Senior Research Project
and
Senior Internship
Handbook

Science
Technology
Engineering
Mathematics
Academy

Science, Technology, Engineering, and Mathematics Academy
Great Mills High School
2011-12

CHARTING A COURSE TO EXCELLENCE
St. Mary's County Public Schools
"Work Hard and Be Nice"

Mrs. Tracey Heibel, Principal *(tlheibel@smcps.org)*
Dr. Linda Musial, STEM Supervisor *(ljmusial@smcps.org)*
Mrs. Stephanie Hampton, STEM Student Research Instructor
(skhampton@smcps.org)

Telephone: (301) 863-4001
Fax: (301) 863-4006
http://schools.smcps.org/gmhs

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Students may not change their research projects/internships after receiving approval except due to unavoidable circumstances or emergencies and only with the approval of the STEM Supervisor.

A general timeline of the proposal and research project/internship process is outlined below:

January/February	Juniors meet to discuss the parameters of the projects and to brainstorm possible projects and internships.
February/March	Juniors may meet with faculty members, current seniors, the STEM Student Research Instructor, and community members for possible proposal topics.
Late March/April	Juniors submit research project/internship proposals to their STEM Student Research Instructor (after spring break).
April-May	Proposals are reviewed, and students will be given feedback.
May	Juniors receive written approval of proposal or requests for further clarification. Students are responsible for communicating any additional information requested in writing for final approval.
Late May	Juniors must have proposals approved by the last day of this month. **Students without approved proposals may be dismissed from the STEM Academy.**
June – August	Students may work on research projects/internships as outlined in proposals.
August	Seniors meet as a group to review the research project/ internship guidelines and schedule initial conferences with the STEM Student Research Instructor. Students will sign up for individual meetings and meet monthly for the rest of the year.
August – March	Seniors will conference individually with the STEM Student Research Instructor. Students will be monitored throughout this time period. Ongoing updates will be required by each student researcher/intern.

I. INTRODUCTION

Students who participate in the St. Mary's County Public Schools' Science, Technology, Engineering, and Mathematics Academy at Great Mills High School are required to perform either a Senior Research Project or a Senior Internship prior to graduation. Either requirement may be started during the summer prior to the senior year once the faculty has given final approval to the proposal submitted by the student. The Senior Research Project or the Senior Internship, each worth one (1) elective credit, is a requirement for receiving the Academy seal on the diploma.

Each of these courses requires a minimum time commitment of 140 documented hours. Time spent on laboratory research, library and Internet research, observations, interviews, etc., counts toward the 140-hour requirement. For the internship project, the student will spend a minimum of 100 hours at the internship site with the mentor. Each student will keep a handwritten, anecdotal logbook during the experience to document his/her work. The anecdotal logbook will be kept in bound form (such as a composition notebook) and will be brought to each meeting with the STEM Student Research Instructor.

Students may choose from a wide selection of topics and areas of interest for their Research Project or Internship. Students are to choose a topic from one or more of the following categories:

1. Science (Natural or Physical)

This area focuses on biological, health, medical, environmental, or ecological fields. This area also focuses on chemistry or physics. Medicine, laboratory testing, research, or fieldwork may be included.

2. Technology

This area focuses on program design, program application, data collection and collation, system design, and graphic applications, and the application of technology in conjunction with a topic of interest.

3. Engineering

This area focuses on materials and materials testing, materials application, engineering, structural design, robotics, and the application of engineering principles to solve real-life problems.

4. Mathematics

This area focuses on mathematics as applied to any field of interest including logistics and statistical analysis.

Students who are unsure of the suitability of their topic should schedule a conference with the STEM Student Research Instructor or other designated academy faculty members very early in the proposal process. A student's imagination and his/her ability to articulate a proposal's compatibility with the requirements described within this document are the only limitations for research projects and internships.

OPTION 1 - SENIOR RESEARCH PROJECT

PROJECT EXPLANATION

The Senior Research Project is designed to be a culminating activity in the Science, Technology, Engineering, and Mathematics Academy. This project gives the student an opportunity to explore a topic of personal interest in more depth than would be possible in a classroom setting or to explore a topic of interest in science, technology, engineering, or mathematics not in the STEM Academy curriculum. This project is an independent study course; students will work with a faculty/adult advisor to "chart their own course." The Senior Research Project does not need to be an experiment, although it must involve the collection of data and an assessment of the outcome.

This project could involve building an electronic device, exploring a mathematical theory, writing a computer program, or conducting a field study, just to name a few examples. A student may also choose to continue research previously conducted or participate in a science, technology, engineering, or mathematics summer program. Students who conduct experimental design projects are expected to submit their work to various science competitions.

PROPOSAL REVIEW

Every student who chooses to execute a Senior Research Project must submit a research proposal before starting the project. The research proposal shall be no more than two pages in length and should be written in the following format using APA style:

- **Name and Complete Mailing Address:** The student should include his/her complete name, mailing address with zip code, home telephone number, and email address.

- **Title of Project**

- **Review of the Literature**: The student should conduct a preliminary review of current, related literature to ensure that the proposed project is feasible. The intent of this paragraph is to demonstrate to the review panel that the student has some understanding of the depth, complexity, and cost limitation of the proposed project.

