

Mountlake Terrace High School

Culminating Project Guide

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Welcome Letter

Dear Student:

Welcome to the Culminating Project Seminar, your chance to prove to the entire school, community, and yourself that you know and can do something of relevance. The Culminating Project, a high school graduation requirement, represents the culmination of your education at Mountlake Terrace High School. Throughout this process you will be given the opportunity to demonstrate your ability to gather and use information, communicate effectively, think analytically, work independently, and assess your own progress as you complete a project in an area of particular interest to you. Many students use the Culminating Project experience to explore a career interest or perform a service for the community. For others, it is an opportunity to learn about something that is not part of the curriculum at MTHS. Regardless of the direction you take your project; the exciting aspect is that *you design it!* The Culminating Project experience is what *you* make of it.

The Culminating Project Planning Seminar (for most, the first semester of senior year) represents the first phase of the Culminating Project. During the Culminating Project Planning Seminar you will set a goal for your project, write a detailed proposal outlining what it will take to reach that goal, and record the entire process in a journal. By the end of your project, you will have spent a minimum of 40 hours or more outside the classroom working on your project.

The Culminating Project Presentation Seminar (during Spring semester) represents the second and final phase of the Culminating Project. During the Culminating Project Presentation Seminar you will complete your project, and present your project publicly. A written reflection essay based upon your experiences will be required following the public presentation.

As you begin your Culminating Project, please keep the following things in mind:

- Choose a project related to your interests, so you will not be working on a boring project.
- Choose a project related to the course work you have taken in school as well as your goals for life after high school. Course work related to your project, either in the past or during your senior year, is required.
- Plan something that will benefit you, someone else, or both.
- Culminating projects must include a product that you create – one that experts in your field can judge. What kind of product will you produce in this project?
- Projects designed to simply meet the minimum criteria are always problematic. Do not think in terms of, “What do I have to do to just get by?”
- Choose your mentor carefully. He or she will be your best source of guidance and information.
- Make sure that you clearly understand what is expected of you. Get answers to questions you have about course requirements early so there are no upsetting surprises later.

Employers tell educators that they are looking for students with fundamental job skills such as meeting deadlines, working independently, communicating effectively, accessing and gathering information, and solving problems. Culminating Project allows you to create your own “real world” experience while demonstrating that you do possess the skills that are necessary in today’s workplace. It is also an opportunity for you to shine by exhibiting your particular talents and abilities in a project you have chosen. The bottom line is, do the Culminating Project for yourself, and you will truly get the most out of the experience.

Sincerely,

Your Culminating Project Teachers

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ESD Risk Management Policy

As of April 2004

Student field of study-applied learning projects must be legal, parent-approved, advisor-approved and, in general, require students to “keep their feet on the ground”. Topics are limited for two reasons:

To promote a serious framework for learning (projects must be an applied learning project related to a Field of Study.

To avoid issues of safety / liability.

Student Project Proposals may be turned down for safety reason, by the student’s advisor and / or principal. If the student appeals to Edmonds Risk Management, the district may still require a student to choose an alternative project.

The “**No**” list includes:

- **No** water projects (canoeing, kayaking, powerboat racing, water-skiing, jet-skiing, white water raft trips, shark chumming, scuba-diving, etc.)
- **No** feet-in-the-air projects (bungee-jumping, skydiving, hang gliding, helicopter or plane-flying, hot air ballooning, etc.)
- **No** mountain climbing, spelunking, rappelling, snowboarding or skiing
- **No** horseback riding or training of horses
- **No** in-line skating, skateboarding, or bicycling
- **No** weapons or the making of weapons
- **No** racing of any motorized vehicle (auto racing, car bashes, soapbox races, stunting, tractor pulls, etc.)
- **No** paint balling
- **No** athletic camps
- **No** cheer / drill competitions
- **No** tattooing, body piercing, or branding

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Checklist and Due Dates

Step 1

- Project expectations and requirements (Guidebooks distributed)
- Discuss topics / ideas for projects
- Turn in Project Survey Sheet* **Due 9-17**

Step 2

- Select Project Rubric
- Select Mentor
- Mentor information sheet **Due 10-1**
- Draft Product Rubric (Product Standards) for project
- Draft Proposal **Due 10-31**

