at Level 3 or above in any subject tested in End of Course (EOC) at any grade will exceed the same of 85% of non-charter public schools with similar demographics in Charlotte-Mecklenburg Schools.

⁴ <http://www.forbes.com/sites/forbesleadershipforum/2012/07/09/america-desperately-needs-more-stem-students-heres-how-to-get-them/>

The percentage of Queen City STEM students who are eligible for free and reduced lunch and who score at Level 3 and above in subjects tested in EOC or EOG will exceed the same of 85% of non-charter public schools with similar demographics in Charlotte-Mecklenburg Schools.

- Describe the primary instructional strategies that the school will expect teachers to master and explain why these strategies will result in increased academic achievement for the targeted student population.

Our educational model begins with a firm belief that all students can learn and more students will learn if material is presented in a variety of engaging ways. One method does not work for all students all the time. A variety of learning styles instructional strategies need to be incorporated and students need to be motivated to achieve a productive learning environment. We strongly believe in a student-centered experiential learning environment where students will have the opportunity to work collaboratively on reflective, hands-on assignments. Queen City STEM’s learning environment will be designed to meet a wide range of academic levels and learning styles within the multi-age classroom setting. Low pupil-to-teacher ratio, individualized and group instruction, instructional technology such as Smart-boards, and multi-sensory teaching approaches and child-centered learning will be classroom features that will help students meet their academic potential in the least restrictive educational environment. Recognizing that educational success will be realized only when the essential student-teacher-parent triad functions in school, Queen City STEM will provide our youth with the support necessary to reach their highest intellectual, social, emotional, and physical potential. This mission requires vision and innovation, as revealed in the educational process design explained below:

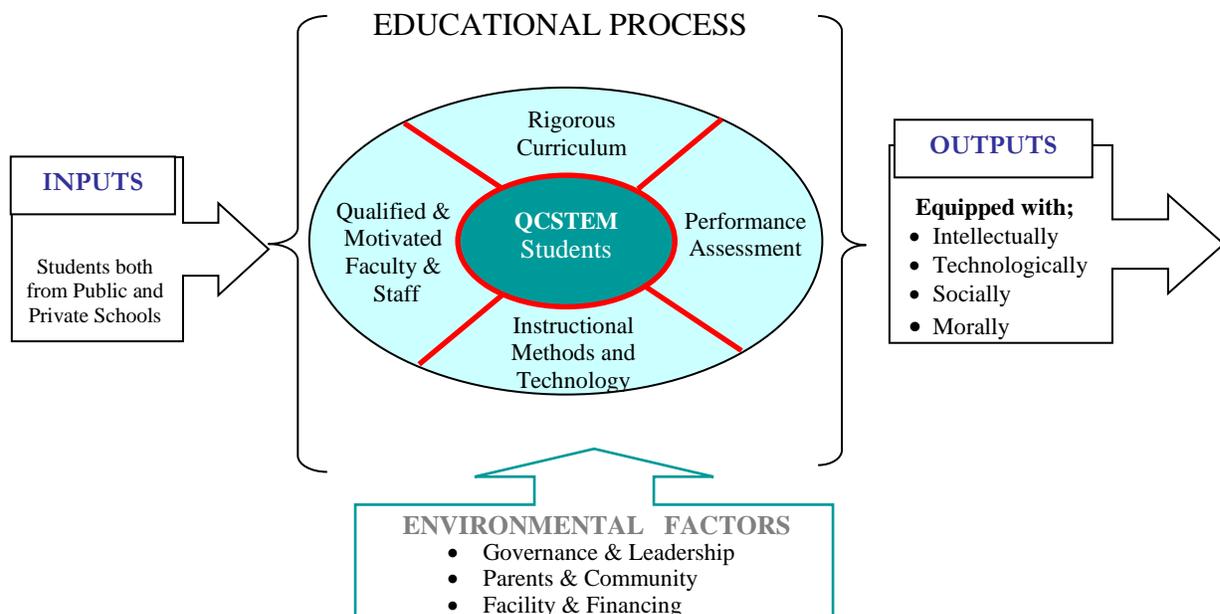


Figure 3.2: Educational Process at Queen City STEM

Queen City STEM’s teaching philosophy finds its roots primarily in constructivism. Constructivist theory focuses on each student’s unique way of learning and creating their own knowledge by integrating their existing knowledge with the new knowledge. To support students

to form their personal understanding, Queen City STEM will use teaching approaches that allow students to get involved in effective learning experiences such as indirect instruction; project-based learning, discovery learning, and student-centered learning that will be explained in detail later in this document. We believe that our teachers will benefit from such instructional methods and related teaching approaches, and thus they will be able to sustain a high quality teaching and learning atmosphere in the classroom. Additionally, data-driven instruction is an important part of our instructional model. Turning data into usable information is a challenging task and professional development is critical to implement a data-driven instruction. Unfortunately, most teachers are not prepared to transfer the student data into usable information⁵. Therefore, teachers will be training on how the students' assessment results could be used to inform educational decisions.

Queen City STEM believes in the value and importance of integrating multimedia learning & teaching approaches and computer assisted instruction in all the learning and teaching approaches presented above. Both multimedia learning principles and computer assisted instruction facilitate students' learning. Mayer and Moreno (2007)⁶ state that students, who acquire any information through multimedia whether it is verbal, image-base, text-base, or visual, learn more because information presented in this way employs multiple cognitive processes that support enhanced learning. Queen City STEM specifically believes that computer-assisted instruction improves education of all students due to the immediate feedback in the process. Computers also provide opportunities for a wide range of exploration, especially for academically gifted students. In conclusion, multimedia learning and computer assisted instruction in Queen City STEM lesson plans will result in better educational environments for both the students as well as the teachers.

4. Provide a school academic calendar (minimum of 185 instructional days or 1,025 hours) and a brief narrative on how the calendar coincides with the tenets of the proposed mission and education plan.

Queen City STEM will offer instruction for at least 185 days by following Charlotte-Mecklenburg Schools' calendar. However, the school reserves the right to make any necessary change in the calendar as long as said change(s) is/are in compliance with NCGS 115C-238.29F(d)(1).

High School Curriculum and Instructional Design:

Describe the basic learning environment (e.g., classroom-based, independent study), including class size and structure.

Well-defined and implemented curriculum: Center for Science, Mathematics, and Engineering Education emphasize the *“importance of defining and coordinating [mathematics and science] curricula across the 13-year span — based on standards in use by local school districts — as a*

⁵ Wayman, J.C. (2005). Involving teachers in data driven decision making: Using Computer Data Systems to Support Teacher Inquiry and Reflection. *Journal Of Education For Students Placed At Risk*, 10(3), 295–308

⁶ Moreno, R., & Mayer, R. E. (2007). *Interactive multimodal learning environments. Educational Psychology Review*, 19, 309-326.

way to improve the quality of education⁷". Queen City STEM will use standards-based mathematics, science and language arts curriculum, supported by National Science Foundation and research.

As mentioned earlier in this document, Queen City STEM's curriculum has been adopted from the *Triad Math and Science Academy* model, a charter school in Guilford County under NC Charter School Law. This model employs an inquiry-based curriculum, which is research-based and has been proven through extensive field studies across the nation. At the high school level, in addition to the core areas, there will be an emphasis on information technologies and advanced placement courses. TMS Academy will also have a focus on college preparation with individualized SAT tutoring and customized practice testing opportunities. Such an approach will ensure that TMS Academy graduates will be prepared to pursue both advanced degrees in STEM fields and also seek career and internship opportunities in the local high-tech companies and research institutes (e.g. NSA, NASA, NIH, Lockheed Martin, etc).

Active engagement of students and problem-based learning are two important component of the instruction in Queen City STEM at the high school level as the same as the K-8. To ensure effective use of these instructional methods, some of the strategies we will employ are: Use of whole class, small group and pair instruction effectively and in a balanced way; use of metacognitive skills, such as reflecting their own thinking process, and developing effective learning strategies; the peer tutoring and tutoring strategies will be used to provide additional learning opportunities for students at risk of academic failure. Teachers will structure, monitor, and initiate the tutoring process and students will be prepared for the process⁸.

All core subject areas are essential in students' learning in all grade levels. Nonetheless, learning to read is the most important skill students need to learn to be successful in school and life. While Queen City STEM is developing comprehension and vocabulary skills, and strong mathematics skills at early grades; Grades 9-12 will be to develop a focused science, mathematics and technology skills towards higher education. Students will be guided to help choose STEM career pathways and follow college preparatory programs.

Characteristics of the physical learning environment: The physical learning environment will be created with a variety of interest centers where children can pursue special projects. The materials will be stored in enough space and at the students' eye level so that students can access easily. Students in the classroom work with paper, cardboard, wood, leather, cloth, yarns, clay and sand, and the metals, with and without tools by employing the process of folding, cutting, pricking, measuring, molding, modeling, pattern-making, heating and cooling, and the operations characteristic of such tools as the hammer, saw, file, etc. Students are provided with active occupations such as outdoor excursions.

⁷ Center for Science, Mathematics, and Engineering Education (CSMEE; 1999). *Designing Mathematics or Science Curriculum Programs: A Guide for Using Mathematics and Science Education Standards*

⁸ Barley, Z., Lauer, P.A., Arens, S.A., Apthorp, H.S., Englert, K.S., Snow, D., & Akiba, M. (2002). *Helping At-Risk Students Meet Standards: A Synthesis of Evidence-Based Classroom Practices*. Aurora, CO: Mid-Continent Research for Education and Learning

Provide a synopsis of the planned curriculum, including:

- 1. One sample course scope and sequence for one core subject (specific to the school's purpose) (Appendix B1).**

Please see **Appendix B1** for Geometry course scope and sequence for 9th grade for Queen City STEM High School.

- 2. As Appendix B2, provide a visual disseminating what courses (core content and electives) will be offered in year one through year five of the charter high school. Please ensure the projected staff and budget aligns with the course offerings.**

Please see **Appendix B2** for Queen City STEM High School course offerings.

- 3. Identify how this curriculum aligns with the proposed charter school's mission, targeted student population, and North Carolina Accountability Model.**

Queen City STEM is proposing a Science, Technology, Engineering, and Math (STEM) program which will customize TMSA's academic program with a specific focus on Mathematics & Science. Our mission includes developing students' capacity to succeed in college. The STEM program that we are proposing will prepare Mecklenburg County students for higher education especially in technical fields.

It is Queen City STEM's goal to address needs of students in the targeted area in the most efficient and productive way possible, and thus play a supplemental role to the existing public school system. In this regard, Queen City STEM will implement an innovative, technology-integrated educational program that builds up a rigorous academic background in a nurturing, productive, safe, and disciplined learning environment. Queen City STEM's innovative educational approach will allow the school to pursue its performance targets of exceeding the district's SAT averages, greatly surpassing the district's EOG and HSA proficiency test averages, and achieving high college acceptance rates.

Queen City STEM will participate in the NC ABCs Accountability Model and conduct the statewide testing required as in all NC public schools; hence achievement goals will be based on the results obtained from the assessments in the ABCs Accountability Model.

Addition to the achievement goals that are given for K-8 level, some specific achievement goals for Queen City STEM High School for each academic school year:

- The percentage of Queen City STEM students who score at Level 3 or above in writing tested in North Carolina Writing Assessments at grade 10 will exceed the same of 85% of non-charter public schools with similar demographics in Charlotte-Mecklenburg Schools.
- The mean score of Queen City STEM juniors and seniors who take the SAT Test or
- American College Testing (ACT) will exceed the same of 85% of non-charter public schools with similar demographics in Charlotte-Mecklenburg Schools.
- Student graduation rate at Queen City STEM will be higher than the same of 85% of non-charter public schools with similar demographics in Charlotte-Mecklenburg Schools.

- College acceptance rate of Queen City STEM students will be higher than the same of 85% of non-charter public schools with similar demographics in Charlotte-Mecklenburg Schools.
- 4. Describe the primary instructional strategies that the school will expect teachers to master and explain why these strategies will result in increased academic achievement for the targeted student population.**

Brief description of the Instructional Methods and the related Teaching Approaches:

Indirect Instruction: Indirect instruction is a teaching and learning approach in which concepts, patterns, and abstractions are taught in the context of strategies that emphasize concept learning, inquiry, and problem solving. Constructivist teaching approach supports the usage of indirect instruction in the school settings. As Queen City STEM, we believe that the best way to apply indirect instruction is to design and sequence constructivist lessons to encourage learners to use their own experiences to actively construct meaning. The nature of constructivist lessons at Queen City STEM will have the following characteristics: promoting development of higher level and abstract thinking, promoting critical thinking and questioning, promoting collaboration and cooperation within the classroom, use of questions to guide investigation and discovery, encouraging students' self reflection and evaluation

- Using students' ideas to organize the lesson around each student's needs and interests,
- Encouraging students' positive attitudes towards learning.

Project Based Learning: Queen City STEM provides a project-based learning environment by utilizing technological tools and authentic, challenging tasks embedded in course projects. The usage of technological tools in challenging projects embedded in Queen City STEM lessons can contribute to students' sense of authenticity and to the "real-life" quality of the task at hand. Queen City STEM lessons establish a learning environment which includes many connections with real life situations. These connections are facilitated with the use of technology for simulations and virtual manipulative and with the use of computer software (e.g., Spreadsheet, Fathom, Thinker Plot, GSP). The accessibility of these technological tools that are used for challenging tasks in the project based learning allows Queen City STEM students to aspire to a level of effort and quality of product that more closely reflects what they see and know of the real world.