- **Materials/Facilities**: This is not to be a specific list of quantities of materials; rather it should be a general listing of the types of equipment and other supplies that may be necessary to conduct the project. The intent of this paragraph is to ensure that adequate facilities are available to the student.

- **Proposed Time Line**: The student should sketch an outline of how long various portions of the project will take. This timeline is not binding; it is simply a planning tool for both the student and advisor, i.e. month-by-month or by nine weeks.

- **Plan for Evaluation:** As part of the proposal, the student must include a section that explains how he/she will evaluate the success of the project. This evaluation must be objective in nature. It could include anything from collection of numerical data to a survey concerning a finished product.

- **Summary/Rationale**: In this part of the proposal the student will present a persuasive argument as to what will be accomplished, why this project is important and why it should be approved. The student should use the preliminary review of the literature to help place the project in a larger societal context.

Proposals for senior research projects are due to the STEM Student Research Teacher after spring break. For this year, the proposals are due on June 1, 2010. The proposals will be reviewed by a faculty committee. Notification of approval or requests for clarification will be given to the student in May. Students may not start their projects until final approval has been received in writing from the committee. **Students must have their projects approved by the last school day.**

PROJECT REQUIREMENTS

Once the project has been approved, the student should begin conducting background research. The student will be expected to complete this background research over the summer between his/her junior and senior year. Students are expected to do in-depth research, utilizing both public and university libraries. STEM Academy students also may want to utilize the extensive resources available through St. Mary's County Public Schools library assets.

Upon returning in August, the student and his/her advisor should meet to refine the timeline for the project. At this meeting, the student should have a clear idea of the materials and facilities required to conduct the project. The due date for the entire project will be set at this time but should be no later than March 2011. Each project will be entered in the Great Mills High School Science Fair. The student should also enter the project into other competitions. The due dates for those competitions will be provided separately.

PROJECT PERFORMANCE

Students will meet with their advisor(s) on a regular basis to review the progress being made and discuss any problems that have arisen. The student should expect some problems to arise over the course of the project; this is normal when conducting a research project. One of the responsibilities of the student's advisor is to assist in the resolution of these problems. The student will also meet with the STEM Student Research Instructor on a monthly basis to monitor the project's progress and clarify any concerns.

The experimentation phase of the project should be completed by the date that the students return from Winter Break or a date after Winter Break set by the STEM Student Research Instructor.

Students must document in a logbook a minimum of 140 hours of work to receive credit for the project. A bound composition book available at most retail stores would be a suitable tool for recording observations and maintaining appropriate documentation. Students are required to keep an anecdotal logbook on all aspects of their research project. The anecdotal logbook should include for each daily entry **written in narrative format**:

- Location where work was done

- Whether the student was directly supervised by someone (advisor, subject expert, etc.) or working independently
- Amount of time spent on project
- A detailed description of what was done (research, section of procedure completed, writing paper, etc.)
- An assessment by the student of the work accomplished.

Students must also take digital photographs during the completion of the research project, including one of the research advisor, and 3-5 of the work being done on the project. A formal multimedia presentation of the research to a panel is another requirement of the research project. Unless prior approval is obtained, this presentation will include a computer slideshow as the foundation of the visual component of the program. **The presentation should last 15 minutes with an additional 5 minutes allotted for questions and answers.** The presentation should include the following:

- Identification of advisor and research facility
- Background information on research topic
- Purpose of research
- Overview of procedures utilized and data collected
- Graphical presentation of results
- Significant conclusions
- Reason for doing research and future application(s)
- Evaluation/reflection of experience

For a project that involves building something, for example an electronic device, the student must include a schematic and a videotape of a trial of the device. The product must also be demonstrated during the presentation.

PROJECT RESEARCH PAPER

Each student is required to write a research paper as part of his/her project. The paper should be 12-15 pages in length and contain the following components:

- **Title Page**: The title page should include the title of the research project, the student's name, and the date the paper was written.

- **Abstract**: The abstract consists of concise statements of the research objective, approach, key results, and conclusions. It must not exceed one page, double-spaced.

- **Introduction**: The introduction includes a brief review of current and related literature with an explanation of the writer's interest in the subject. Additionally, it should contain the specific area being researched and concise objectives. If applicable, it should identify the variables and hypothesis.

- **Procedure**: This section explains the equipment, supplies, and methods used in the project. The materials used should be incorporated in the paragraph description of the procedure rather than in list format. All procedures should be detailed sufficiently and stated clearly to allow duplication of the project. Standard techniques, appropriately referenced, may be included without providing detail. Specialized techniques should be presented concisely. A description of equipment unique to the project or built by the student should be included. If applicable, sample size, replications, data collection techniques, and type of statistical analysis to be used should be included.

- **Results**: This section contains only information obtained as a result of the project. Raw data should be summarized and presented in paragraph form as well as in graphs and tables, as appropriate. Results of statistical analysis should be included in this section. Raw data should be placed in the appendix if it is crucial to the understanding of the project and must be in the logbook.

- **Discussion and Conclusions**: This section contains an interpretation of the results. The first sentence of this paragraph should include a restatement of the research that was conducted. Comparisons to other research should be made with appropriate literature citations. An evaluation of the success of the project, possible procedure improvements, and suggestions for future studies should be included. Logic and the application of laws, principles, and theories are used to draw conclusions. The conclusions should be clear and concise.