Step 3

- Revised Product Rubric (Product Standards) completed with guidance from mentor **Due 11-18**
- Edit and revise proposals
- Research and begin annotated bibliographies

Step 4

- Final proposal (including timeline) reviewed by project advisors, signed by Senior History teacher, mentor, and parent **Due 12-2**
 - **Project Advisors Review Proposal**
- Contracts signed and returned
- Begin project**
- Begin recording project process in journal
- Collect evidence of project process and completion (receipts, photographs, all correspondence)
- Continued evidence of progress on research and annotated bibliography
- Record evidence of periodic consultation with your mentor(s)
- Begin formal meetings with your project teacher recorded on Goal Review Sheet
- Mentor Progress Check **Due 3-25**

Step 5

- Complete Annotated Bibliography **Due 3-25**
- For *Career Exploration* projects, complete *Career Plan*
- Complete project **Due 4-7**
- Project evaluated based on Product Standards (Product Standards) by mentor **Due 4-7**

Step 6

- Compose Project Notebook
 - **Meet with Project Advisor for Notebook Review** **Before 4-22**
- Project Notebook Approved
- Make appointment with Project Advisor for practice Presentation
- Practice Presentation
 - **Meet with Project Advisor for Practice Presentation to take place (announced later)**
- Fill out presentation room review sheet **Due 5-19**
- Pass Formal Project Presentation **Takes place 5-21**

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Project Advisors

Your project advisor's role in your project.

Project Advisors are teachers who advise seniors in their completion of the Culminating Project. Teachers have signed on to advise five students.

Your project advisor is not your mentor. They have a limited and specific role.

Project Advisors will provide feedback during two stages of the project: the proposal stage and the project notebook review. It is not appropriate to ask your advisor to meet with you after school. Meetings should take place during tutorial time, or at a time that is convenient for your advisor.

Your advisor does not assign grades. Your project advisor's feedback should guide your revisions. Your culminating project teacher assigns the grades. Your project advisor's feedback can be consulted by project teachers for the purpose of assigning grades and approving projects for presentation.

Finally, the Project Advisor will be one of the panelists at your formal presentation, determining whether you have met standards and can graduate. It is therefore vitally important that you implement their advisors' feedback throughout the process.

Two key guidelines:

1. If you wish to meet with your advisor, you need to first approach your advisor and ask to make a time to meet—do not expect your advisor to work with you on a drop in basis.
2. Don't "game" your advisor. They are taking vital time to assist you in your project and your conduct will be a guide in how much effort your advisor puts into your project.

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Choosing Your Project

Your project will probably fall into one of the following six categories: **Career Exploration, Design a Product System or Service, Event / Activity Planning, Investigation, Learn a new Skill / Improve an Existing Skill, or Research.** Use the information below to guide you in choosing your project. You want to decide on the most valuable learning experience that you can for yourself through your Senior Culminating Project. The more you work on this class and project, the more YOU will benefit.

Career Exploration: Project is one of the most valuable types of projects because you can learn in depth about a possible career area that might be right for you. It can include an internship and a possible career plan. You will learn about wages, working conditions, job prospects, education requirements and the “ins and outs” of an area that could give you a head start to a decent life after high school. There is a career for every interest!

Design a Product, System, or Service: This is a great project for the person thinking about a possible future in engineering, industrial design, or entrepreneurship. You would develop a design and evaluate the quality of the design by gathering information from sources such as impact studies, product testing or market research. You would make adjustments as needed to conform to specific standards of quality and / or safety.

Event / Activity Planning: This category would benefit the person thinking about a future in, perhaps, the travel industry, the entertainment industry, recreation business are, and / or improving their organizational skills. In this area, you would conduct research, target your audience, organize it all, make it happen without any hitches.

Investigation: The Investigation category is for the student that is thinking maybe about a future in science, crime scene investigation, law, survey industry, or consumer product rating area. You would develop a central question, objectively observe, measure and record results, and generalize about your data by comparing and contrasting, and noting trends.