Discovery Learning: Students are more likely to remember concepts they discover through their own experiences. Queen City STEM teachers will provide an appropriate teaching and learning environment to better serve each student's understanding and learning abilities by acting as a facilitator and using appropriate instructional technology tools. Current technology allows creation of virtual environments for students to explore, examine, and investigate. Queen City STEM teachers will use innovative technological tools to provide additional discovery learning opportunities. In this learning approach, students will have a chance to observe and reflect on their first-hand experience, and thus, generate solution strategies. This process is illustrated in the chart below.

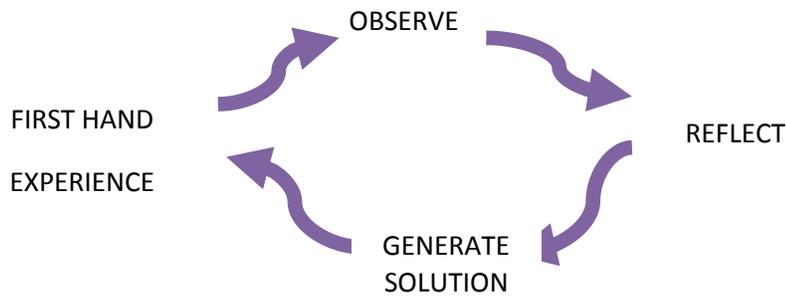


Figure 3.3: Discovery Learning Flow Chart

Student Centered Learning: At Queen City STEM, learning and teaching activities will be focused on each student’s learning style, interests, abilities, characteristics, and cultural settings. A student-centered learning environment will be established via **creation of lesson activities that promote increased responsibility and accountability of the student in the classroom.** These activities will be engineered to possess the following characteristics:

- Outside settings and classroom settings that enable each student to work consistent with their interest and abilities. For example, Queen City STEM teachers will use various group techniques, including small group and pair instruction, for discussion in the classroom so each individual have opportunity express his/her thinking.
- Portfolio development so students have the chance to reflect their own way of learning.
- Technology integration in the activities. Queen City STEM teachers will use technology to enhance the learning diversity for each student’s characteristics, interests and needs.
- Technological assessment tools will be used after the activities. Queen City STEM will use diverse assessment tools (e.g., portfolio, self reflection, website creation) to address each student’s individual learning styles and, assess and diagnose each student’s learning level, needs, strengths, and weaknesses.

5. Explain how the proposed instructional plan and graduation requirements will ensure student readiness for college or other postsecondary opportunities (trade school, military service, or entering the workforce).

Queen City STEM students will experience intense and individualized instruction, especially in mathematics and IT, thus acquiring a strong academic background for a successful higher education. They will be provided opportunities for internships, projects, and in science fairs to gain hands-on experience and also observe, firsthand, real-world applications of the concepts they learn in class. One-on-one tutoring and peer-study groups will also be available for students to further assist them in their studies. At Queen City STEM, we will expose our children to a variety of perspectives by means of technology, and we will challenge our students with high quality math and science curricula.

The United States has entered into a significant national decline in the number of college graduates with STEM degrees. This downward trend is an issue of national importance as it affects the country’s capacity to maintain a technological lead in critical skills and disciplines related to mathematics and science. The ability to compete on the increasingly internationalized stage will be hindered without college graduates with the ability to understand and invent cutting

edge technologies in the decades to come. While the foundational skills to succeed in STEM fields will be built in early grades in Queen City STEM; students' mathematics and science skills will be sharpened during their high school experience. Indeed, a strong mathematics and science foundation is critical to succeed in college regardless of the field attained. Furthermore, as we move towards a more technology-based and globalized world, the importance of mathematics and science for functioning in the society effectively is indisputable.

In addition to the academic welfare of the Charlotte-Mecklenburg Schools' students, their social welfare will also be top priority. Therefore, we will integrate "Character Education" programs into the fabric of our curriculum to help with value formation while helping to boost academic performance. According to reports released by the Character Education Partnership (CEP), schools that integrated character education into the fabric of their curricula and cultures (for example, CEP's National Schools of Character) experienced improvement in academic achievement, behavior, school culture, peer interaction, and parental involvement. Through character education programs, students develop performance habits and intellectual qualities that enable them to perform at their highest potential not only in school but also in their personal and professional lives. These dual functions of character education work together in mutually supportive and complimentary ways. Research has shown that schools implementing good character education programs report, on the one hand, reduced levels of violence, crime, disruptive behavior, and discipline referrals, while on the other, improved attendance and academic achievement.

- 6. Provide a school academic calendar (minimum of 185 instructional days or 1,025 hours) and a brief narrative on how the calendar coincides with the tenets of the proposed mission and education plan.**

Queen City STEM will offer instruction for at least 185 days by following Charlotte-Mecklenburg Schools' calendar. However, the school reserves the right to make any necessary change in the calendar as long as said change(s) is/are in compliance with NCGS 115C-238.29F(d)(1).

Special Programs and "At-Risk" Students

- 1. Describe the methods and clear systems of prevention and intervention teachers will utilize to provide assistance to students that are not performing at expected levels: ensuring continued progress and academic student growth.**

According to research students with limited English proficiency, students from minority groups, and students from low socio economic backgrounds are at risk of academic failure. We believe in a "catch them before they fall" approach for our at risk students. On-going observations and assessments are critical for early identification of at-risk students. To improve learning of students who are identified as at risk of academic failure, we follow a three-tiered approach that will be explained in detail later in this document.

- 2. Explain how the instructional plan and curriculum will meet the needs of English Language Learner (ELL) students, including the following:**
 - a) Methods for identifying ELL students.**

The WIDA-ACCESS Placement Test (W-APT™) is the assessment used in North Carolina for initial identification and placement of students identified as limited English proficient. Eligibility assessment on the W-APT is based on results of the Home Language Survey (HLS) process. The HLS process, identification, and subsequent placement of limited English proficient students in English as a Second Language (ELL/ESL) services are guided at the state level by the NCDPI Curriculum and Instruction Division.

b) Specific instructional programs, practices, and strategies the school will employ to ensure academic success and equitable access to the core academic program for these students.

- Differentiated instruction to meet the needs of all learners
- ELL/ESL pull outs
- Stand-alone ELL/ESL programs
- Cooperative learning
- Content based ELL/ESL programs
- Certified ELL staff
- Collaborative teaching with other teachers

c) Plans for monitoring and evaluating the progress and success of ELL students, including exiting students from ELL services.

The ESL teacher closely monitors the student's development of social communicative language and academic language proficiency during the school year.

A series of steps are taken for monitoring and guiding student progress:

- Ongoing monitoring of development of language and content skills/knowledge as the student progresses through the individualized program of instruction (Assessments of student work are used to determine appropriate instructional approaches, adaptations, materials and coursework).
- Determining when the student has acquired the academic language proficiency necessary to be placed full-time at the appropriate grade level in the regular instructional program without ELL/ESL services (exit criteria);
- Post-service monitoring to ensure successful transition into the regular instructional program;
- Periodic program evaluation to ensure that language and academic support services for ELL/ESL students are effective.

3. Explain how the school will identify and meet the needs of intellectually gifted students, including the following:

Academically or Intellectually Gifted (AIG) Students

Queen City STEM will work closely with the AIG Office⁹ of Charlotte-Mecklenburg Schools to make sure that our future Academically or Intellectually Gifted (AIG) students showing high performance capability academically and intellectually are correctly identified and their highly unique and specialized needs are fully met in our nurturing school environment. Queen City STEM will establish an AIG Committee Review Team to be comprised of an Administrator,

⁹ http://www1.CMS.org/tag/?ekmensel=c580fa7b_1852_0_btmlink

AIG Coordinator, classroom teachers, special educator and English for Speakers of Other Languages (ESOL) teacher where applicable. This committee will meet to review nominations and pertinent data to determine the continuation of the screening process for identification.

Amazingly gifted children who receive no special educational services often perform lower on standardized tests than their non-gifted peers. Queen City STEM School’s elective curriculum is aimed to provide extra enrichment opportunities for AIG students. Queen City STEM School’s mission statement promotes an education system that enables “all learners to develop their individual potential.” For AIG students, this requires opportunities to develop in ways which may far exceed expected learning outcomes for their age.

How Children are identified for AIG Placement?

Queen City STEM will find out whether each student was already placed in a AIG program before; students who have previously been designated as AIG will then be further screened by Queen City STEM School to confirm eligibility.

Children who have been identified as AIG have the potential to achieve high levels of accomplishments, and this potential needs to be recognized and addressed correctly. These students exhibit unusual performance capability in intellectual, creative, and/or artistic endeavors. They may also demonstrate exceptional leadership and may excel in specific academic areas. In order to meet their needs and develop their abilities, these highly able learners require a differentiated curriculum providing advanced learning opportunities.

If there is no record available about a student who claims to have been classified as AIG, then the student will be advised to take one or more tests, such as Common Test of Basic Skills, Stanford Achievement Test, Weschler serious of IQ tests, and Stanford-Binet test

Gifted children tend to think differently and learn more quickly than their peers. Compare a gifted child (IQ = 130) to an average child (IQ=100) you will see the difference: the gifted child learns quicker, thinks more deeply, and draws conclusions more easily. Compare that gifted child (IQ=130) to the highly gifted child (IQ=160). Again, you will see the difference, in many of the same ways. Now compare the highly gifted child to the normal child, and you face a chasm that by the end of elementary school may place these two children as much as 5 years apart in mental age.

IQ	Classification ¹⁰
130-145	Moderately Gifted
145-160	Highly Gifted
160-180	Exceptionally Gifted
180 and above	Profoundly Gifted

- a) Specific instructional programs, practices, strategies, and opportunities the school will employ or provide to enhance their abilities.

Queen City STEM will adhere to the following program when educating AIG students:

¹⁰ Miraca U. M. Gross, *Exceptionally Gifted Children*, Routledge; First edition (April 19, 1993)

1. Emphasizing skills in critical thinking, problem solving, and inquiry.
2. Involving the student in selecting and planning field trips.
3. Planning and providing optional and voluntary enrichment activities.
4. Planning assignments and activities that challenge the students to the full extent of their abilities.
5. Providing in-class seminars for students to discuss topics and problems that they are pursuing individually or as members of a learning team.
6. Providing independent and joint learning opportunities.
7. Working with individual students in the planning of their own objectives and activities for learning.

Queen City STEM believes that all students are entitled to equal access to learning and achievement. We provide this access by placing exceptional students in the most enabling learning environment possible.

AIG Program at Queen City STEM

Once a student is identified as an AIG student, with the signed consent from their legal guardians, Queen City STEM will take the following steps:

- This student will be invited to Queen City STEM’s Advanced Placement Program.
- Students will be observed during the first half of the academic year. If teachers report that the student has the necessary academic potential, the student will be invited to a special interest team such as the Science Olympiad Team or the Math Olympiad Team and students will be placed in Special Interest Certification Programs as shown in the chart below:



b) Plans for monitoring and evaluating the progress and success of intellectually gifted students.

Queen City STEM monitors and evaluates all gifted students to ensure students are making learning gains. Goals will be established based on each student’s gifted level and these goals will be stated in each student’s individualized educational plans (IEP). Teachers who have gifted students in the classrooms monitor the students’ progress to ensure the gifted students achieve successful completion of the gifted goals in the general education setting. The special education teacher is required to maintain a record of the services as related to the IEP goals. Goals for

gifted learners will be monitored to ensure the gifted services provide focus on expected outcomes as indicated in the IEP document, and these goals are clearly intended to ensure increased academic gains. The AIG committee review team will meet to evaluate the program and to facilitate effective changes as needed.

Exceptional Children

The public charter school cannot deny admission to any child eligible for special education services as identified under the federal legislation *Individuals with Disabilities Education Improvement Act (IDEA)* Amendments of 2004 (20 U.S.C. 1400 et seq.), IDEA regulations, and Article 9 115C of the North Carolina General Statutes, North Carolina Policies *Governing Services for Children with Disabilities*. All public schools are responsible for hiring licensed and ‘highly qualified’ special educators pursuant to law. Public schools are required to provide a full continuum of services to meet the unique needs of ALL students with disabilities.

Identification and Records

- 1. Explain how you will identify students who are enrolled within the charter school that have previously been found to be eligible for special education services or are protected under Section 504 of the Rehabilitation Act.**

Students with special needs, including students eligible under Section 504, will be identified according to the NC Department of Public Instruction regulations and recommended procedures. Students will be provided with a full range of services and placements to fulfill the special education requirements identified for students with disabilities. An Individualized Education Program (IEP) will be developed in accordance with standard practices for each student with disabilities by team including: parents or guardian; the student where appropriate; the special education teacher and/or the special education related service provider as appropriate; at least one of the student’s general education teachers; a Local Education Agency (LEA) representative who can commit resources; a school psychologist if evaluation results are discussed or if a reevaluation plan is developed by the Charter School; and other individuals who have knowledge or special expertise regarding the student, including related or specialized services personnel as appropriate.

The IEP team will be responsible for the development of Individualized Education Plans.

Further, the IEP team will determine appropriate services to be provided for students to include transition services, assistive technology services, and related supports.