- **Literature Cited**: This section is a list of all books, publications, Internet resources, and communications from which significant materials were cited in the paper. The listing is composed alphabetically by the last name of the first author. Follow APA guidelines for the appropriate format.

- **Appendix**: This section contains raw data too lengthy to include in the results section but important for the understanding of the paper. The appendix may also contain data tables, graphs, charts, illustrations, and pictures.

The style guide for the paper is the American Psychological Association (APA) Guide. The specifics for this paper are:

- **Format**: The print should be 12 point font, double spaced. Suggested fonts are Times New Roman or Garamond for body text. Suggested fonts for graphics and charts are Arial or Helvetica. All margins should be one inch.

- **Literature citations**: All references must be properly cited in the paper. Use parenthetical citations, **not** footnotes.

- **Mechanics**: The paper should be written in the third person past tense except for projects in mathematics and computer science which may be written in the first person present tense. Proper grammar, sentence structure, and punctuation should be used throughout. All figures, tables, diagrams, etc. should be labeled and numbered.

GRADING SYSTEM

The final grade of the Senior Research Project will be determined using a combination of the following:

- Anecdotal logbook (140 hours minimum)

- Typed research paper

- Project presentation including a multimedia component

- Evaluation of student's performance by adult advisor

- Fulfilling conference obligations with the STEM Student Research Instructor

- Critiquing at least 5 other senior presentations

- Participating in the STEM Senior Gala

GROUP PROJECTS

Group projects are NOT permitted.

SUMMER PROGRAMS (as a research project)

There are many research opportunities available in summer programs sponsored by organizations outside the Great Mills High School STEM Academy. To receive credit for a summer project, the following guidelines must be met:

- The student must submit a letter of intention to his/her STEM Student Research Instructor along with the project proposal. Since acceptance into these programs is generally selective, students must have an alternative proposal ready for submission should he/she not participate in the program of his/her choice.

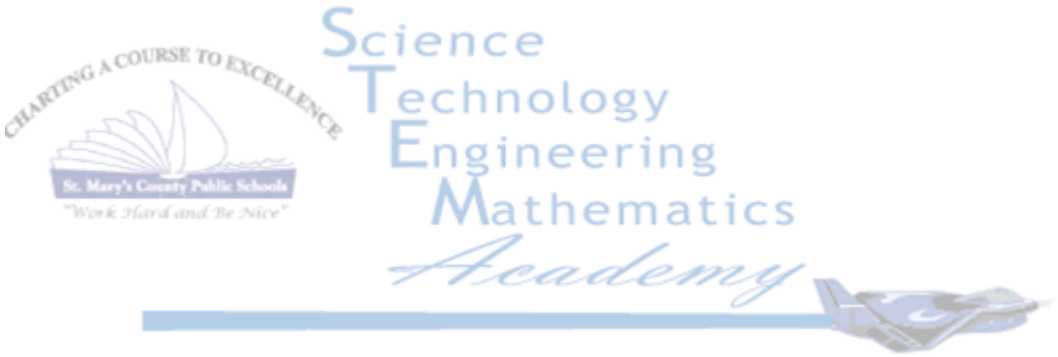
- The student must submit a letter of acceptance to the summer program for project

approval.

- The student must keep an anecdotal logbook (narrative format) and include a syllabus for the program. If the student does not complete 140 hours in the summer program, he/she should consult with the STEM Student Research Instructor regarding a follow-up project in the same field of study.

- The student must submit a letter of authenticity from the summer sponsor stating that the student did conduct the project.

- All paperwork as previously described also is required of students who participate in summer programs and want it to be counted towards the academy requirement for graduation.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SENIOR RESEARCH PROJECT
ADVISOR MEETINGS LOG

Student's Name _____

Research Project Title _____

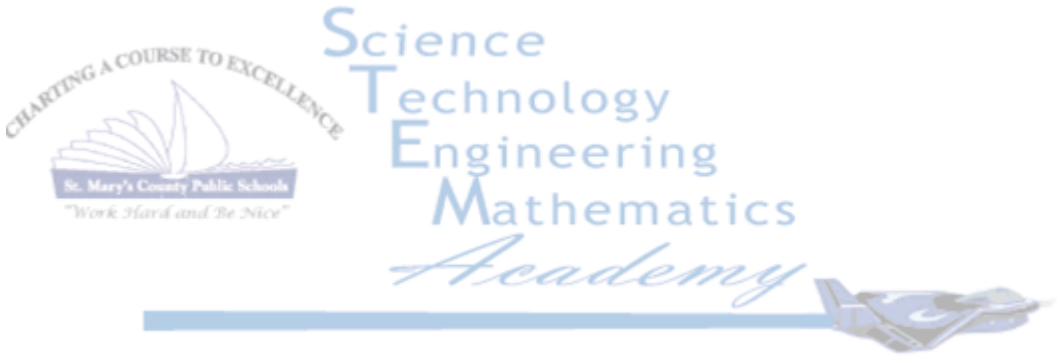
Advisor's Name _____

DATE	SUMMARY OF POINTS DISCUSSED BY STUDENT AND RESEARCH ADVISOR	ADVISOR'S INITIALS

I verify that the student has met at least once a month to discuss the progress of the research and any problems with its complete.