Learn a New Skill / Improve an Existing Skill: This is a popular category for students wanting to learn something that could turn into a career possibility in many areas such as auto mechanics, music, writing, sports, etc. You would conduct research into current methods and practices, develop your skills, and determine ways to measure and prove that you are now better at the skill.

Research: The Research area is beneficial for students preparing for a 4-year university education in any area. You would develop a central question of social, economical, environmental, political, historical, or scientific significance, you would research it and write a high quality research paper, building and developing an argument using logical thinking and data from research to support your conclusion.

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Proposal Guidelines

The template provided on the MTHS website provides fields for all of the following information. Use these guidelines to be certain to include all necessary information in those fields.

All of this information must be included in your proposal. Before handing in your proposal to your Culminating Project teacher, be sure that you have addressed each of the following components, spell checked, and proofread the entire document. The entire proposal should be written in technical writing format, and will be approximately 5-6 pages long. This document will be available on-line for your use as a template.

I. Introduction

A. Overview: This is the introduction to your proposal. It should be a brief description of what you plan to do for your Culminating Project. Remember that introductions are designed to catch the reader's attention. Make all statements active, i.e.: "I will..." All projects must have a product. Here is also where you describe your product in detail.

B. Rationale: What motivated you to choose this particular project? Discuss all your reasons.

C. Fields of Study: Field of Study concentrations are linked sets of courses where students develop skills and understand concepts in depth within a focused area of interests, as well as explore career and education opportunities related to the concentration area and prepare for your Culminating Project. Within the Edmonds School District, Field of Study concentrations are organized within five areas:

There is a link to the Field of Study descriptions here: MTHS Web-Fields of Study

<http://www.edmonds.wednet.edu/mths/StudentGuide/Catalog/fieldsOfStudy.htm>

D. Objective / Goals: All projects must include a learning stretch. Explain what you already know about the topic of your project, as well as what you expect to learn.

II. Plan

This section of your proposal, in which you explain the steps needed to complete your project, is the most important part of your proposal and may be as many as 2-3 pages or more. Remember that a good plan leads to a successful project. Explain clearly, and in detail, everything you will need to do, step-by-step, to complete your project. The more thorough your plan is, the more successful your project will be. Include the following:

- A. Timeline:** To enable you to thoroughly plan the course of your entire project through to its completion, a detailed timeline or calendar is required. Include all of the steps necessary to complete your project. It is understood that your timeline or calendar will probably need adjustment throughout the course of your project. It is advised, however, to remain as close to your original timeline as possible.
- B. Mentor(s):** Considering the complexity of your project and your level of knowledge what the purpose of a Mentor is to serve as an advisor in the field you are exploring. How is this person qualified to help you with your project? What is his / her expertise? If you envision needing more than one expert, address that in this section.
- C. Facilities and Equipment:** What equipment will you need? Where will you work on your project? What special facilities will you need (lab, garage, hospital, etc.)?

D. Budget:

What expenses will you have?

What is the total cost of your project?

Itemize your predicted expenses.

How will you finance it?

How will you adjust your expenses if you do not secure the necessary funding?

- E. Research:** Your project must include a research component that uses the Edmonds School District Research Process. You will need to discuss how you plan to prepare for the research:

What possible information sources and keywords will you use?

How will you evaluate and determine the usefulness and reliability of your information?

How will you keep a record of your bibliographic data?

- F. Project Rubric (Project Assessment):** Each project is assessed using one of the following rubrics: Career Exploration, Design a Product, Service or System, Event/Activity Planning, Investigation, Learning a new Skill/Improving an Existing Skill, and Research. Each of the rubrics are available on the Project Website. In your proposal, discuss how you will meet each of the standards in the project rubric, labeling each of the project standards in bold faced font.

G. Product Standards (Product Assessment): All Culminating Projects must include a concrete product, which might be a rebuilt engine, a career plan for mechanical engineering, a photography portfolio for submission to art schools. The Product Standards are those standards that industry experts use to judge similar products. During this process you and your mentor will create a rubric - based on industry level standards – that is uniquely designed for your project. These standards are those set forth by the highest experts in your field.