- 2. Provide the process for identifying students who may be eligible for special education services as identified in the federal ‘Child Find’ mandate. Be sure to include how student evaluations and assessments will be completed.**

The student’s IEP will reflect all the elements required by the Individuals with Disabilities Education Act, Section 504 of the Rehabilitation Act, and the Americans with Disabilities Act. The services will include intense elements:

- Student’s present levels of functioning and academic performance;
- Measurable annual goals and, where appropriate, short-term objectives;
- Special education, related services, and supplementary aids and services;
- A statement of program modifications and/or supports to be provided for the student;

- The extent (if any) to which the student will participate with non-disabled students in the general education class and extracurricular activities;
- Any individual modification in the administration of state or other required assessments of student achievement needed for the student to participate in the assessments;
- Projected date for the beginning of services and modification and anticipated frequency, location, and duration of services and modifications;
- How progress toward annual goals will be measured;
- Transition services for students ages 13 years and above; and
- Documentation that the student has been informed of his/her rights that will be transferred to the student upon reaching the age of majority.

Evaluation procedures will be administered in accordance with federal regulations to determine whether a student is disabled and the nature and extent of the special education and related services that the student needs. The use of this term means procedures are used selectively with an individual student and does not include basic tests administered to or procedures used with all students in a school, grade, or class. Prior to conducting any school-initiated evaluation, the School will request parental/guardian permission for the proposed action through written notification. The notification will include the following information:

- Reasons for the requested evaluation and the name of the person who initiated the process;
- Proposed evaluation procedures;
- Statement that after obtaining parent permission for evaluation, the evaluation will be completed and that the parents/guardian will be informed of the evaluation schedule;
- Description of the areas that are being assessed;
- Description of how the findings of the evaluation will be used;
- Statement that the parents will be informed of the results of the evaluation;
- Description of all procedural safeguards available;
- Statement of the parent's right to refuse permission for the evaluation, with the understanding that the Charter School or other agency can request an official hearing to present its reasons and try to obtain approval to conduct the evaluation;
- Explanation of other rights pertaining to the evaluation process;
- List of the sources whereby parents may obtain free/low cost legal services;
- Declaration that the student will not be placed in special education without the knowledge and written approval of the parent; and
- Statement of any other factors relevant to the proposed action.

After obtaining parent/guardian permission for evaluation or following a decision through the official hearing (subject only to State Educational Agency appeal), the evaluation must be completed. Following the evaluation, the school will notify the parents/guardian that the evaluation has been completed. The notice shall include the following, with the exception of the items specified which are pertinent to both permission for evaluation and placement;

- Results of the evaluation and the educational implications;
- Statement of the parents'/guardian(s)' rights to attend a meeting of the IEP team;
- A statement of the parents'/guardian's right of refusal of permission for placement;
- An explanation of other rights pertaining to the placement process;
- A full description of all procedural safeguards available;

- A declaration that the student will not be placed in special without the knowledge and written approval of the parent;
- A list of the sources where the parents/guardian may obtain free/low cost legal services; and
- A statement of any other factors relevant to the proposed action.

Queen City STEM will comply with all federal and state laws regarding accommodations for students with impairments and will not discriminate against individuals who are believed to be handicapped or who were handicapped at one time. The school will adhere to the criteria for eligibility, reporting, and official records for accommodations in Section 504. The School staff will receive professional development on an on-going basis to assure that students who may qualify are identified in a timely manner and instructional delivery as well as other interactions is conducted appropriately and effectively.

3. Provide a plan detailing how the records of students with disabilities and 504 Accommodation plans will be properly managed.

a) Requesting Records from previous schools

To request records from previous schools, a written record request form will be sent to students' previous schools via facsimile. The request for the records of students with disabilities will be also sent in attention of Exceptional Children Department, and the request for students with 504 Accommodation plans will be also sent in attention of school's 504 Coordinator.

b) Record Confidentiality (on site)

In order to ensure record confidentiality, the records of students with disabilities and 504 Accommodation plans will be kept in a secure place with access sheet included in the records.

c) Record Compliance (on site)

Our school will provide special education and related services according to the federal mandates of the Individuals with Disabilities Education Act and the regulations of the North Carolina Public School Law, Article 9. To ensure record compliance, our school will develop and implement a record compliance monitoring system. The Exceptional Children Coordinator will complete a compliance checklist for all records of students with disabilities. Each record will be reviewed and if any noncompliance is found, a correction action of noncompliance will take place immediately. Verification of correction will be the final action to ensure the noncompliance was corrected. The 504 Coordinator at our school will monitor the 504 Accommodation plans' compliance as required by Section 504 of the Rehabilitation Act of 1973.

Exceptional Children's Education Programming

1. Describe the educational programs, strategies, and additional supports the school will provide to ensure a full continuum of services for students with disabilities.

Queen City STEM will adhere to all applicable provisions of federal law, relating to students with disabilities, including the IDEA, Section 504 of the Rehabilitation Act of 1973, and Title II of the Americans with Disabilities Act of 1990. Queen City STEM will work with Charlotte-

Mecklenburg Schools to ensure that all students with disabilities who qualify under the Individuals with Disabilities Education Act (IDEA): (1) will have available a free appropriate public education (FAPE); (2) are appropriately evaluated; (3) are provided with an individualized educational plan (IEP); (4) receive an appropriate education in the least restrictive environment; (5) are involved in the development of and decisions regarding the IEP, along with their parents.

Queen City STEM will have policies and procedures to ensure that all children with disabilities residing in the school's jurisdiction, regardless of the severity of their disability, and who are in need of special education and related services, are identified, located, and evaluated in accordance with NC Procedures Governing Programs and Services for Children with Disabilities. Queen City STEM will offer a full inclusion model as much as a student's needs and IEP allow. Research has shown evidence that those students with exceptional needs whose educational needs can be met in a regular classroom setting benefit from remaining in that setting. We seek to offer students the least restrictive environment possible for their optimal learning. Queen City STEM will provide this fully inclusive model in conjunction with a special education teacher who will make necessary modifications and supplement curriculum for identified students. The special education teacher will collaborate with classroom teachers to ensure that all accommodations and modifications are provided as required by a student's IEP. In addition to supporting students in the regular classroom, special educators will also pull students out of class, as needed, for additional support and assessment. In order to make sure that students are achieving all their IEP goals, Queen City STEM's everyday instruction will be differentiated to meet various needs and learning levels. Some of the programs offered to exceptional children at Queen City STEM may include the following:

- Extended Time on Assignments
- Multiple Sessions
- Individual Pull-Out Instruction
- In-Classroom Collaboration with the Special Education Teacher
- Preferential Seating
- Small Group Instruction
- Peer Tutoring
- Differentiated Assignments

2. Describe the methods and support systems that will be in place to ensure students with disabilities receive a Free and Appropriate Public Education (FAPE).

All special education students will receive appropriate support, remediation, and consultation services in accordance with FAPE. All students will have access to appropriate procedures and mechanisms, along with their parents, to resolve any disputes or disagreements related to Queen City STEM's or Charlotte-Mecklenburg Schools' provision of FAPE.

Curricula for exceptional children in Queen City STEM will follow the curricula adapted for non-exceptional students. However, focus will be given to instruction on various subjects, depending on the needs of the individual students. Exceptional students' cognitive, affective, motor and vocational development within the curricular areas will be emphasized.

Queen City STEM will designate one of the school's special education teachers as the school's special education liaison with Charlotte-Mecklenburg Schools. Responsibilities of this individual

will include coordinating with the Charlotte-Mecklenburg Schools special education office throughout the year to ensure that all required special education and related services are being provided and that all IEPs are appropriately updated. Queen City STEM shares the vision that “special education is built on the belief that all students can and will learn”. Queen City STEM targets to support and enhance the social, emotional, and academic functioning of all students in the school, especially the special education students. This education shall include special services supported with special education teachers; and will meet their unique needs by providing a full range of educational opportunities offered in the least restrictive environment. There are examples for TMSA “that education services designed to meet the individual education needs of students with disabilities as adequately as the needs of nondisabled students are met” and “the education of each student with a disability with nondisabled students, to the maximum extent appropriate to the needs of the student with a disability” (as explained at <http://www2.ed.gov/about/offices/list/ocr/docs/edlite-FAPE504.html>)

3. Describe how implementation of the Individualized Education Plan (IEP) will be monitored and reported to the student, parents and relevant staff.

The student’s IEP will be reviewed by the IEP team and also will be discussed with the student at least twice a year. Based on these reviews and discussions, the IEP will be updated accordingly. The IEP team will also develop and implement teaching strategies and classroom modifications so that the special education student will be educated in the least restrictive environment. Referrals to outside resources will be made on the basis of need in order to address more complex and difficult issues.

Following the evaluation, Queen City STEM will notify the parents/guardian that the evaluation has been completed. The notice shall include the following, with the exception of the items specified which are pertinent to both permission for evaluation and placement;

- Results of the evaluation and the educational implications;
- Statement of the parents’/guardian(s)’ rights to attend a meeting of the IEP team;
- A statement of the parents’/guardian’s right of refusal of permission for placement;
- An explanation of other rights pertaining to the placement process;
- A full description of all procedural safeguards available;
- A declaration that the student will not be placed in special without the knowledge and written approval of the parent;
- A list of the sources where the parents/guardian may obtain free/low cost legal services; and
- A statement of any other factors relevant to the proposed action.

4. Describe the proposed plan for providing related services.

Queen City STEM will ensure to comply with Federal and State regulations for serving exceptional children. Following are some of the commitments that TMSA makes:

- Enrollment to all children will be open, regardless of disability status, which is in compliance with the regulation states that “free appropriate public education is available for exceptional children”

- Assistive technology devices or assistive technology services, or both, will be made available to a child with a disability if required as a part of the child's--(1) Special education; (2) Related services; or (3) Supplementary aids and services
- Exceptional children will be placed in least restrictive environment
- Each exceptional child will have an Individualized Educational Plan (IEP) and IEP team.
- An initial evaluation and reevaluation activities will be conducted after parent consent is obtained.
- Annual notices to the parents of exceptional children will be given
- Child with special needs will be placed in the appropriate special program within 90 calendar days of receipt of a referral, unless the parent refuses to give consent for evaluation or placement.

Student Performance Standards

1. Describe the student performance standards for the school as a whole.

The Queen City STEM High School students participate collaboratively as well as cooperatively as a member of a team. Collaboratively, the student gathers ideas from the group to develop an individual position. Cooperatively, the student works to resolve divergent ideas in order to achieve a common purpose.

Attributes:

- a. Self-assesses and monitors own behavior in order to contribute to group maintenance.
- b. Works interdependently toward the achievement of group goals.
- c. Demonstrates effective interpersonal skills and applies them respectfully when challenging and responding to the ideas of others.

2. Explain the use of any evaluation tool or assessment that the proposed charter school will use in addition to any state or federally mandated tests. Describe how this data will be used to drive instruction and improve the curriculum over time for the benefit of students.

Benchmark Assessments of the Standards: Due to the critical factor of providing intervention as early and as focused as possible, Queen City STEM will utilize benchmarks for the Student Accountability Standards. These benchmarks will be administered at grades 3- 8 in reading, writing, science, math, and in End Of Course (EOC) tested courses in high school in the proper sequence and frequency. The purpose of the assessments will be to guide teachers as they modify instruction and curriculum for students in danger of not meeting the standards. For benchmark assessment, nationwide-known standardized achievement tests will be used such as Iowa Test of Basic Skills (ITBS), Cognitive Abilities Test (CoGAT), and Stanford Achievement Test (SAT).

Participation in North Carolina Testing Program: Queen City STEM will comply with the North Carolina Testing Program, including ABC Accountability Model, EOG Tests, EOC Tests, other state mandated tests, writing assessments, computer skill assessment, and student portfolio requirements. Below is the summary of the program.

1. Elementary school students are required to take the following assessments:

- NC K-2 literacy assessment
- Grade 3 Pretest in the first three weeks of the school,
- End of Grade Tests (EOGs) -Mathematics and Reading Comprehension at grades 3, 4 and 5
- End of Grade Test (EOG)- Science at grade 5.
- The North Carolina Writing Assessment at grade 4.

2. *Middle school students are required to take the following assessments:*

- End-of-Grade Assessments (EOGs) in Grades 6, 7, and 8 for Mathematics and Reading
- End-of-Grade Test (EOG) in Grade 8 Science
- The North Carolina Writing Assessment at Grade 7
- North Carolina Tests of Computer Skills at Grade 8

In addition to meeting local promotion requirements, students in grade 8 will demonstrate proficiency by having test scores at Level III or above on an end-of-grade test in both reading and mathematics. Additionally, the School will use the grade 7 writing assessment as a screen to determine whether students are making adequate progress in developing writing skills. If a student has not scored at or above proficiency level 2.5 on the grade 7 writing assessment, the school will provide intervention and assistance to develop writing skills.

Alternate assessments are available for many of the state tests for students with disabilities who have Individualized Education Programs (IEPs) and students with limited English proficiency who meet specific eligibility requirements.

3. *High school students enrolled required to take the NC EOC Test:*

- The following courses will have NC EOC tests: Algebra-I, Algebra-II, Biology, Chemistry, English, Geometry, Physical Science, Physics, Civics and Economics, and U.S. History.
- All students at grade 10 will take writing assessment.