Advisor's Signature _____

Date _____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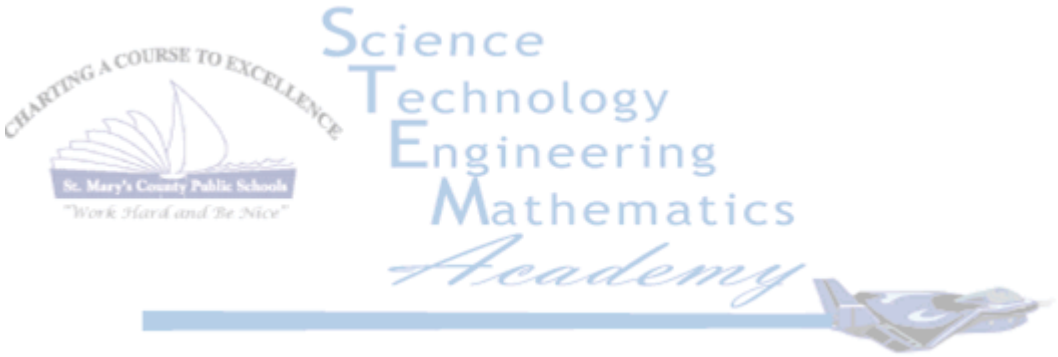
RUBRIC FOR EVALUATING RESEARCH PAPERS

Student's Name _____

Research Project Title _____

	5	4	3	2	1	COMMENTS:
Title page: Title of project, student's name, date						
Abstract: Includes research objective, key results, and conclusions *(1 page)*						
Introduction: Includes • Brief review of related literature • Specific area being researched • Concise objectives • Identification of variables and hypothesis						
Procedure: Explains the equipment, supplies, and methods used. Written in paragraph form. Is detailed sufficiently to be replicated						
Results: Contains information obtained as a result of the project. Raw data is summarized. • In paragraph form • Graphs & tables, if appropriate • Results of statistical analysis						
Discussion and Conclusions: Contains an interpretation of the results. • First sentence includes a restatement of research conducted • Comparisons to other research included • Evaluation of success of project included • Conclusions are clear and concise						
Literature Cited page: Included and correct						
Appendix: Contains raw data too lengthy to include in the results section (may not be necessary)						
Grammar & Usage: • Third person past tense • Correct grammar, sentence structure, punctuation						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Student's Name _____

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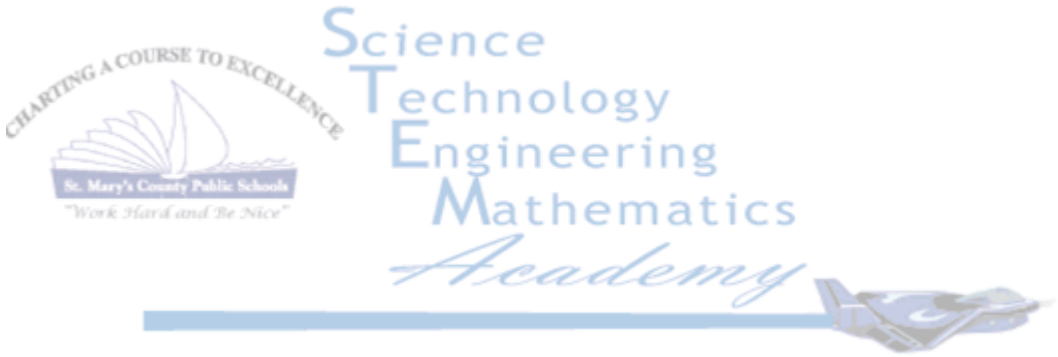
SENIOR RESEARCH PROJECT FINAL GRADE

Daily Log	15%	
Research Paper	40%	
Presentation	25%	
5 Peer Observations	5%	
Conferences with STEM SRI	10%	
STEM Gala Attendance	5%	
Final Grade	100%	

Comments on Daily Log: _____

Comments on Research Paper: _____

Comments on Presentation: _____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OPTION 2 - SENIOR INTERNSHIP

INTERNSHIP EXPLANATION

The STEM Academy Internship Program offers a multidimensional experience strengthening the academic and practical preparation of the student for further education. This program allows students to match their interests with professionals in the community. Student participation in the Internship Program is limited to the availability of mentor sites. Students are strongly encouraged to seek out potential mentor sites within their field of interest. Once completed and approved by the faculty committee, contract forms included in this document seal the agreement between the student, the internship site and Great Mills High School STEM Academy. Students should remember that the internship is not a job. It is an opportunity for intellectual pursuit in a practical setting.

PROPOSAL REVIEW

Each student who elects to pursue a Senior Internship must submit a written proposal, as well as the appropriate completed forms found at the end of this document before beginning his/her experience. The internship proposal should be no more than two pages in length and should be written in the following format:

- **Name and Complete Mailing Address:** The student should include his/her complete name, mailing address with zip code, home telephone number, and email address.

- **Internship Site and Mentor**: The student should identify where the internship will be conducted and with whom he/she will be working. If more than one person will be working with the student, list all mentors indicating who the primary mentor will be. Include the complete mailing address of the point of contact with zip code, the telephone number, and the email address.

- **Objective(s)**: The student should include the reason(s) for pursuing this particular internship.