At the conclusion of your project, you and your mentor will use these standards to assess the quality of your project. It should be noted that failing to complete a project above industry standards is not necessary for a successful project.

| | Below Industry Standard | At Industry Standard | Above Industry Standard |
|--|-------------------------|----------------------|-------------------------|
| | | | |

III. Documentation / Evidence

A. Journal: Your primary source of documentation is a journal. Discuss how you will utilize a journal to record your project. The assumption is that if it is not contained in the journal, it did not take place. Perhaps the most important item to journal are those moments when you learn something from your project – a problem solved, an obstacle overcome or a moment of recognition. Such moments will make up a prime component of your presentation.

B. Physical Evidence: Physical evidence is fundamental to the documentation process. What physical evidence will be produced that proves you completed your Culminating Project from start to finish? Discuss how you will collect and retain all the physical evidence. Physical evidence may include but is not limited to the following:

- | | | |
|-----------------------|----------------------|------------------------------------|
| <i>Pictures</i> | <i>Video reports</i> | <i>Blueprints</i> |
| <i>Models</i> | <i>Drawings</i> | <i>Patterns</i> |
| <i>Manuals</i> | <i>Pamphlets</i> | <i>Newsletters</i> |
| <i>Brochure</i> | <i>Lesson plans</i> | <i>Business or Marketing plans</i> |
| <i>Receipts</i> | <i>Lab write-ups</i> | <i>Research papers</i> |
| <i>Budget Summary</i> | | |

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All acceptable proposals for the Culminating Project must meet the following requirements:

| | |
|--|---|
| <p>Title Page:</p> <ul style="list-style-type: none">• Title of Paper• Student Name• Date• Teacher Name | <p>Paper Contents:</p> <ul style="list-style-type: none">• Page number on each page• Maximum of 5 typed pages• 1 ½ spaced or double spaced• Junior English writing standards• No spelling or grammatical errors• Must include all components of Think Sheet |
| <p>Paper Sections:</p> <ul style="list-style-type: none">• Goal and Introduction• Plan• Assessment• Timeline | <p>Do not use:</p> <ul style="list-style-type: none">• Contractions (can't, isn't)• 2nd person (you) |

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Proposal Rubric

Student Name _____

Project Teacher _____

| | 1 – Below Standard | 2 – Approaching Standard | 3 – Meets Standard | 4 – Above Standard |
|-----------------------------------|--|---|---|---|
| Overview | Overview is missing or no reference is made to the final product. | The final product is mentioned but is missing specific details that do not create a clear picture of what you are doing. | The hook is lacking or missing; the final product is mentioned but there are one or two details missing from the description | Catches reader’s attention. Product is described in great detail. |
| Rationale | Rationale is missing, inaccurate, or inappropriate for Culminating Project. | Rationale is vague or missing many possibilities for why you are doing this project. | Rational is present but lacking all the reasons or an element of motivation. | Motivation is compelling, clear, and appropriate for the project. |
| Objective & Goals | Objectives and goals are missing or unrelated to the project. | Goals are present, but are incomplete; there may be project specific or general goals that need to be included. | Goals and objectives are complete enough to go forward. More thought may produce deeper goals. | The general and project specific skills to be acquired are relevant, challenging, and appropriate. |
| Timeline | Timeline is missing and/or so inaccurate that it cannot be used. | Timeline is present; there are one or more major holes and / or many minor details missing. | Timeline is complete but there may be minor details missing and / or holes in the overall plan. | The timeline is detailed, project specific, and there are no holes whatsoever. |
| Mentor | No mentor is mentioned or the mentor is clearly not qualified for this project. | A mentor is mentioned but their name, relationship, and / or qualifications are unclear. | Mentor is mentioned by name and qualifications are established but some details are missing. | Mentor is mentioned by name and his / her / their qualifications are clearly demonstrated. |
| Facilities & Equipment | Equipment and facility needs are either not mentioned, or those mentioned are not relevant or appropriate. | Equipment and facility needs are mentioned, but are missing one or more components that prevent completion of project. | Equipment and facility needs are established, but may not include some items, which will not prevent completion of the project. | Equipment and facility needs are clearly proven, relevant, and appropriate to the project. |
| Budget | Budget is not mentioned, not itemized, or incomplete in many areas. No mention of how financing will be reached. | At least one significant expense is missing, inaccurate, or not itemized. How the project is to be financed is not mentioned or incomplete. | Expenses and total cost are mentioned as is mention of how project will be financed, but some items are inaccurate or missing. | Expenses are clearly itemized. Reference is made to how the student will finance the project, and adjustments are mentioned if necessary. |
| Research | No mention of research made or details are too vague or incomplete to be useful. | One or more research component (source, keyword, evaluation, records) is missing or incomplete. | Sources, keywords, evaluation and records are mentioned but not in detail on one or more item. | Sources, keywords, evaluation, and records are discussed in detail. |