The North Carolina High School Competency Test: This test is administered annually to all ninth-grade students who did not meet the standard of Achievement Level III or above on the grade 8 end-of-grade tests or who have not passed the screening on other approved measures in the public schools. Students who fail to attain the required minimum standard for graduation in the ninth grade will be given remedial instruction and additional opportunities to take the test up to and including the last month of the twelfth grade. Students who fail to pass either of the tests will be retested only on the test they fail.

The competency tests are aligned to the grade 8 end-of-grade tests. The competency test for mathematics is based on the 1998 North Carolina Mathematics Standard Course of Study at grade 8, and the competency test for reading is based on the 1999 North Carolina English Language Arts Standard Course of Study at grade 8.

All school students enrolled in the 9th, 10th, 11th, and 12th grades will have at least one opportunity each school year to take the competency test. The school will schedule administration dates of the competency tests during each testing cycle (summer, fall, spring).

High School Comprehensive Test (or its replacement): Students that have not taken English 1 and/or Algebra 1 by the end of the tenth grade will participate in the high school comprehensive (or its replacement) test administration.

4. *Other tests to be administered:*

- WIDA ACCESS Placement Test (W-APT) in K-12 for students identified as limited English Proficient
- NCEXTEND1 or NCEXTEND2 for students with special needs
- Stanford Achievement Test (SAT)
- Test of Cognitive Skills (TCS)
- Measurement of Academic Progress Testing (MAP)

Why MAP Testing?

- MAP testing allows teachers to modify lesson plans on a per-pupil or per-ability grouping level.
- MAP testing provides teachers with instant results and the connecting clear-cut approaches to use in the classroom.
- MAP testing identifies students' current abilities, allows teachers to set appropriate goals, and measures progress in a proven accurate and consistent manner.

3. Explain the policies and standards for promoting students, including students with special needs, from one grade level to the next. Discuss how and when promotion criteria will be communicated to parents and students.

Student Promotion Policy

At the end of the school year, the Student Academic Committee (Including Dean, Guidance Counselor, and one core subject teacher) will review each student's case and make a recommendation to the Principal for final approval. *The EC Coordinator will be part of the Committee when reviewing a student with special needs' case.*

1. Any student failing 3 or more core classes for an academic year is automatically retained at that grade level.
2. Any student failing 2 core subjects in a given year may be:
 - a. If student failed math and language arts, then student is automatically retained.
 - b. If student also fails EOG's or alternative assessments (NCEXTEND2/NCEXTEND1) in two or more subjects, then student is automatically retained.
 - c. If student's GPA is less than 1.0, then student is automatically retained.
 - d. Retained at parental request.
 - e. Put on academic probation (probation to last through the following school year)
3. Any probationary student that fails the same two core subjects in a subsequent year will automatically be retained (parent will already have signed paper in step #2 above that indicates understanding of this action).
4. The principal may implement his authority to make the final decision based on the best interest of the student.

The policy above applies for the students with special needs as well. Meeting the students' special needs as stated in their Individualized Education Program will be the main focus when discuss promoting students with special needs, from one grade level to the next. Slightly changes may apply based on each student' individual needs, present level of academic and functional performance, and the progress toward meeting the Individual Education Program's goals.

4. Provide the public charter school’s exit standards for graduating students. These standards should set forth what students in the last grade served will know and be able to do.

Graduation Requirements

To graduate from Queen City STEM High School, a student must meet the following requirements:

A total of twenty-one credits as follows:

English	4 credits
Mathematics	4 credits
Science	3 credits
Social Studies	3 credits
Health/Physical Education	1 credit
Electives/Other Requirements	6 Credits required and 4 credits strongly recommended

Expectations and Performance Standards:

The student expectations are the basis for the knowledge, skills, and characteristics expected of all graduates of Queen City STEM High School. The student expectations are defined and measured by performance standards and assessment rubrics.

High School Graduation Requirements

1. If implemented, describe how the proposed charter school will meet the Future-Ready Core requirements. Provide details on how the students will earn credit hours, how grade-point averages will be calculated, what information will be on transcripts.

Aligned with NC State requirements, Queen City STEM high school students are expected to meet Future-Ready Core course and credit requirements and testing standards to receive a high school diploma. Table 1 below shows the required course, credits and tests that Queen City STEM students will meet before they graduate from high school.

Table 1: High School Exit Requirements

CONTENT AREA	FUTURE-READY CORE Credits and Courses	Tests to be Scored “Proficient”
English (4 Credits)	English I, II, III, IV	English I EOC
Mathematics (4 Credits)	(Algebra I, Geometry, Algebra II) OR (Integrated Math I, II, III) 4th Math Course to be aligned with the student’s post high school plans	Algebra 1 (EOC)

Science (3 Credits)	A Physical Science course, Biology, Earth/ Environmental Science	Biology (EOC)
Social Studies (3 Credits)	Civics and Economics, US History, World History	Civics and Economics (EOC) US History (EOC)
Computer Skills		Computer Skills Test
Health and Physical Education (1 Credit)	Health/Physical Education	
Electives or other requirements (6 Credits required and 4 credits strongly recommended)	2 Elective credits of any combination from either: – Career and Technical Education (CTE) – Arts Education – Second Languages 4 Elective credits strongly recommended (four course concentration) from one of the following: – Career and Technical Education (CTE) – Arts Education (e.g. dance, music, theater arts, visual arts) – Any other subject area (e.g. mathematics, science, social studies, English)	
Total= 21 Credits		

Students will complete a research based graduation project before the graduation. The students will start developing ideas during the 9th -11th grades. The graduation paper will include a written paper, a visual related to the paper, a portfolio reflecting the project process and an oral presentation.

Students, who satisfy the graduation requirements, but do not attain proficiency on the tests, will receive a certificate of achievement and a final transcript and be allowed to participate in graduation exercises. They will not receive a diploma.

Graduation requirements for exceptional students are the same for non-exceptional students. If exceptional students do not meet the requirements, they will be eligible to participate in graduation exercises and receive a certificate of achievement.

Testing Requirements: All students must demonstrate computer proficiency by passing the Computer Skills Test. This test is predominately given to students for the first time in the eighth grade. Students who do not pass the test the first time are given multiple opportunities in subsequent years to retake the test.

- For students entering high school for the first time as a 9th grader in 2012-2013 school year or later, he or she must pass five essential end-of-course tests to receive a diploma: Algebra I, Biology, and English I.

A student who does not score at proficiency level III or above on the end-of-course assessment for any of these courses but who passes the course shall be offered the opportunity to retake the assessment no later than three weeks from the receipt of assessment results. If the student does not score at or above proficiency level III on the retest, school officials shall apply a review process to provide focused intervention, a second retest opportunity, and a review of the student's documentation to determine whether the student has met the exit standard for the course. The principal shall make the final decision as to whether the student has met the exit standard.

A diagnostic test will be administered at the beginning of the 6th grade for proper placement. This way, students will be given an opportunity to take high school course(s) during middle school years. However, for each high school mathematics course completed in middle school, an additional mathematics course, with the appropriate prerequisites (Algebra 2 or Technical Mathematics 2 for the College Tech Prep Course of Study and Algebra 2 or Integrated Mathematics 3 for the College/University Prep Course of Study) is needed.

2. Explain the plan for graduating students with special education needs.

The plan for graduating students with special needs will be according to NC Graduation Requirements. Every student with special need will graduate from high school, globally competitive for work and postsecondary education and prepared for life.

The students with disabilities will benefit from many supports and experiences to explore careers and build work skills during their high school years. A comprehensive transition component to the students Individualized Education Programs will be developed, implemented, and shared with adult service agencies. For students with cognitive disabilities, the Occupational Course of Study will remain an option. The Occupational Course of Study will be available for those students with special needs if identified in their Individualized Education Program.

3. Explain what systems and structures the school will implement for students at risk of dropping out and/or not meeting the proposed graduation requirements.

Research has shown that students of color, students with limited English proficiency, and students from economically disadvantaged families are at risk of academic failure. Our approach to students at risk of academic failure is "catch them before they fall". Thus, early identification of at-risk students through on-going observation and assessment is critical. These strategies are proven to be effective to improve learning of students who are identified as at risk of academic failure:

Increasing students' self-efficacy and motivation to learn: Students who are at risk of academic failure usually need support to increase their self-efficacy and motivation to learn and to develop positive attitudes towards learning. Students will experience a caring, sustained relationship. They will be provided manageable and achievable tasks at their level and the difficulty level of the task will be increased as they accomplished more. This will create a sense of accomplishment, prevent frustration and will help to increase students' self-efficacy.

A three-tiered approach: In the three-tiered approach, Tier-1 refers to the instruction through core program. Tier-2 is to provide supplemental and extended instruction. Tier-3, the final tier, is an intense and individualized intervention.

Usually, students who are at risk of academic failure will need supplemental and extended instruction (Tier 2), in addition to receiving instruction through the core program (Tier 1). Applying Vygotsky's concept of zone of proximal development, which is the areas that a student can accomplish a skill with a more skilled individual's help, the individual will be moved to the level that the student can do by himself. A more skilled individual could be a peer, an adult or a teacher. Therefore, at the tier 2 level, after identifying the areas of difficulty that put the students at risk, the following strategies will be followed:

- a. Individualized student instruction will be provided: Some students may need additional time and one-on-one teaching to master the content. The student will be provided additional materials and variety of instructional strategies at his level. Tutoring will be provided by the teachers and other peers.
- b. Small group instruction, including students with heterogeneous and homogenous abilities, will be provided.
- c. Family involvement will be increased. It will be done by sending materials and resources to home, educating parents to help their children completing their homework and learning, and structuring routines and homework times, having parents volunteering and visiting in school and informing parents about the progress of their children.

If the student does not response to Tier 2, a Tier 3 intervention will be provided. At the Tier 3 level, along with the strategies used at the Tier 2, an alternative program(s), which is proven to be effective with students who do not respond to Tier 2, will be implemented. Collaboration within school staff and across NC public school system staff will be needed. If the student's response to intervention (RTI) at Tier 3 is not at the expected level, an alternative intervention will be used. The school personnel will work closely with the state personnel as well as students' family.

During the school-year, Queen City STEM will provide before school, after school and weekend programs where various instructional support and extra-curricular activities will be implemented. Additional instructional support will be offered during the summer to prepare students who may be at the edge for the next year and to minimize the summer lost.

English Language Learners: Instructions designed to enhance language acquisition as well as content comprehension of ELL students will be provided. Teacher will coordinate with a reading specialist or ESL teacher.

Student Conduct:

Provide a brief narrative that disseminates how student conduct will be governed at the proposed charter school and how this plan aligns with the overall mission and proposed Education Plan of the charter school.

All students at Queen City STEM will comply with all discipline rules governing behavior and conduct. It is the Queen City STEM Board of Directors' responsibility to establish a set of written rules and discipline in place. The Board will revisit, revise and update student conduct and discipline rules when necessary. For application of these rules within the school environment, it is the responsibility of the Queen City STEM principal: 1) to investigate fully the cases of students appropriately referred to principal's office for misbehavior, 2) to ensure fair treatment of such students and protection of their procedural and substantive rights, and to determine what, if any, disciplinary action is warranted. The teacher shall have the responsibility and authority to discipline students, except in those cases requiring the attention of the principal.

Queen City STEM discipline policy will support the attainment of the school's mission statement that stresses preparing students to become competent, responsible and successful individuals in our globalized and technology-based society through a strong academic program. Queen City STEM will implement a positive discipline model that leads to a nurturing school environment that sets the stage for engagement and academic excellence. School leadership and staff will uphold high expectations and be responsible for establishing a positive school climate that continuously identifies and praises students for respectful behavior. Staff will model and identify appropriate behaviors in varying environments throughout the course of the school day and academic setting. Learning behavior transitions amongst varying environments is a valuable part of the socialization process of a productive citizen. All school staff will be trained to support and implement a school-wide positive discipline model which will be outlined in the Student/Parent Handbook.

Provide a draft copy of the student handbook within the appendices (Appendix C).

Be sure to include:

- 1. Practices the school will use to promote effective discipline.**
- 2. A preliminary list and definitions of the offenses, which may result in suspension, or expulsion of students.**
- 3. An explanation of how the school will take into account the rights of students with disabilities in regards to these actions that may or must lead to suspension and expulsion.**
- 4. Policies and procedures disseminating due process rights, including grievance procedures, for when a student is suspended or expelled.**

Please see **Appendix C** for a draft copy of the student handbook containing the requested information..

IV. GOVERNANCE, OPERATIONS and CAPACITY

Private Nonprofit Corporation:

*The nonprofit corporation must be officially authorized by the NC Secretary of State by the final approval interview date.