- **Proposed Timeline**: The student should sketch an outline of how his/her time will be spent with the mentor. The timeline is not binding; it is simply a planning tool for both the student and the mentor.

- **Summary/Rationale**: In this part of the proposal the student will present a persuasive argument as to what will be accomplished, why this internship is important and why it should be approved. The student should indicate 3-4 possible case study topics.

Proposals for senior internships are due to the STEM Student Research Teacher after spring break. For this year, the proposals are due on June 1, 2010. The proposals will be reviewed by a faculty committee. Notification of approval or requests for clarification will be given to the student in May.

Students may not start their internships until final approval has been received **IN WRITING** from the committee. **Students must have their internships approved by the last school day.**

STUDENT REQUIREMENTS

Students will meet with their mentors on a regular basis to review the progress being made in accomplishing the objectives of the experience. The student will also meet with the STEM Student Research Instructor on a monthly basis to monitor the mentorship's progress and clarify any concerns.

Students must document in a logbook a minimum of 100 hours of work with a mentor to receive credit for the project. A bound composition book available at most retail stores would be a suitable tool for recording observations and maintaining appropriate documentation. Students are required to keep an anecdotal logbook on all aspects of their mentorship. The anecdotal logbook should include for each daily entry written in narrative format:

- Location where work was done
- Whether the student was directly supervised by someone (mentor, subject expert, etc.) or working independently
- Amount of time spent on internship
- A detailed description (narrative format) of what was done (research, patient protocol, writing paper, etc.)
- An assessment by the student of the work accomplished

Students are required to provide their own reliable transportation to internship sites. Students and parents are required to visit an approved internship site prior to participation at that site. Students will meet internship site requirements related to dress code, health, punctuality, physical requirements, professional behavior, and other site requirements.

Students will also be required to perform the following:

- Fill out and sign a Student Internship Application
- Fill out and sign a completed Student/Mentor/STEM Academy Contract
- Keep an anecdotal logbook documenting all related internship activities (as described above)
- Take digital photographs during the internship, including one of the student at the internship site, one of the mentor, and at least 3-5 of the work being done
- Document three (3) case studies of situations or areas of interest (as approved by both the mentor and the STEM Student Research Instructor)

- Write a final evaluation of the internship experience, minimum of 300 words, typed, which includes positives, negatives, and impact on future/career choice of the internship

- Give a public multimedia presentation of the internship experience.

Unless prior approval is obtained, this presentation will include a computer slideshow as the foundation of the visual component of the program. **The presentation should last 15 minutes with an additional 5 minutes allotted for questions and answers.** The presentation should include the following:

- Identification of mentor and internship site

- Descriptions of case studies, with cautions as to confidentiality

- Internship experiences and areas of interest

- Educational requirements and salary ranges for professionals in the internship's field of interest

- Job market and stability within the internship's field of interest

- Evaluation/reflection of the internship experience.

Each case study must be a minimum of 4 pages, typed, and single-spaced with double spacing between paragraphs. The font size must be 12 point. Suggested fonts are Times New Roman or Garamond. If a case study is research based, it must be directly related to the internship experience. In other words, the student must indicate how this term, procedure, etc. was observed during the experience or discussed with the mentor.

INTERNSHIP SITE REQUIREMENTS

Businesses wishing to consider participation as a internship site need to perform the following two steps:

- Fill out the Internship Site Application Form

- Identify those employees who have the interest and time commitment to directly supervise and work with a Great Mills High School STEM Academy Internship student

Prospective internship sites are encouraged to contact the Great Mills High School STEM Academy Supervisor at (301) 475-5511 (ext 126), or the STEM Student Research Instructor at (301) 863-4001 ext 153, for further information.

INTERNSHIP PROGRAM CONTRACTS AND FORMS

The following pages contain these contracts and forms:

- Student STEM Internship Application
- Internship Site Application Form
- Student/Mentor/STEM Academy Contract
- Reminders for Academy Seniors Form
- Senior Internship Hours Log

GRADING SYSTEM

The final grade of the Senior Internship will be determined using a combination of the following:

- Anecdotal logbook (100 hours minimum)
- Three typed case studies
- 300 word final student evaluation of the internship experience (word processed)
- Evaluation of student's performance by mentor
- Project presentation including a multimedia component
- Fulfillment of conference obligations with academy research project/internship advisor
- Critique of at least 5 other senior presentations
- Participation in the STEM Academy Senior Gala

GROUP PROJECTS

Group projects will NOT be considered for internship experiences.

SUMMER PROGRAMS (as an internship)

There are many research opportunities available in summer programs sponsored by organizations outside the STEM Academy.

To receive credit for a summer project, the following guidelines must be met:

- The student must submit a letter of intention to STEM Student Research Instructor along with the internship proposal. Since acceptance into these programs is generally selective, students must have an alternative proposal ready for submission should he/she not participate in the program of his/her choice.

- The student must submit a letter of acceptance for project approval.

- The student must keep an anecdotal logbook and include a syllabus from the summer program. If the student does not complete 100 hours in the summer program, he/she should consult with his/her mentor as to a follow-up project in the same field of study.

- The student must submit a letter of authenticity from the summer sponsor stating that the student did conduct the internship.