Cont'd on next page

| | 1 – Below Standard | 2 – Approaching Standard | 3 – Meets Standard | 4 – Above Standard |
|---------------------------------------|--|---|---|--|
| Assessment | The rubric is not mentioned by name and multiple components are missing. | The rubric is either not mentioned by name and/or components are lacking detail or missing. | The rubric is mentioned by name but a few components lack great detail. | The rubric is referenced and each component is addressed in detail. |
| Industry Level Assessment | Standards are either not present or not relevant to true industry standards. Language is very vague. | Standards are present but there are missing components key to the project and/or language is very confusing/misleading. | Product Standards include viable components but language may be confusing or vague. | The Product Standards are appropriate to the topic, and detailed with clear language for each level of standard. |
| Journal | The section is missing or the journal is not mentioned | The journal is referenced but no mention is made as to its use | The journal is mentioned with some reference as to how it will be used. | The journal is mentioned and detailed reference is made as to how it will be used. |
| Physical Evidence | Physical evidence is either not mentioned or evidence is clearly missing and / or inappropriate. | Some physical evidence is mentioned but important possibilities are left out. Methods of collection and retention may be missing or incomplete. | Physical evidence is mentioned with reference to collection but may not include retention and or a few possibilities. | All possibilities for physical evidence are mentioned in terms of collection and retention. Evidence is appropriate to the topic |
| Organization Style Conventions | Format is completely disregarded and / or major convention errors make reading difficult. Style is simplistic. | Significant formatting errors exist and / or major errors in spelling and grammar detract from reading. Style is rote and basic. | Organization follows proposal format with few deviations / errors. Conventional errors are present but do not detract from overall message or flow. | Proposal format is without error and there are little to no grammar / spelling mistakes. Writing is easy to read with creative and enthusiastic style. |

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Timeline Guidelines

Your timeline is a chronological listing of major checkpoints for completion of your project. Include all of the steps necessary to complete your project. This will enable you to thoroughly plan the course of your entire project through to its completion.

The purpose of the timeline is to help you both for the step-by-step completion of your project, and to set goals for yourself by determining by what dates specific tasks need to be finished. In order for your timeline to be useful for charting the course of your project and marking your progress, it needs to be detailed and clear.

- It is understood that your timeline will probably need adjustment throughout the course of your project. Significant changes to your Timeline must be recorded in your journal as they occur. You are required to receive approval by your Culminating Project teacher for any major changes. That should not hinder you from setting weekly goals for yourself now. Any changes can be recorded as they occur. It is advised, however, to remain as close to your original timeline as possible. You must provide your teacher with a copy of your timeline and calendar.

- All major events must be included
- Project completion date
(*Projects should be completed no later than the second week of the Presentation Seminar.*)

- Each entry must include:
 - Task to be completed
 - Date of completion (month / year)
 - General description of what is to be completed
 - Typed, 1 ½ lines or double spaced, no spelling or grammatical errors
 - Left hand column lists dates
 - Right hand column lists events
 - A separate calendar page for every month from the time the project is started to the time it is completed.
 - Minimum three tasks per week planned.

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Mentor Guidelines

The purpose of a Mentor is to serve as an advisor in the field a student is exploring through his / her Culminating Project. A database of possible Mentors in varying fields is currently being compiled to aid students in their search for a Mentor. The following guidelines are established for the selection of a Mentor, and the function a Mentor should serve once committed to helping a student with a project.

Students should find a Mentor from the community to help them with their project. Parents, teachers, high school graduates (over 21) could serve as Mentors for projects by special permission.

Mentors should be obtained as soon as possible, and no later than the 4th week of the planning seminar.