Name of Private Nonprofit: **Triad Math and Science Academy Company**
 Mailing Address: **700 Creek Ridge Rd.**
 City/State/Zip: **Greensboro, NC 27406**
 Street Address: **700 Creek Ridge Rd., Greensboro, NC 27406**
 Phone: **(336) 621 0061**
 Fax: **(336) 621 0072**
 Name of registered agent and address: **Ali Tombak, 700 Creek Ridge Rd.**
Greensboro, NC 27406
 FEDERAL TAX ID: **20-8471670**

Tax-Exempt Status 501(c)(3): The private nonprofit listed as the responsible organization for the proposed charter school has received 501 (c)(3) status:

- Yes (copy of letter from federal government attached: **Appendix D**)
 No

Governance and Organizational Structure of Private Non-Profit Organization

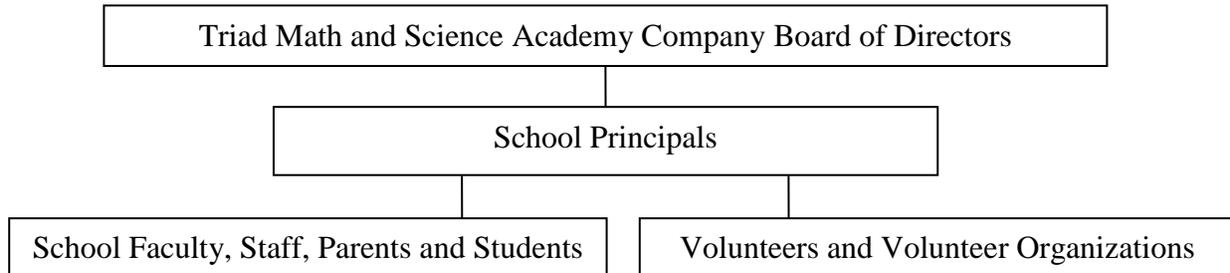
The private nonprofit corporation is the legal entity that has responsibility for all aspects of the proposed charter school. Its members should reflect the ability to operate a charter school from both business and education perspectives. Please complete the table provided depicting the founding members of the nonprofit organization:

Board Member Name	Board Title	County/State of Residence	Current Occupation
Kenan Gundogdu, Ph.D.	President	Wake County, NC	Assist. Prof. of Physics, NCSU
Ilknur Kaynar Kabul, Ph.D.	Secretary	Wake County, NC	Research Statistician Developer, SAS Inst.
Vacant 1		To be appointed from Wake County	
Mustafa Atay, Ph.D.	Vice President	Guilford County, NC	Assist. Prof. of Comp. Science, WSSU
Gary L. Lebby, Ph.D.	Treasurer	Guilford County, NC	Prof. of Electrical Engineering, NCAT
Ali Tombak, Ph.D.		Guilford County, NC	Staff Design Engineer, RF Micro Devices Inc.
Carlton L. Cammon		Mecklenburg County, NC	Auditor, BDO USA LLP
Vacant 2		To be appointed from Mecklenburg County	
Vacant 3		To be appointed from Mecklenburg County	

Table 4.1: List of current board members for the nonprofit corporation

Please provide the following in this location of the APPLICATION: (Do not include as an appendices.)

1. A well-defined organizational chart showing the relationship of the Board of Directors to the parents and staff of the proposed charter school. This chart should also include lines of authority to and from any outside entity that will play a role in managing or supporting the charter school (such as educational service providers, advisory bodies or parent/teacher councils).



2. A description of the governance structure of the proposed charter school, including the governing board’s functions, primary duties, roles and responsibilities as it relates to overseeing the charter school. Include how the board will recruit, hire, and supervise the lead administrator.

The proposed Queen City STEM School will be governed by Triad Math and Science Academy Company, which already governs two NC charter schools; Triad Math and Science Academy (Guilford County) and Triangle Math and Science Academy (Wake County). The board hires the principals, and the principals run the day to day operation of the schools. The governing board is committed to the education of all students to the best of their individual abilities; to a constant awareness of the concerns and desires of the community regarding the quality and performance of the Schools with the Board assuming an educational leadership role; and to the employment of school personnel who, under the direction of the Principal, will see that the school maintains an outstanding position and will carry out the policies of the Board with imagination and dedication. Responsibilities of the board include:

- interpreting the education needs and aspirations of the community through the formulation of policies to stimulate the learner and the learning process;
- governing the school in accordance with federal and state laws;
- providing leadership in order to carry out the goals and objectives of the school effectively;
- facilitating communication with the community served by the school, and
- developing and providing the data appropriate for the management functions of planning, evaluating, organizing, controlling and executing.

More detailed information on the functions, primary duties, roles and responsibilities of the board can be seen in Bylaws in **Appendix F**.

The principal will be recruited among qualified candidates, and the candidate possessing the highest qualifications will be appointed by signing a contract. The job description of the

principal position is already asked and answered later in this chapter, and it will be used to advertise for the position. The principal's performance will be monitored by the board through the school's academic, financial, and organizational successes as well as the satisfaction of students, teachers, and parents. Adequate professional development services will be provided to support the principal.

3. Describe the size, current and desired composition, powers, and duties of the governing board. Identify key skills, areas of expertise, and constituencies that will be represented on the governing board. Explain how this governance structure and composition will help ensure that a) the school will be an educational and operational success; b) the board will evaluate the success of the school and school leader; and c) there will be active and effective representation of key stakeholders, including parents.

According to Bylaws, the board size is 9 members. Currently, 6 of these positions are filled, and 3 are vacant. Since Triad Math and Science Academy Company already governs 2 charter schools in Guilford and Wake Counties, and this application is for Mecklenburg County, the Board composition is desired to equally represent these 3 Counties (i.e. 3 members from Guilford, 3 from Wake, and 3 from Mecklenburg County as described in Table 4.1). Currently, the board already has 3 members from Guilford County, 2 members from Wake County, and 1 member from Mecklenburg County. We are in search of 2 qualified board members from Mecklenburg County and 1 qualified Board member from Wake County, and hope to fill these 3 vacancies following the pre-approval of this charter application. The board is empowered with conducting the activities, affairs and business of the schools. Duties of the governing board was described in detail in the previous question (question #2), but in general the board is responsible for governing the school in accordance with federal and state laws, formulating policies to address the education needs of students, and providing the leadership in order to carry out the goals and objectives of the school effectively. Currently, our board members come with significant experience in diverse areas such as STEM education, finance, accounting, school governance and accountability, school facility planning, private sector, health and safety through their professional backgrounds as well as experience gained through governing the two charter schools in Guilford and Wake Counties. With this application's approval, the board will start governing another charter school. Similar procedure will be followed in evaluating the success of the schools and administrators. The board is dedicated to have effective representation from parents. We promote the establishment of a Parent Volunteer Organization (PVO) for each school. PVO is given a dedicated slot in our board meeting agendas to hear the voice of the parents. The board also requires the teachers to attend at least one board meeting in a given school year. During the year, the board conducts 2 school climate surveys to hear about parents' and teachers' opinions, and formulate policies if needed.

4. Explain the procedure by which the founding board members have been recruited and selected. If a position is vacant, how and on what timeline will new members be recruited and added to the board?

The board already governs two charter schools; Triad Math and Science Academy for approximately 5 years, and Triangle Math and Science Academy starting in 2012-2013

school year. We recently appointed Mr. Carlton Cammon to the board due to his significant governance and accounting experience, his Mecklenburg County residency as well as a strong willingness to dedicate his time for a STEM charter school in Mecklenburg County. The board currently has 3 vacancies and we are currently in search of 3 qualified candidates to fill these vacancies as described in the previous question (question #3) from Mecklenburg and Wake County residents with a background in law, real estate, construction, education, and/or ability to raise funds. We intend to fill these vacancies following the pre-approval of our charter application. During the regular operation of the school, we expect to fill any vacancies in the board within one school year.

5. How often will the board meet?

The board will meet once a month for regular board meetings. The board may also meet more often than this in emergency, special or called meetings as needed.

6. What kinds of orientation or training will new board members receive, and what kinds of ongoing professional development will existing board members receive? The plan for training and development should include a timetable, specific topics to be addressed, and requirements for participation (Board Policies Draft: **Appendix H**).

New board members will be required to complete several board training and orientation programs. In these programs, new board members will be able to learn our philosophy and approach for effective board-staff relations and to have an opportunity to better understand the school curriculum, state standards, testing requirements, other school operations and impact on the student achievement as well as budget and financial planning. We believe that training increases the board's capacity to accomplish their responsibilities, overcome challenges, and work together. Hence, existing board members will also receive certain professional development programs as needed. **Appendix H** includes draft board policies on new board member orientation and training programs with timelines as well as professional development programs targeted for existing board members.

7. Describe the board's ethical standards and procedures for identifying and addressing conflicts of interest. Identify any existing relationships that could pose actual or perceived conflicts if the application is approved; discuss specific steps that the board will take to avoid any actual conflicts and to mitigate perceived conflicts.

The Bylaws (**Appendix F**) has a Conflict of Interest policy as well as a detailed Nepotism Policy. Any board member who has a conflict of interest in a matter pending before the board must explicitly state it and refrain from voting. In addition, our Nepotism Policy identifies specific restrictions to avoid the possibility of favoritism based on family or personal relationship. Our current board has not had any prior or current business relationships with the schools it has been governing, and all of the board members are professionals working for 3rd party companies or public institutions. So, currently, there are no perceived conflicts, and we intend to keep the board structure and membership in a similar way to eliminate the possibility of any perceived conflicts.

8. Explain the decision-making processes the board will use to develop school policies.

The board is the place where we have been making and will be making governance decisions. In order to conduct the activities, affairs and business of the school and to address the education needs of students, the board will formulate policies time to time. The board will first identify a need for the new policy, and then will assign it to a team (such as an ad hoc committee) to draft new policy. The team will write a first policy draft, which will then be reviewed by a legal counsel. The policy then will be presented to the board for approval in a board meeting.

9. Describe any advisory bodies, councils, or associations listed in the organization chart or to be formed, including the roles and duties of that body, and the reporting structure as it relates to the school’s governing body and leadership.

As provided in the organizational chart in question #1, the principal will be working with volunteers and volunteer groups in the school. One prominent volunteer group is the parent volunteer organization (PVO). Parents will be encouraged to found the PVO once the school opens. Its membership will include all parents, legal guardians and staff at Queen City STEM School. The PVO's mission will be to promote open communication and understanding between parents and staff, and to enhance the education experience of each child. The PVO will support teachers in classroom setting, hold fund-raisers for supplemental educational materials and experiences, and support school and family social interaction. During our regular board meeting, PVO will be given a dedicated time slot so that the board can hear the voices of the parents, and address any areas of concern.

Include in the Appendices:

10. A one-page resume from each founding board member and responses to the questions found on the Charter School Board Member Form (**Appendix E**). **PROVIDED.**
11. The proposed by-laws, which must include a Conflict of Interest Policy for board members and a stated commitment to the NC Open Meetings Law (**Appendix F**). **PROVIDED.**
12. A copy of the articles of incorporation, if available. If not available, this document must be available prior to interview by SBE, the applicant must demonstrate that it has been applied for prior to submission of the proposed application (**Appendix G**). **PROVIDED.**
13. Copy of any board policies if adopted already (**Appendix H**). **PROVIDED.**
14. Copies of meeting minutes (if available), relevant to the development of the charter school plan, during the application process (**Appendix I**). **PROVIDED.**

Proposed Management Organization (Educational Management Organization or Charter Management Organization): *If the proposed school does not intend to contract with an education service provider, mark “Not Applicable” and follow the direction #3 in the Application Specifications.*

Not Applicable

Private School Conversions: *complete ONLY if the proposed charter is a private school conversion. Otherwise, mark “Not Applicable” and follow the direction #3 in the Application Specifications.*

Not Applicable

Charter School Replication: *complete ONLY if the proposed charter is a replication of an existing charter school. Otherwise, mark “Not Applicable” and follow the direction #3 in the Application Specifications. Understand that the replication means that a new charter school will be governed separately from the charter school the application is modeled after.*

Not Applicable

1. Will this proposed charter school be governed by an existing charter school board, or will there be a new governing board overseeing this charter?

The proposed charter school will be governed by an existing charter school board, Triad Math and Science Academy Company, which already governs Triad Math and Science Academy (Guilford County) since 2008-2009 school year, and Triangle Math and Science Academy (Wake County) since 2012-2013 school year.

2. Describe the rationale for replicating the application based upon the success of another charter school. Include documentation and evidence that the existing charter school model is successful in student achievement, charter school governance, and fiscal responsibility. Base this explanation upon academic data available through state and national summative assessments, financial audits, and state compliance reports.

Student Achievement: The Board is already running two charter schools: TMSA (Guilford County) and TMSA (Wake County). TMSA (Guilford) is our flagship school where we were able to demonstrate a successful school model. Despite the increasing at-risk student population; TMSA (Guilford County) has been consistently making AYP since its inception. For example, TMSA (Guilford County) was designated as school of distinction by NC DPI. Our students won several local, regional, national and international medals in STEM fields consistent with our mission. Our success story produced large waiting lists and we have been experiencing increasing student population and currently, the school is serving around 600 students. Though its first year, TMSA (Wake) is following the footprints of TMSA (Guilford) and has been winning medals in regional science competitions and as a result we also experience increased waiting list. For example, for 75 available slots for the next year we receive more than 800 applications.

Fiscal and Governance Responsibility: At TMSA family governance responsibility is manifested itself as financial responsibility. For example, within 2 years of its operation, the Board was able to successfully secure required financing to buy its Greensboro campus: A 76,000 square feet of building with a state of the art Gym sitting on 11.4 acres of land. Currently, the Board is replicating the same business model in Wake County negotiating a deal for a permanent campus. The financial audit reports in the past three years show satisfactory results with no major findings.

3. Depict and analyze the current enrollment trends and student demographics of the replicated charter school model over the past three academic years.

Enrollment trends and student demographics are provided in the table below. TMSA (Guilford) predominantly serves to an African-American/Black student population with

increasing numbers in the waiting lists. TMSA (Wake), which is in its first year, has a large waiting list, and serves mostly to Asian, White, African American/Black student population.