- All paperwork as previously described is also required of students who participate in summer programs and want it to be counted towards the STEM Academy requirement for graduation.

Just a few reminders about what your Senior Research Projects and Internships can and cannot be…

- You may not have a family member as a direct mentor or advisor.

- Your mentor or advisor may not work for a family member.

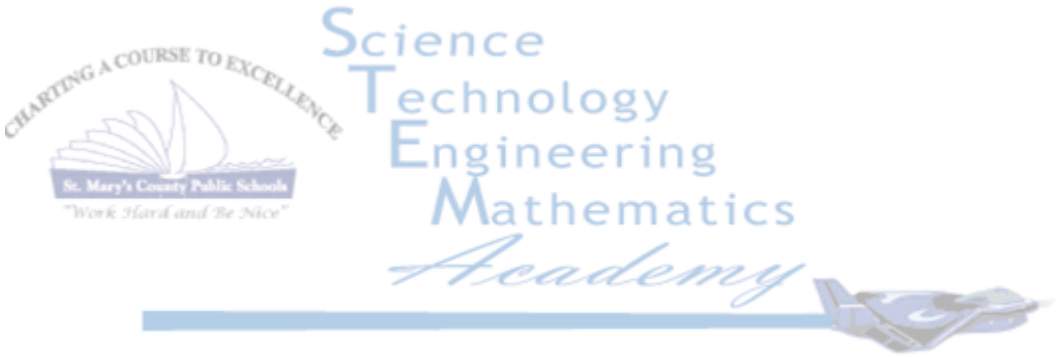
- Your experience is an unpaid learning opportunity. If your mentor/advisor wishes to pay you, you must obtain PRIOR approval from the STEM Supervisor.

- Your experience must be more than filing or routine, repetitive office tasks. While paperwork is a part of every job, it should not account for more than 10 hours of your experience.

- The anecdotal logbook must have entries for each day/activity. It is not acceptable to list multiple days with identical entries. Should you think that "ditto" best describes multiple days/activities, then you are not fulfilling the project/internship objectives.

- Projects/internships cannot be changed once approved without PRIOR written approval by the STEM Supervisor.

- Research Projects and Internships involve library research; however, if your project/ internship can be done using only research materials then it does not meet the requirement of this experience.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STUDENT INTERNSHIP APPLICATION

Name _____

Address _____

Telephone: Home _____ Cell _____

Email: _____

Mentor area(s) of interest _____

_____

List specific mentor tasks which would interest you

_____

_____

List any school activities _____

_____

_____

List any community activities _____

_____

_____

List any work experiences _____

_____

_____

List teacher references

_____

_____

_____

How will you arrange for transportation to an Internship site on a regular basis?

_____

_____

By submitting this application, I pledge on my honor that all of the above information is accurate. I agree to meet all conditions of the internship program, including dress, transportation, mentor requirements, and the Internship Contract.

_____ _____

Student Signature & Date Parent Signature & Date

INTERNSHIP SITE APPLICATION FORM

Name of Business _____

Address _____

Phone _____ Fax _____ Email _____

Contact person & title _____

_____

Driving directions to site from Great Mills High School:

_____

_____

Why would you like to become a mentor to this student?

_____

_____

_____

What season/months of the year would be best for you to offer an internship?

_____

Do you want the student to be available during weekends or school holidays - please provide details? _____

_____

Possible health or medical risks or exposures

_____

_____

Is OSHA training required? _____ Do you offer it? _____

What areas are restricted to non-access for an internship student? [Please recognize that students are probably below legal age (18).]

Will the student be able to fully experience all aspects of your job? If there are limitations, please indicate:

Required dress code

Special equipment or supplies needed by student

Student may **NOT** receive remuneration for work
completed at the internship site (certain exceptions may apply).

What questions do you have for us?
Please call us at (301) 863-4001 (ext 153) or (301) 475-5511 (ext 126) for more information.

Thank you for your interest in the SMCPS STEM Academy Research/Internship Program.

STUDENT/MENTOR/STEM ACADEMY CONTRACT

Student Name _____

Mentor Site & Name _____

_____

STEM Academy Faculty Advisor _____

Areas of Mentor Concentration _____

Days & Times for Mentor/Student Meetings _____

Time line and hours for internship _____

_____

_____

_____

I, *(student name)* _____, agree to complete the internship program at *(site)* _____ under the supervision and direction of *(mentor)* _____ by participating in the following areas of interest:

_____

_____

I am solely responsible for transportation and for meeting all of the requirements of the internship program.

I, *(mentor name)* _____, agree to supervise, guide, and direct the above student during his/her entire internship in the areas and departments of my internship site listed below:

_____

_____

_____

_____

I, *(STEM Student Research Instructor)* _____, agree to meet with both mentor and student at *(internship site)* _____ to assist both parties in performing a complete and successful internship program as requested.