Long distance Mentors may be permitted, if the student has a plan for regular contact with the Mentor and can justify the need for this particular Mentor.

Develop a minimum of 7-10 interview questions including:

- 1) Field related questions / technical aspects
- 2) Problems to anticipate
- 3) Solutions to anticipated problems
- 4) Skills and background knowledge needed to be successful
- 5) Possible resources for research
- 6) Contact information

Mentor Duties

Mentors may give advice and guidance on the design of a Culminating Project including but not limited to:

- 1) Proposal (timeline, research goals) project standards, and the presentation
- 2) Consistent with Edmonds School District policy and procedures, all Mentors must have a background check if a student is less than 16 years old.
- 3) Mentors should be able to help students with the technical aspects of their project and advise students when they run into difficulties.
- 4) Mentors may also teach students new skills or information that would not necessarily be available to them through regular school activities.
- 5) It is *not* a Mentor's responsibility to do the project for the student!
- 6) Mentors must sign the Culminating Project contract.
- 7) Mentors will be invited to attend the presentation and evaluate their student's completed project.

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Journal Guidelines

Your journal is the formal documentation of the 40 hours you have spent outside the classroom on your project. Your journal will be assessed as an integral part of your Culminating Project. The following are requirements for journal entries.

Guidelines:

1. If it is not documented in your journal, it does not exist.
2. Keep your journal neat and organized (you may want to type it, especially if your handwriting is not neat).
3. Include the date, number of hours spent that day, and detailed entries.
4. Entries need to be detailed and specific (minimum 1 paragraph / 4-6 sentences).
 - a) *What you did*
 - b) *What you saw*
 - c) *What you heard*
 - d) *What you learned*
 - e) *How it related to your project*
 - f) *Your reactions*
5. Journals will be checked regularly to ensure entries are current.
6. Journal must be maintained for the duration of the project even if you are not enrolled in a class.
7. This applies to students working on projects during the summer and students who do not take the Planning and Presentation consecutively.

Significant changes to your Timeline must be recorded in your journal as they occur. You are required to receive approval by your Culminating Project teacher for any major changes.

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Notebook Guidelines

Introduction: A notebook is required as part of your Culminating Project and must be submitted as part of your presentation. Your notebook shows all of the work you have done on your project. This is the first impression the panel will get of you and your project. Make sure that you create a positive one. Your notebook must meet the following guidelines and must include all of the sections and components listed below. It must be neat and professional looking.

Notebook and Paper: Obtain a ½” (or 1”) white view binder that includes a clear cover slot into which a cover page can be inserted. All pages in your presentation notebook must be 8 1/2” x 11” in size and **NOT** 8” x 10 ½”. Do **NOT** use page protectors. Use only **Arial** and **Times New Roman** fonts or equivalents (i.e. a good-quality serif or san-serif font) in 10, 11 or 12 point font.

- **Notebook Cover:** To be inserted in the clear cover slot of your notebook.
 - Title of project
 - Name
 - Centered picture
 - School name
 - Teacher’s name
 - Date of presentation
- **Title page with:**
 - Name
 - Title of project
 - Teacher’s name
 - Date of presentation
- **Table of Contents:** Copy the sections below for your table of contents
 - Section 1: Proposal**
 - Original Approved Proposal with signatures and rubric
 - Project Rubric
 - Addendum, if necessary
 - Section 2: Mentor Forms:** These are the minimum and must be included in your notebook.
 - Mentor Information
 - Mentor Project Progress
 - Mentor Evaluation of Product Standards
 - Section 3: Journal**
 - Complete Journal
 - Section 4: Research**
 - Annotated bibliography
 - Research documents regarding project
 - Section 5: Appendix**
 - Project documentation including photos, notes, graphs, charts, rough drafts, ideas, etc.
 - Budget page
 - Class handouts and assignments

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Notebook Interview

Prior to your presentation, you will be interviewed by a staff member. During this interview, you will present evidence of your having met the criteria for your Culminating Project. Most of this evidence is completed as a part of your presentation notebook. If feasible, you should also present your application or product at this interview.

The interviewer will use your *Project Rubric* and *Product Rubric* to determine if you have met standards on your Culminating Project. The following pieces of evidence, included in your *Presentation Notebook*, will be most important to this interview.