TMSA-GUILFORD	10-11	11-12	12-13	TMSA-WAKE	12-13
ENROLLMENT	389	504	590	ENROLLMENT	272
WAITING LIST	908	999	1096	WAITING LIST	805
African American or Black	55.5 %	56.7 %	57.3 %	African American or Black	22.8 %
White	35.0 %	33.7 %	29.4 %	White	30.1 %
Hispanic	3.6 %	4.2 %	4.2 %	Hispanic	0 %
Asian	2.1 %	2.2 %	5.4 %	Asian	46.3 %
Multi-Racial	1.5 %	2.0 %	2.4 %	Multi-Racial	0.4 %
American Indian	1.5 %	0.8 %	0.5 %	American Indian	0.4 %
Hawaiian Pacific	0.8 %	0.4 %	0.7 %	Hawaiian Pacific	0 %

4. Explain why the governing board of the proposed charter school is a good fit for the proposed student population as noted in Section II Mission and Purposes.

Consistent with our mission to provide rigorous math and science education, majority of our Governing board constitutes engineers, professors, and academicians in technical fields. The professional diversity in our board is a good fit for the mission of our proposed charter school.

5. Provide a copy of the organization’s IRS Form 990 for the last three years as Appendix Q. **PROVIDED.**

Projected Staff: Provide, as **Appendix K**, a list of positions anticipated for the charter school; (e.g., principal or director; finance officer, administrative support staff; teachers (part-time and full-time); paraprofessionals/teaching assistants, clerical, and maintenance.). Be mindful that your predicted administration and staff match the projected enrollment noted in Section I and align with the proposed budget. **PROVIDED.**

Staffing Plans, Hiring, and Management

Include the following information for the proposed charter school:

1. Explain the board’s strategy for recruiting and retaining high-performing teachers.

The school will implement a non-discriminatory Human Resources (HR) procedure, which will be fully compliant with the North Carolina State laws and No Child Left Behind Act. The school believes that the quality of the teachers is an important factor in determining the quality of education offered. It is the responsibility of the principal to locate and recruit the best-qualified candidates to meet the school's educational needs. The school will prefer certified teachers in the first place. However, in case of shortage of certified candidates, candidates from traditional secondary environments, from postsecondary environments, from international teacher recruitment organizations, and from business, industry and the military will also be considered. Selection will be based on strong academic preparation, professional competence, intellectual rigor, emotional maturity, enthusiastic professional attitude,

knowledge of instructional practices, and ability to contribute to the advancement of the school mission. The school will offer a competitive compensation scheme where the longevity with the school is rewarded, hence helping to retain our high performing teachers.

2. Provide a description of the relationship that will exist between the charter school employees and the nonprofit board. Provide as **Appendix L**, a draft of the employment policies to be implemented by the proposed charter school.

The primary means of relationship between the school employees and the board will be through the principal. The board will have a positive relationship with school administration and staff while maintaining an appropriate distance from day-to-day decision making. The school personnel are required to attend at least one board meeting in a given school year. From time to time, the board may organize informal sessions to interact with the staff, listen to their voices, and receive input in important decisions. Board members should also attend school functions. **Appendix L** provides detailed employment policies used in our current schools in Guilford and Wake Counties.

3. Outline the board's procedures for hiring and dismissing school personnel, including conducting criminal background checks.

The Principal fulfills the hiring process on behalf of the Board. At the beginning of the recruitment process, the open positions are identified by the administration based on the number of students, grade levels, subjects to be taught, and justified in the school's budget. Positions are then posted on the school's website, a local newspaper, and a third party website (such as www.teachers-teachers.com). A resume screening is done by the administration, and the employment application form is sent to the selected applicants. After reviewing the employment application forms and supporting documents, the candidate is invited for an interview. The Principal makes the hiring decision. Finally, the list of new hires are presented to the Board and approved in the first Board meeting. Employment at the school is contingent on fingerprinting and successful criminal background checks. Similarly, the Principal also fulfills the dismissal decision, and he/she will dismiss the personnel after applicable notice requirements, and will present to the board for approval in the first board meeting after dismissal.

4. Outline the school's proposed salary range and employment benefits for all levels of employment.

Queen City STEM School will offer competitive compensation to its employees. Currently, we use the same salary scale in our two schools in Guilford and Wake Counties, and plan to use a similar scale for Queen City STEM School. The school will also offer comprehensive benefit plans including medical insurance, life insurance, short/long term disability insurance, personal/sick leave days, leaves due to jury/military duties, etc.

5. Provide the procedures for employee grievance and/or termination.

Queen City STEM School fosters safe, secure, and friendly working atmosphere. In order to ensure the continuum of this atmosphere, employee complaints will be taken seriously and will be addressed in a timely and consistent manner. Appendix H includes the detailed grievance policy outlining the steps that should be taken to resolve conflicts within the school. In addition, the school will not have tenured or guaranteed employment. The employee or the school may terminate employment at any time after giving notice (60 days for the employee, 30 days for the school) with or without a reason. Termination may result from any of the following including but not limited to: corrective action measures, which include infractions for violation of company policies, layoffs, which include the elimination of an employee's job function or headcount reduction due to redundancy or cost reduction, or involuntary dismissal, which may include poor performance reviews or failure to demonstrate an acceptable attitude in the workplace.

6. Identify any positions that will have dual responsibilities (within or without the organization) and the funding source for each position.

NONE.

7. Describe the plans to have qualified staffing adequate for the anticipated special needs population, means for providing qualified staffing for ELL and gifted students.

TMSA Board is experienced in running effective school organization. We have been providing qualified and adequate staff for ELL, gifted and other special need populations. We will maintain the same practice for the proposed charter school.

8. Provide a narrative detailing the roles and responsibilities, qualifications and appropriate licenses that each position must have to be hired by the non-profit organization and effectively perform the job function(s).

All core subject teachers will be highly qualified as outlined by the Federal No Child Left Behind Act. As North Carolina State Statutes requires, 75% of elementary school teachers and 50% of middle and high school teachers will be licensed. Teachers who are not licensed will hold a minimum of Baccalaureate degree in a related field. The school will strongly encourage its non-licensed teachers to become North Carolina licensed by going through the state licensure procedures.

The Principal position requires a Bachelor's degree in a technical discipline or Secondary Education, and at least 1 year of experience in charter school administration or teaching. An M.S. degree and experience involving charter school application preparation / startup will be preferred. The principal will be the ultimate authority and responsible person in the day-to-day operation of the school. Briefly, the principal will be responsible for the educational, administrative, and counseling activities of the school, establishing and maintaining relationships with external organizations and service providers, teacher evaluations, and safety of the school.

The Assistant Principal will hold a minimum of Bachelor's degree and one year charter school teaching experience. Briefly, he/she will assist the Principal in planning and assessing

the educational program, ensuring compliance with all applicable federal and state laws, and designing, managing, and implementing information systems to manage and track progress on school goals and academic excellence indicators

Staff Evaluation and Professional Development

1. Identify the positions responsible for maintaining teacher licensure requirements and professional development.

Academic Deans / Assistant Principal will be responsible for maintaining teacher licensure requirements and arranging professional development services, and this will be overseen by the Principal.

2. Provide a detailed plan noting how the school will mentor, retain, and evaluate staff in a format that matches the school's mission, educational program, and meet the teacher certification and licensure requirements for teachers as prescribed by state law and No Child Left Behind. Be sure this overview matches with the projected staff and funding of the proposed budget section.

TMSA Board has the Beginning Teacher Support Program currently used in both Greensboro and Raleigh campuses that detail mentorship, support, and evaluation of staff members as provided in Board policies in **Appendix H**.

3. Discuss the core components of professional development plan and how these components will support effective implementation of the educational program. Discuss the extent to which professional development will be conducted internally or externally and will be individualized or uniform.

At TMSA, we value professional development of our teaching staff. Our professional development plan has two main components: In-service and out-of-school training. In-service training includes such activities as in teacher orientation week, periodic departmental training, teacher work days, and other in-school instructional and content-based enrichment programs. Out-of-school training includes mainly workshops/training/webinars organized by professional organizations such as by National Association of Science Teachers, Math Teacher Associations, and other professional associations providing training to enhance knowledge-base, sharpen instructional and leadership skills.

4. Provide a schedule and explanation of professional development that will take place prior to school opening. Explain what will be covered during this induction period and how teachers will be prepared to deliver any unique or particularly challenging aspects of the curriculum and instructional methods.

Preplanning professional development is an important timeframe for a successful school start. The preplanning week will include a welcome breakfast, a tour of the school facility, staff enrollment into medical insurance and payroll system, grade and room assignments, drop-off/dismissal/emergency procedures, smart board and school network system training, an overview of employment policies and parent/student handbook, and several workshops on

classroom management, effective parent-teacher communication, common core curriculum standards, and students with disabilities. During this time, the staff will be able to learn all the tools necessary to successfully manage through the school year as well as making their classrooms and lesson plans ready.

- Describe the expected number of days/hours for professional development throughout the school year, and explain how the school’s calendar, daily schedule, and staffing structure accommodate this plan.

The table below outlines the schedule and professional development activities provided in the school. The school calendar and staffing needs are determined in consideration of this professional development plan.

ACTIVITY	TIMELINE
Staff Orientation and Preplanning	5 days before school starts
Departmental or Grade Level Meetings	Every Wednesday after classes end
Professional Development Days	One day every other month
Year End Meetings	2 days after school closes
Conferences/Workshops	As needed

Enrollment and Marketing

Reaching the full capacity for enrollment will be critical to obtain the necessary financial resources to keep your school viable and operating efficiently. In addition, it is required by law that charter schools provide equal access to all students. Read the charter school state statute regarding admissions GS 115C.238.29F(g) (1-7) carefully.

Marketing Plan: Marketing to potential students and parents is vital to the survival of a charter school. Provide a plan indicating how the school will market to potential students and parents in order to reasonably reflect the racial/ethnic and demographic composition of the district in which the charter school will be located or of the special population the school seeks to serve: (G.S.115C-238.29F(g)(5)).

Queen City STEM School Board of Directors will execute a sound marketing plan that will enable us to best communicate with parents, students, community leaders, prospective teachers, staff and the public in general. The school will publicize all enrollment information throughout the counties being served through its website, flyers, bulletins, newspaper ads, websites, mailings, town meetings, informational open house sessions, and/or presentations at other local schools or public institutions such as libraries. Being a STEM focused school, we will mainly attract those students who are curious to explore and have intrinsic motivation for math, science and technology. Queen City STEM School will be a public school with an open enrollment policy. Therefore, we anticipate the school demographics will reflect the local demographics. In order to make sure the school continuously represents the local demographics, we will collect demographic information from the application forms at the beginning of each academic year and accordingly tailor our recruiting efforts towards underrepresented communities.

Parent and Community Involvement

1. Describe how you will communicate with and engage parents and community members from the time that the school is approved through opening.

Queen City STEM School is dedicated to a positive parent and student experience; hence, it considers parents and students as well as the community in general as its customer base. Therefore, communicating with them has utmost importance for both the success of the school’s educational program as well as its financial health. Upon the approval of the Queen City STEM School’s charter application, the school will start accepting applications and publicize its educational program through its website, flyers, bulletins, newspaper ads, websites, mailings, town meetings, informational open house sessions, and/or presentations where prospective parents and students can learn more about the school’s educational program. During these events, the school will collect the contact information of interested parents, who will then be engaged in attracting other prospective parents/students, recruiting staff members, securing and renovating a school facility, and equipping it with the instructional equipment, furniture, and other supplies required during the initial phase of opening the school.

2. Describe how you will engage parents in the life of the public charter school. Explain the plan for building engaging partnerships between the family and school that strengthen support for student learning.

We believe that active parent engagement is as important as having a quality educational program. Therefore, once the school starts, parents will be encouraged to found the Parent Volunteer Organization (PVO). Its membership will include all parents, legal guardians and staff at Queen City STEM School. The PVO's mission will be to promote open communication and understanding between parents and staff, and to enhance the education experience of each child. The PVO will support teachers in classroom setting, hold fund-raisers for supplemental educational materials and experiences, and support school and family social interaction.

Admissions Policy

Provide the school’s proposed policies and the procedures for admitting students to the proposed charter school, including:

1. Tentative dates for application period; enrollment deadlines and procedures.

Tentative Admission Milestones	Tentative Timeline
Availability of Application forms	February – continuous
Pre-applications are accepted	February-March
Conducting school open house(s)	March
Application Deadline	March 31
Lottery Date	April 1
Notification of lottery winners/parents	By April 15

Registrations for lottery winners to be completed (in three weeks)	Until May 5
Registration invitations to students in waiting lists	May 6 – ongoing
Orientation of parents	A week prior to first day of school
First school day	Similar calendar as Mecklenburg County

2. Clear policies and procedures detailing the open enrollment lottery plan including policies regarding statutory permitted student enrollment preferences.

Application, lottery, and enrollment procedures are governed by the Triad Math and Science Academy Admissions and Lottery Policy. Detailed policy is provided in **Appendix H**. However, briefly; students who are the sibling of an already admitted and continuing student enrolled in the school, current and continuing students from the previous grade/school year, and students who are the children of a current employee or founding board member (only in the first year) of the school are given enrollment preference, then available spots for the upcoming school year will be determined on a lottery basis.