_____ Student Signature & Date

_____ Mentor Signature & Date

_____ STEM Student Research Instructor

_____ Parent Approval & Date

SENIOR INTERNSHIP
CASE STUDY #1 EVALUATION RUBRIC

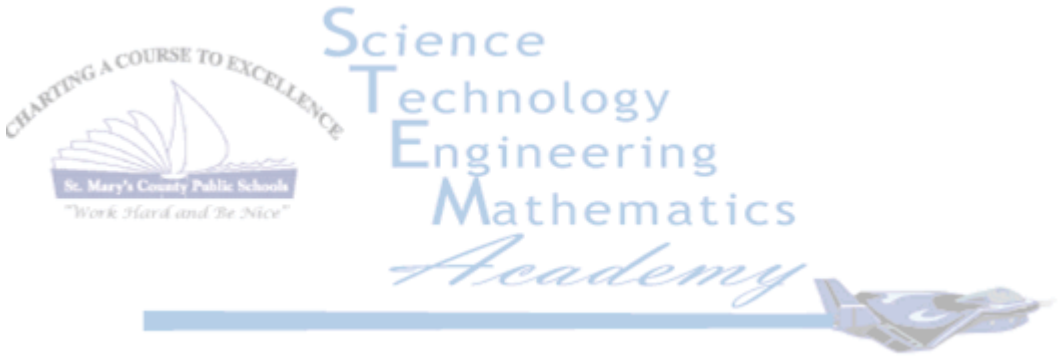
Student's Name _____

Name of Evaluator _____

Case Study #1 Topic _____

	5	4	3	2	1
Includes introductory information regarding mentor and internship site					
Includes sufficient background information on the topic/procedure for reader to understand the basics					
Includes a specific internship experience/observance of this topic/ procedure					
Reflects the composition skills of an Honors English student (correct usage and spelling, diction, sentence variety, organizational pattern, etc.)					
Is reader friendly (easy to follow, coherent, interesting)					
Is four (4) pages in length, single spaced, double spaced between paragraphs					
Includes appropriate internal citations					

COMMENTS: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St. Mary's County Public Schools
"Work Hard and Be Nice"
Science
Technology
Engineering
Mathematics
Academy

SENIOR INTERNSHIP
CASE STUDY #2 EVALUATION RUBRIC

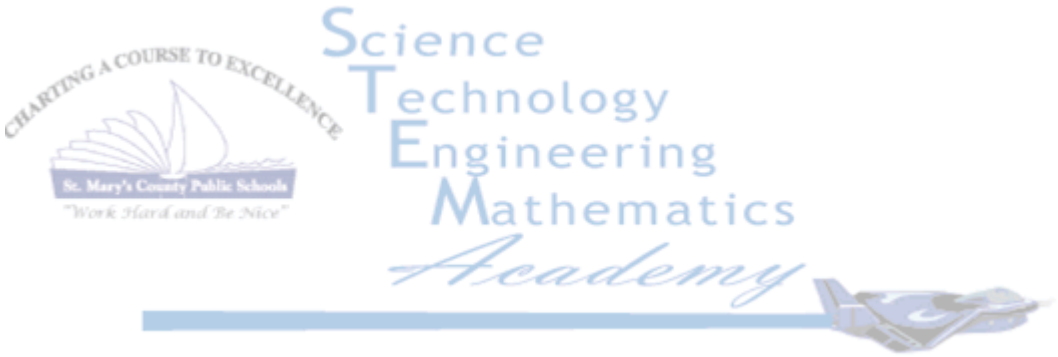
Student's Name _____

Name of Evaluator _____

Case Study #2 Topic _____

	5	4	3	2	1
Includes introductory information regarding mentor and internship site					
Includes sufficient background information on the topic/procedure for reader to understand the basics					
Includes a specific internship experience/observance of this topic/ procedure					
Reflects the composition skills of an Honors English student (correct usage and spelling, diction, sentence variety, organizational pattern, etc.)					
Is reader friendly (easy to follow, coherent, interesting)					
Is four (4) pages in length, single spaced, double spaced between paragraphs					
Includes appropriate internal citations					

COMMENTS: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SENIOR INTERNSHIP
CASE STUDY #3 EVALUATION RUBRIC

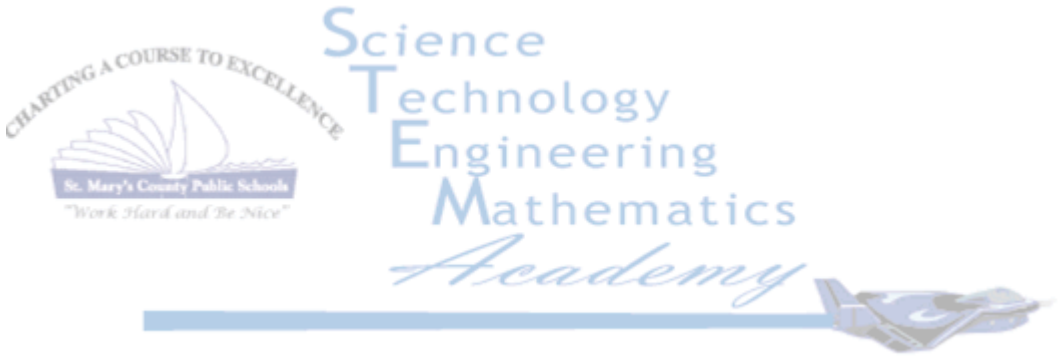
Student's Name _____

Name of Evaluator _____

Case Study #3 Topic _____

	5	4	3	2	1
Includes introductory information regarding mentor and internship site					
Includes sufficient background information on the topic/procedure for reader to understand the basics					
Includes a specific internship experience/observance of this topic/ procedure					
Reflects the composition skills of an Honors English student (correct usage and spelling, diction, sentence variety, organizational pattern, etc.)					
Is reader friendly (easy to follow, coherent, interesting)					
Is four (4) pages in length, single spaced, double spaced between paragraphs					
Includes appropriate internal citations					