- Journal
- Mentor evaluation of Product Rubric
- Photographs and other evidence of your product / process work

Appear to your interview on time and well-prepared with all evidence in hand. Presenting adequate evidence of meeting standards on your Culminating Project at the interview is required for your participation in practice presentations.

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Notebook Feedback Guide

| Categories | Areas of concern (<i>major revisions recommended</i>) | Adequate Responses (<i>some revisions recommended</i>) | Exemplary Responses |
|---|---|---|---|
| Notebook Organization and Appearance | Project notebook is incomplete and / or below presentation quality. | Project notebook is clearly organized and complete although minor revisions are necessary. | Project notebook is of professional quality and exceeds presentation standards. |
| Research | Very little explanation of research and how it was used. | Explains research and its usage. | Strong research based project and thorough explanation of its usage. |
| Field Expert | Lacks of evidence of field expert's qualifications and involvement. | Evidence of field expert's qualifications and involvement. | Detailed evidence of field expert's qualifications and involvement. |
| Problem Solving | Very little evidence of problem solving, necessary adjustments, or learning. | Explains what problems occurred, what adjustments were made, and what was learned as a result. | Thorough explanation of problem solving, preventative measures, necessary adjustments, and learning. |
| Project Rubric | Unclear about project standards and how they were met. | Explains project standards, what they were, but some standards are either not met or not addressed. | Very complete explanation of project standards and how each standard was met. |
| Product Rubric (Product Standards) | Standards might not suit the product. Unclear about project standards and how they were met. Lacks evidence of mentor participation. | Evidence presented demonstrates student has met a set of standards. Some standards may not be represented or may be unclear. | High quality standards are presented as well as ample evidence that student has met standards. Thorough discussion of field expert's product assessment. |
| Evidence, Documentation, Goal Sheets | Shows insufficient evidence of actual product / process completion. | Adequate evidence presented although greater quantity and / or variety is necessary. | Shows ample evidence of actual product / process completion through a variety of modes. |
| Project Journal | Journal entries lack sufficient discussion of some or all of the following: evidence of learning, stages in the project process, clear justification of hours in project. | Journal presents sufficient discussion of some or all of the following: evidence of learning, stages in the project process, clear justification of hours in project. | Journal presents ample and compelling discussion of some or all of the following: evidence of learning, stages in the project process, clear justification of hours in project. |
| Learning / Project Involvement | Little evidence of a learning stretch. | Appropriate Culminating Project involvement, complexity, and learning stretch. Achieved 40-hour requirement. | Convincing demonstration of learning stretch. Project involvement and complexity, beyond expectations for a Culminating Project. Additional hours beyond the 40-hour requirement. |

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Recommendations

Recommendations (to be checked off by interviewing teacher):

- Major revisions recommended:** Some components may be incomplete; some areas lack organization and / or neatness. Notebook and interview do not show students have met standards as set by proposal.

- Some revisions recommended:** All components are present and complete. While evidence presented shows student has met standards as set by proposal, revisions are recommended prior to presentation.

- Exemplary work:** All components are professional quality; demonstrates student's investment of time and energy in producing a presentation notebook of exceptional quality. Notebook shows excellent evidence of actual product / process completion. Notebook and interview show student has met or exceeded professional standards as set by students' proposal, project rubric and product rubric (Product Standards).

Reviewer's notes:

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Research Guidelines

Research occurs whenever you try to solve problems using several different resources. Your Culminating Project is a chance to show that you can complete the Research Process independently; this is a valuable life skill. The process steps are in the table below. It is important to understand that this is not a linear (step 1-7 in order) model but rather a flexible model where you might skip around and repeat several steps. Your librarian and Culminating Project teacher are good resources to use for any stage of this process.