3. Policies and procedures for student waiting lists, withdrawals, re-enrollment, and transfers. Detailed application, lottery, enrollment, withdrawal and transfer procedures are provided in the Admissions and Lottery Policy in **Appendix H**. Briefly, after conducting the lottery, a waiting list will be created from which students will be enrolled as spots become available. Students who are planning to withdraw from school should report to Administrative Assistant with their parents in person three days prior to leaving the school. After the appropriate withdrawal paperwork is submitted, all school property is returned, and all outstanding debts are paid off, the withdrawal process will be completed. When the student transfers to another school and requests the transfer of student’s records to the new school, TMSA will fulfill this request with appropriate written documentation. Similarly, if a student wants to re-enroll at the school, he will go through the same procedures as the other applicants, i.e. application, lottery, and enrollment. No enrollment preference will be given to students who want to re-enroll.
4. Explanation of the purpose of any pre-admission activities (if any) for students or parents. Detailed application, lottery, enrollment procedures are provided in the Admissions and Lottery Policy in **Appendix H**. During the pre-admission period, the school will publicize all enrollment information throughout Counties served via its website, flyers, bulletins, newspaper ads, websites, mailings, town meetings, informational open house sessions, and/or presentations at other local schools and public institutions. Queen City STEM School will be a public school with an open enrollment policy. Therefore, we anticipate the school demographics will reflect the local demographics. In order to make sure the school continuously represents local demographics, it will collect demographic information from the application forms at the beginning of each academic year and accordingly tailor recruiting efforts towards underrepresented communities.

5. Clear policies and procedures for student withdraws and transfers.

This question was already asked and answered in question #3.

PROJECTED ENROLLMENT 2014-15 through 2018-2019

IDENTIFY LEA FROM WHICH STUDENTS WILL PROBABLY COME

LEA #1 Mecklenburg
 LEA #2 _____
 LEA #3 _____

In the following tables, please list for each year and grade level, the numbers of students that the school reasonably expects to enroll. In addition, please indicate any plans to increase the grade levels offered by the school over time and be sure these figures match those on the initial cover page.

***The numbers in the following tables are projections, or estimates, and do not bind the State to fund the school at any particular level.**

	2014-2015			2015-2016			2016-2017			2017-2018			2018-2019		
	LEA 1	LEA 2	LEA 3	LEA 1	LEA 2	LEA 3	LEA 1	LEA 2	LEA 3	LEA 1	LEA 2	LEA 3	LEA 1	LEA 2	LEA 3
K	36			36			36			36			36		
1st	40			40			40			40			40		
2nd	40			40			40			40			40		
3rd	44			44			44			44			44		
4th	44			44			44			44			44		
5th	44			44			44			44			44		
6th	44			66			66			66			66		
7th				44			66			66			66		
8th							44			66			66		
9th										44			66		
10th													44		
11th															
12th															
	292			358			424			490			556		

Transportation Plan

Describe in detail the transportation plan that will ensure that no child is denied access to the school due to lack of transportation. The details of this plan should align with the Mission, identified need for the charter school, targeted student population, and the budget proposal.

The board will ensure that transportation will not be an obstacle for any student within our community, and therefore, anticipates adhering to the plan as described below:

- Transportation of students attending Queen City STEM School will be decided based on the analysis of student population, traffic patterns, school bus capacities, exceptional education students’ needs within the local transportation guidelines.
- The board aims to obtain a facility within easy access in the transportation of students to and from the school. The school will present parents or guardians with carpooling options and maintain a list of participating parents. The school may arrange a transportation

service to serve students who do not have any other option of attending the school. The school will also help students get passes from/to the local transportation system. At the beginning of each school year the school will coordinate with the parents and local community to come up with the most effective transportation plan.

- The school will provide transportation for the students as prescribed by law such as children with special education needs that require transportation service.

School Lunch Plan

Describe in detail the school lunch plan that will ensure that no child is lacking a daily meal. The details of this plan should align with the targeted student population and school budget proposal.

The school will opt in for the free and reduced lunch program similar to Triad Math and Science Academy (Guilford County), and Triangle Math and Science Academy (Wake County).

Civil Liability and Insurance (GS 115C-238.29F(c)):

The Charter School shall obtain and maintain insurance at a minimum in the following amounts:

1. Errors and omissions: one million dollars (\$1,000,000) per claim;
2. General liability: one million dollars (\$1,000,000) per occurrence;
3. Boiler and machinery: the replacement cost of the building;
4. Real and personal property: the appraised value of the building and contents;
5. Fidelity bonds: no less than two hundred fifty thousand dollars (\$250,000) to cover employee dishonesty;
6. Automobile liability: one million dollars (\$1,000,000) per occurrence; and
7. Workers’ compensation: as specified by Chapter 97 of the General Statutes.

Area of proposed coverage	Proposed amount of coverage		Cost (Quote)
Comprehensive General Liability	\$1,000,000		\$4,868
Officers and Directors/Errors and Omissions	\$1,000,000		
Property Insurance	\$300,000		\$500
Motor Vehicle Liability	\$1,000,000		\$181
Bonding Minimum/Maximum Amount	\$250,000	\$250,000	\$332
Other	Various: see Appendix M		\$8,364
Total Cost			\$14,245

*The applicant must provide a quote from an insurance provider as part of this application (as **Appendix M**) to demonstrate the levels of insurance coverage and projected cost. **PROVIDED.**

Health and Safety Requirements

All public charter schools are required to follow the regulations regarding health and safety as stated in § 115C-238.29F (a).

We, the Board members at Queen City STEM School will develop a written safety plan and policies to be shared with staff, parents and students and be available upon inspection from the Department of Public Instruction and local Health Departments.



02/24/2013

(Board Chair Signature)

(Date)

Facility

Note that the SBE may approve a charter school prior to the school’s obtaining a facility; however, students may not attend school and no funds will be allocated until the school has obtained a valid Certificate of Occupancy for Educational use to the Office of Charter Schools.

What is your plan to obtain a building? Identify the steps that the board will take to acquire a facility and obtain the Educational Certificate of Occupancy. If a facility has been identified please fill out the Facility Form (Appendix N).

Queen City STEM School board has started searching for an adequate school facility to lease in the Mecklenburg County upon approval of final charter. The school facility will be located in a place that is easily accessible by most community elementary, middle and high school students. Based on the availability of the classrooms and space, we are willing to utilize any school facility, partially or as a whole. We started working with local real estate agents to find a building that meets the needs of Queen City STEM School as explained in the next question. Upon finding a potential school facility, we will work with local city government, health and fire departments to ensure that it is compliant with the North Carolina State Building Code for elementary, middle and high schools. Please see **Appendix N** outlining one of the building candidates we are currently considering as the school facility.

Facility Contingency Plan

Describe the method of finding a facility if the one the board has identified will not be ready by the time the public charter school will be opening. Include information regarding the immediate spatial needs of the school and identify any programs that will not be immediately offered because a permanent facility has yet to open.

We will consider various options for securing a school facility by the start day of the school such as lease, purchase, land with modular classrooms on, leasing school/classroom space from other public/private schools or churches. We need 14 classrooms for the first three years in addition to one science lab, one computer lab, four offices, one resource room, one teacher work area and lounge, one conference room, a library, a multipurpose room with enough parking and play area. All applicable inspections and certifications will be in place prior to opening the school. Total square footage of the building is expected to be 25,000 to 30,000 sq.ft. If the identified school facility is smaller than the intended size, we will reduce the enrollment to be able to fit into the available space while ensuring that the quality of the educational programs and the budgetary obligations of the school are not compromised.

V. FINANCIAL PLAN

In the following sections present a detailed description of assumptions and revenue estimates, including but not limited to the basis for revenue projections, staffing levels, and costs. The narrative should specifically address the degree to which the school budget will rely on variable income.

Budget: Revenue Projections from each LEA 2014-15

<p>SHOW CALCULATIONS FOR FIGURING STATE AND LOCAL DOLLARS FOR THE PROPOSED CHARTER SCHOOL</p> <p><i>The formula for figuring these allotments can be found in the <u>Resource Manual Finance Section.</u></i></p>	<p>See Charter School Dollars per ADM on the following link for per pupil allotments by county. http://dpi.state.nc.us/fbs/allotments/support/</p> <ul style="list-style-type: none"> • All per pupil amounts are from the 2012-2013 year and would be approximations for 2014-2015. • Federal funding is based upon the number of students enrolled who qualify. The applicant should use caution when relying on federal funding in year one to meet budgetary goals. • These revenue projection figures do NOT guarantee the charter school would receive this amount of funding in 2014-2015. • For local funding amounts, applicants will need to contact their local offices or LEA. <p>LEA #1 (Insert LEA Name & Code)</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 25%;">Revenue</th> <th style="width: 25%;">2012-2013 Per Pupil Funding</th> <th style="width: 25%;">Projected LEA ADM</th> <th style="width: 25%;">Approximate funding for 2014- 2015</th> </tr> </thead> <tbody> <tr> <td>State Funds</td> <td style="text-align: right;">4,438.40</td> <td style="text-align: center;">292</td> <td style="text-align: right;">\$1,296,012.80</td> </tr> <tr> <td>Local Funds</td> <td style="text-align: right;">2,332.48</td> <td style="text-align: center;">292</td> <td style="text-align: right;">\$681,084.16</td> </tr> <tr> <td>Federal EC Funds</td> <td style="text-align: right;">3743.48</td> <td style="text-align: center;">32</td> <td style="text-align: right;">\$119,791.36</td> </tr> <tr> <td>Totals</td> <td></td> <td></td> <td style="text-align: right;">\$2,096,888.32</td> </tr> </tbody> </table>	Revenue	2012-2013 Per Pupil Funding	Projected LEA ADM	Approximate funding for 2014- 2015	State Funds	4,438.40	292	\$1,296,012.80	Local Funds	2,332.48	292	\$681,084.16	Federal EC Funds	3743.48	32	\$119,791.36	Totals			\$2,096,888.32
Revenue	2012-2013 Per Pupil Funding	Projected LEA ADM	Approximate funding for 2014- 2015																		
State Funds	4,438.40	292	\$1,296,012.80																		
Local Funds	2,332.48	292	\$681,084.16																		
Federal EC Funds	3743.48	32	\$119,791.36																		
Totals			\$2,096,888.32																		

Total Budget: Revenue Projections 2014-15 through 2018-2019

INCOME: REVENUE PROJECTIONS	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
- <i>State ADM Funds</i>	<u>\$1,296,012</u>	<u>\$1,588,947</u>	<u>\$1,881,881</u>	<u>\$2,174,816</u>	<u>\$2,467,750</u>
- <i>Local Per Pupil Funds</i>	<u>\$681,084</u>	<u>\$835,027</u>	<u>\$988,971</u>	<u>\$1,142,915</u>	<u>\$1,296,886</u>
- <i>Exceptional Children Federal Funds</i>	<u>\$119,791</u>	<u>\$134,765</u>	<u>\$172,200</u>	<u>\$202,147</u>	<u>\$224,608</u>
- <i>Other Funds*</i>	<u>\$ _____</u>				
- <i>Working Capital*</i>	<u>\$ _____</u>				
TOTAL INCOME	<u>\$2,096,888</u>	<u>\$2,558,740</u>	<u>\$3,043,053</u>	<u>\$3,519,879</u>	<u>\$3,989,245</u>

***If the applicant is depending on other funding sources or working capital to balance the operating budget, please provide documentation such as signed statements from donors, foundations, bank statements, etc., on the availability of these funds.**

Assurances are needed to guarantee these additional sources of revenue are available. Please include these as Appendix P.

Personnel Budget: Expenditure Projections 2014-15 through 2018-2019

This Personnel list may be amended to meet the needs of the charter school: This list should align with the projected staff located in the Operations Plan (**Appendix K**).