COMMENTS: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Student's Name _____

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS ACADEMY

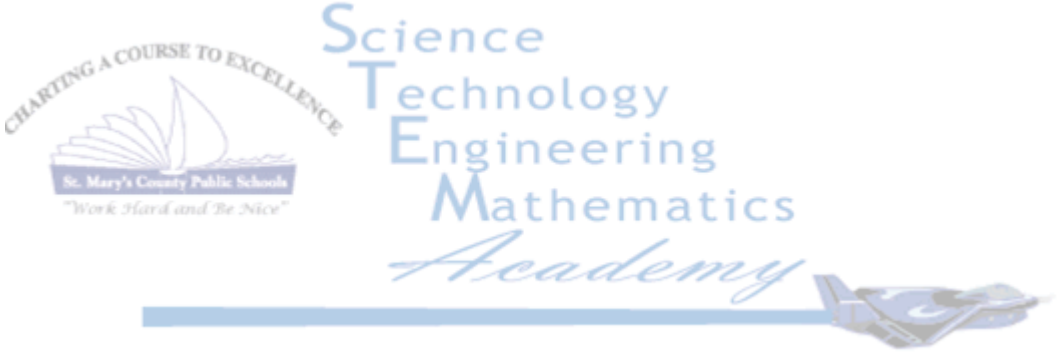
SENIOR INTERNSHIP FINAL GRADE

Daily Log	10%	
Case Studies	30%	
Final Evaluation	5%	
Presentation	25%	
Mentor Evaluation	10%	
5 Peer Observations	5%	
Conferences with STEM SRI	10%	
STEM Gala Attendance	5%	
Final Grade	100%	

Comments on Daily Log: _____

Comments on Research Paper: _____

Comments on Presentation: _____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PROPOSALS FOR STEM ACADEMY SENIOR RESEARCH PROJECT/INTERNSHIP
CLASS OF 2012

PROPOSAL REMINDERS:

1. Objectives should be stated in measurable terms. (The proposal objectives should indicate specific student experiences during the internship.)

2. The internship experience must be directly related to science, technology, engineering, or mathematics.

3. If you are applying for a summer program, you must have proof of acceptance before the project will be approved. However, your objectives still should be measurable and your timeline still should be detailed. Remember, if the student does not complete 100 hours in the summer program, he/she should consult with the STEM Student Research Instructor regarding a follow-up study in the same field of study.

4. All internship forms must be completed with the appropriate signatures before the proposal will be approved.

5. You may not begin the internship or the research project until final written approval is received.

6. If you change your internship or research project topic after it has been approved, you must write a new proposal, have it approved in writing, and have permission from the STEM Student Research Instructor or STEM Supervisor before beginning the new internship or project.

REMINDERS FOR STEM ACADEMY SENIORS 2012

I have read and understand that I must meet the following requirements during the 2011-2012 school year.

1. I understand that I must spend at least 100 hours with a mentor if I choose to participate in the internship experience. I understand that I must have an advisor for a research project.

2. I will adhere to the timelines provided and any additional timeline information provided by the STEM Student Research Instructor and the STEM Supervisor.

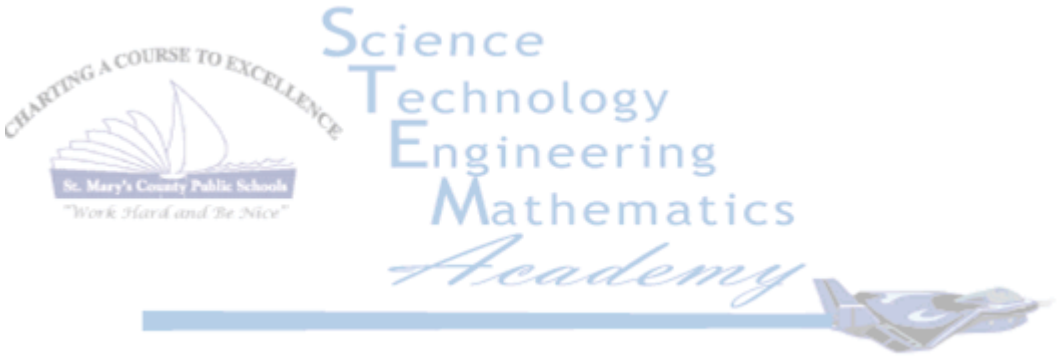
3. I understand that if I miss two meetings with the STEM Student Research Instructor I will be required to meet with the STEM Supervisor and a deduction in my grade will occur.

4. I understand that if I miss more than one deadline for turning in the draft of a written component I will be required to meet with the STEM Supervisor and a deduction in my grade will occur.

5. I understand that I must practice my presentation with the STEM Student Research Instructor prior to the date of the presentation. Also, I understand that if I do not fulfill the presentation portion of the Senior Project I will be withdrawn from the STEM Academy.

6. When a student is withdrawn from the STEM Academy, it will be reflected on their transcript.

Student Signature & Date _____ **Parent Signature & Date** _____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