BUDGET EXPENDITURE PROJECTIONS Personnel	2014-2015			2015-2016			2016-2017			2017-2018			2018-2019		
	# Staff	Salary per	Total salary	#	Salary per	Total salary									
Personnel:															
Lead Administrator	1	80000	80,000	1	82,400	82,400	1	85,000	85,000	1	87,450	87,450	1	90,500	90,500
Assistant Administrator	1	57000	57,000	2	58,000	116,000	2	59,000	118,000	2	60,500	121,000	3	61,500	124,500
Finance Officer	0.5	40000	20,000	1	40,500	40,500	1	41,000	41,000	1	41,500	41,500	1	42,000	42,000
Core Content T.	18	36000	648,000	22	36,500	803,000	26	37,000	962,000	30	37,500	1,125,000	34	38,000	1,292,000
Para Educator(s)	2	22000	44,000	3	23,200	69,600	3	23,400	70,200	3	23,700	71,100	4	24,000	96,000
Electives/Specialty T.	1	48000	48,000	1	49,000	49,000	1	50,000	50,000	2	40,000	80,000	2	40,500	81,000
Exceptional Children T.	1	40000	40,000	1	43,500	43,500	1	44,500	44,500	2	39,000	78,000	2	40,000	80,000
Related Service T.															
Contracted Personnel (aft sc, sub)		8000	8,000		12,000	12,000		15,000	15,000		17,000	17,000		19,000	19,000
Food Service Staff															
Transportation Staff															
Staff Supplements															
Professional Dev.			13,000			15,000			18,000			20,000			22,000
Office	1	22000	22,000	2	22,000	44,000	2	23,000	46,000	2	23,500	47,000	2	24,000	48,000
Guidance				0.5	40,000	20,000	1	40,500	40,500	2	29,000	58,000	2	29,500	59,000
Full time Substitute							1	33,000	33,000	1	33,500	33,500	1	34,000	34,000
Total Personnel			980,000			1,295,000			1,530,700			1,779,550			1,929,059
Benefits:															
	# Staff	Cost Per	Total												
Health Insurance	27		117,600	34		155,400	39		183,684	46		231,546	52		231,487
Retirement Plan															
Life Insurance															
Disability															
Medicare	27		14,210	34		18,778	39		22,195	46		25,804	52		27,972
Social Security	27		60,760	34		80,290	39		94,903	46		110,332	52		119,602
Unemployment Benefit	27		34,104	34		45,066	39		53,268	46		61,928	52		67,131
Total Benefits			226,674			299,534			354,050			429,610			449,192

Total Personnel Budget			1,206,674			1,594,756			1,884,750			2,209,160			2,378,251
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***Applicants may amend this table and the position titles to fit their Education and Operations Plans.
Operations Budget: Expenditure Projections 2014-15 through 2018-2019**

Operations Budget: Expenditures		2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
Books and Supplies	Instructional Materials	68,000	149,000	197,000	154,000	141,000
	Curriculum/Texts	69,300	31,000	37,000	42,000	43,000
	Copy Paper	3,000	3,750	4,500	5,250	6,500
	School Supplies	50,000	58,000	71,000	82,000	91,000
	Testing Supplies	5,000	6,500	7,500	8,750	10,000
	Other	47,000	2,500	3,000	4,250	5,500
Technology	Technology Hardware	31,500	35,000	38,000	25,000	20,000
	Instructional Software	27,400	33,500	39,500	44,000	48,000
	Network/Internet	3,500	4,000	4,500	5,000	6,000
	Office Software	13,000	16,500	22,000	23,000	26,000
	Other	5,000	6,000	7,000	7,500	8,000
Human Resources C.	Legal Counsel	16,000	18,000	20,000	24,000	26,000
	NC Wise					
	Personnel Software	15,000	15,000	18,000	20,000	22,000
Rents and Debt Services	Facility Lease/Mortgage	345,000	380,000	450,000	530,000	560,000
	Rent of Equipment	9,500	9,500	11,000	12,000	12,500
	Maintenance	11,000	11,000	14,000	16,000	18,000
	Security/Alarm	2,000	2,500	3,000	3,500	4,000
	Extermination	7,000	7,000	8,000	8,000	8,000
	Custodial Supplies	29,000	34,000	40,000	46,000	51,000
Utilities	Phone	5,000	6,000	7,000	7,500	8,000
	Energy					
	Electric	24,000	25,000	27,500	30,000	32,000
	Water/Sewer/Trash	3,500	3,750	4,500	5,250	6,000
Other	Insurances (page 19)	15,000	18,000	21,000	23,000	25,000
	Marketing Plan	20,000	20,000	20,000	20,000	20,000
	Transportation Plan	2,000	2,500	2,500	2,750	3,000
	Food Plan	3,000	3,500	4,000	4,250	4,500

Queen City STEM School

	Travel Expenses	5,000	5,500	5,500	5,750	6,000
	TOTAL OPERATIONS	834,700	907,000	1,091,500	1,159,750	1,245,000

***Applicants may amend this table and the position titles to fit their Education and Operations Plans.**

Total Budget Projections

BUDGET OPERATIONS EXPENDITURE PROJECTIONS	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
TOTAL EXPENDITURES (PERSONNEL)	\$1,206,674	\$1,594,756	\$1,884,750	\$2,209,160	\$2,378,251
TOTAL EXPENDITURE (OPERATIONS)	\$834,770	\$907,000	\$1,091,500	\$1,159,750	\$1,245,000
TOTAL EXPENDITURES	\$2,041,444	\$2,501,756	\$2,976,250	\$3,368,914	\$3,613,251
TOTAL REVENUE	\$2,096,888	\$2,558,740	\$3,043,053	\$3,519,879	\$3,989,245
ANNUAL NET PROJECTIONS	\$55,444	\$56,984	\$66,803	\$150,965	\$375,994

Budget Narrative

The projected revenues of the Queen City STEM School primarily depend on state, local, and federal EC funds and they are adequate for the projected expenses for running a STEM school with the mentioned mission. The governing board has significant experience and success in bringing external federal grant money to implement additional STEM related activities and will apply for such grant opportunities as they become available.

Please include additional information that showcases all assumptions for your budgetary calculations.

1. Describe the budgetary projections and explain the analysis utilized to project these specific enrollment figures. If your budget projections are lower than anticipated, how will the school adjust this budget and what is the determined break-even point for student enrollment?

Enrollment: The school will have initially K-6 grades and each grade will have two classes of students with 19-22 students per class. There will be 14 classes in the first year and class size will increase by 3 every year; 2 for progressing classes and 1 additional class in the middle school.

Personnel: For K-3, each classroom has a class teacher and specialized teachers will deliver courses such as Art, Music and PE. After the 3rd grade, math and science and language arts divisions departmentalize as aligned with the core mission of the QC STEM.

Operational Costs: In addition to the conventional operational costs for instructional supplies, materials, and facility, the budget includes purchase of specialized services and supplies for STEM education and education of EC students as described in question 3 “spending priorities”.

Break-even point: The budget projections are adequate for the proposed operation of the school. The break-even point for the student enrollment is 283 student, which is 9 students lower compared to the proposed enrollment. Contingency plan for lower revenues is explained below.

2. Describe the systems and processes by which the school will manage accounting, purchasing, payroll, and audits. Specify any administrative services expected to be contracted for the school, and describe the criteria and procedures for the selection of contractors

Accounting: The QC STEM School will employ an accountant for managing accounting activities.

Purchasing: School purchasing policies are determined by the existing by-laws. All checks shall be signed by any of the two Board members, or any Board member and the Principal. The Principal and the assistant principal can sign the checks for recurring expenses, and expenses that are not exceeding \$5,000. Endorsements for deposit to the credit of the Corporation in any of its duly authorized depositories will be made by the Principal or treasurer or by any officer or agent who may be authorized by the Board to do so.

Payroll: The QC STEM School will use existing ISIS system for managing payrolls.

Audit: An independent audit company approved by the NC Local Government Commission (LGC) will perform the financial audit of the school annually.

Contracted Services: The school will receive contracted services for EC speech occupational therapy, psychological evaluations, financial audits, and janitorial services. These service providers are selected through a bidding process as regulated by NC State codes. At least three companies bid to contract for a service. The Board reserves the right to interview the winning bidder before approving the contract.

Financial Oversight: The accounting and budget will be strictly monitored by the Board in each monthly meeting. In order to achieve the projected annual figures and maintain the financial strength of the school, the Board will establish a financial oversight committee to assess the priorities of the school and provide feedback and guidance to the purchasing and accounting.

3. Explain how the spending priorities align with the school’s mission, curricular offerings, transportation plans, and professional development needs. Be able to depict in chart format and discuss in a narrative how the school will maintain a small, contingency reserve and operate using sound fiscal practices. As you construct the budget, include any and all documentation about cash on hand, bonds, real estate, or grants as part of this application package.

Spending Priorities:

Curricular offerings: Teacher hires, instructional materials and supply purchases are aligned coherently with the school’s mission. For example: All math and science teachers are required to be certified and to have BS degree in relevant majors. All of the classrooms are equipped with smart boards. All teachers are provided with a laptop. The purchased science curriculum includes experimental kits for hands-on, inquiry-based education. For assessment of the student math and reading skills, school will purchase MAP testing. The instructional supplies include purchase and subscription of online resources such as Study Island, learning A-Z, educationcity.com, ED helper, learning.com and online student tracking systems. The budget also includes purchase of “interactive response system”, a wireless remote kit that facilitates active student engagement in the class for specifically teaching STEM related subjects. The school will organize regional science fairs and attend regional, national and international science fairs. The budget also includes supplementary curriculum for education of EC students.

Transportation plan: School will be located in an easily accessible location in Mecklenburg County. The budget does not include any additional transportation item. Details of the transportation plan are explained in the previous sections.

Professional development: Staff professional development is very important for continuing success of the school. Therefore starting from the first year budget includes staff development allocations, which will be used for teacher workshops, and teacher conferences.

4. Indicate the amount and sources of funds, property or other resources expected to be available through banks, lending institutions, corporations, foundations, grants, etc. Note which are secured and which are anticipated, and include evidence of commitment for any funds on which the school’s core operation depends.

The core operation of the school solely depends on state, local funds per pupil and federal EC funds. There is no commitment from any other sources nor is there the need for such sources for the core operation. However, the board will apply to federal implementation grants for charter schools. The school also will fundraise for science fairs and for engagement in STEM related competitions.

5. Discuss the school’s contingency plan to meet financial needs if anticipated revenues are not received or are lower than estimated. What is the school’s break-even student enrollment figure for each of the first five years?

The proposed school budget planned with a cushion amount as a protection of the school from deficit. The school’s contingency plan is to reduce the payroll by 4% and operational costs by 1%. For the first year this will provide an additional \$50K to the projected surplus.

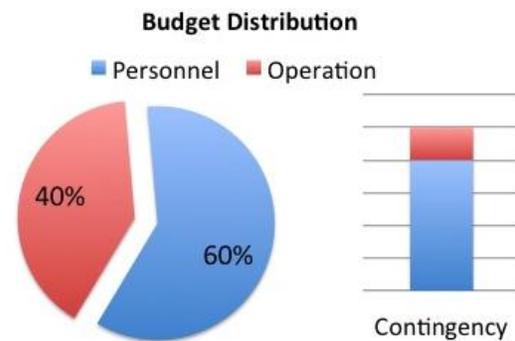


Chart: In case of lower than anticipated revenue, up to 4% deduction from payroll & benefits, and 1% deduction from the operation cost can be anticipated as an art of the contingency plan.

Table 1: Five-Year Break-even Points

Years	Proposed ADM	Break-even Point
2014-15	292	283
2015-16	358	348
2016-17	424	414
2017-18	490	465
2018-19	556	501

6. Year one cash flow contingency, in the event that revenue projections are not met in advance of opening.

In advance of opening, depending on the financial needs the Board will apply for loans from lending institutes or from Board members. As an example to past experience, in 2012 during the opening of the TMSA in Wake county the board raised about \$40K personal loans and \$153K from BB&T bank.

Financial Audits

Describe the procedure and method for conducting an independent financial audit for the proposed charter school.

Queen City STEM School will adhere to the auditing and reporting procedures and requirements that are applied to public schools operating in North Carolina. A company with a North Carolina CPA license will perform the independent financial auditing. This company will conduct the annual audit of the school's all financial records including the balance sheet, cash flow and income statements. The audit will be included in the school's annual report. The audit will be conducted in a timely manner as required by the Local Government Commission, and will demonstrate compliance with the State law for a non-profit corporation.

Selection of the company: The board is currently working with a NC LGC approved company for the TMSA in Raleigh and Greensboro schools and that had been interviewed previously. The information of the company is provided below.

Provide the name and contact information of the firm approved by the NC Local Government Commission (LGC) that will conduct the audit. If a firm has yet to be identified please list the firms the board has investigated.

Name: Petway Mills & Pearson, PA
Address: 806 North Arendell Avenue, Zebulon, NC 27597
Phone Number: (919)-269-7405
Fax Number: (919) 269.8728

VI. AGREEMENT PAGE

LEA Impact Statement:

Pursuant to G.S. 115C-238.29B(d), the charter school applicant must submit a copy of the application to the LEA in which the school will be located. The applicant must submit their application to the LEA within **seven (7) days** from the due date so that proof of submission can be included in the complete application packet. The LEA may then submit information or comment directly to the Office of Charter Schools for consideration by the State Board of Education.

Applicant Signature:

The foregoing application is submitted on behalf of TRIAD MATH AND SCIENCE ACADEMY COMPANY INC (*name of non-profit corporation or individuals submitting application*). The undersigned has read the application and hereby declares that the information contained in it is true and accurate to the best of his/her information and belief. The undersigned further represents that the applicant has read the Charter School Law and agrees to be governed by it, other applicable laws, and SBE regulations.

Print/Type Name:

Board Position:

Signature: _____

Date:

Sworn to and subscribed before me this

_____ day of _____, 20_____.

Notary Public

Official Seal

My commission expires: _____, 20_____.

VII. APPENDICES

- A.** Evidence of Educational Need (No more than a total of five pages)
- B.** Proposed Curriculum Outline(s) (First Five Years)
- C.** Student Conduct Handbook (Draft)
- D.** Federal Documentation of Tax Exempt Status
- E.** Charter School Board Member Information Form and Resume
- F.** Proposed Bylaws of the Non-Profit Organization
- G.** Articles of Incorporation
- H.** Copy of Non-Profit Organization Board Policies
- I.** Copies of Meeting Minutes
- J.** CMO/EMO Contract
- K.** Projected Staff
- L.** Employment Policies (Draft)
- M.** Insurance Quotes
- N.** Facility Form
- O.** Copies of Completed Facility Inspections
- P.** Revenue Assurances and/or Working Capital Report
- Q.** IRS Form 990
- R.** Additional Appendices Provided by Applicant (10 page Limit)

You may include additional appendices to provide additional information that you believe will assist the State Board of Education in the consideration of your application.