- 1. Before you begin, briefly describe in your journal the areas of your project that require new knowledge and / or skills. Make a list of the background knowledge you will need to acquire to develop a better understanding of your project.**
- 2. The research aspect of your project must have a variety of resources to create a strong foundation for your work. Use a minimum of three (3) different types of resources. To get started select resources from the list below or present ideas to your Culminating Project teacher for approval.**

Books

Movies or Documentaries

On-line resources

Newspaper articles

Encyclopedias

Works of art

Editorials

Cartoons

Magazines

Music and/or song lyrics

Pamphlets or brochures

Personal Interviews

The Research Process:

- 1. Define the research questions (*Section 1 of Proposal*)**
 - Select topic
 - Develop a central question / thesis
 - Explore general resources for an overview of topic
- 2. Prepare for search (*Include this in your journal*)**
 - Brainstorm a list of words, etc. that can be used in the search
 - Formulate specific search questions related to thesis
 - Develop strategy for information search (Grade 12)
- 3. Locate information sources and search for relevant information (*Keep this information handy for the Annotated Bibliography*)**
 - Use key words to locate a wide variety of resources
 - Find various primary and secondary resources relative to thesis
 - Record bibliographic information using MLA form
- 4. Interpret, evaluate, and record information (take notes) (*Record notes in Journal to place in your Project*)**
 - Recognize the relationships among ideas and central question
 - Determine reliability, credibility, and validity of data
 - Understand fallacies in reasoning
 - Evaluate bias of sources

- Classify information as fact, opinion, and theory
 - Recognize and interpret relevant information
 - Select information and record using paraphrasing and direct quotations
5. Construct meaning by synthesizing and organizing information (Prepare the report)
- Sort and organize information into logical format
 - Analyze findings and make generalizations
 - Analyze connections between thesis and sources
 - Integrate background information to support arguments
 - Include facts, observations, statistics, and analogies as appropriate to support thesis
 - Create an outline which shows the logical progression of arguments supporting thesis
 - Document sources of specific information
 - Finalize list of sources used
 - Write paper using the writing process, addressing the central questions, and supporting the conclusion with fact from research
6. Apply findings and / or present information (*This will be fulfilled in your presentation*)
- Present to a meaningful audience
 - Communicate what has been learned in writing the paper through a manner appropriate to the specific thesis (e.g. chart, display, video, presentation, or multi-media technology)
7. Evaluate process and product
- Evaluate own paper and presentation against established criteria
8. Reflection
- Discuss or reflect on process and results
 - Determine possible improvements

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Annotated Bibliography Guidelines

The annotated bibliography is the document in which you give credit to all of the sources you consulted while completing your Culminating Project. Annotated bibliographies not only list the works cited, but also provide a brief (one paragraph) explanation of how each source was or was not useful to you as you worked toward completing your project.

Completed annotated bibliographies will include between five and ten separate sources. A rough draft of the bibliography with at least five entries and complete annotations is due at the end of the planning semester.

The annotations (brief explanations) may include the following information:

Why did you consult this particular source?
In what way was or wasn't the source useful to you?
How did you find the source?
How often did you consult this particular source?

Depending on the subject matter of your project, you may have some or all of the following sources in your annotated bibliography:

| | | |
|--------------------------------|----------------------|---------------------------------|
| <i>Books</i> | <i>Encyclopedias</i> | <i>Magazines</i> |
| <i>Movies or Documentaries</i> | <i>Works of art</i> | <i>Music and/or song lyrics</i> |
| <i>On-line resources</i> | <i>Editorials</i> | <i>Pamphlets or brochures</i> |
| <i>Newspaper articles</i> | <i>Cartoons</i> | <i>Personal Interviews</i> |

The Style Guide for Works Cited provides an example bibliography entry for each of the above listed sources. Follow the Style Guide exactly while writing your bibliography.

A **poor example** of an annotated bibliography entry for a book would be:

Brook, Barry S., Downes, Edward O., and Sherman Van Solkema., ed. Perspectives in Musicology. New York: W.W. Norton & Company, Inc., 1972.

This book was about the growth and development of music in the United States. Although it contained some good information, much of it wasn't very helpful to me.

A **excellent example** of an annotated bibliography would be:

Ettinger, Stephen J. Textbook of Veterinary Internal Medicine. W. B. Saunders Company, 1989

This book was particularly useful because it explains all of the different zoonoses in detail explaining the symptoms and the way that they are transferred. The ailments were only those that small animals (cats and dogs) would get. Almost all of the information was helpful to me.

Jones, Larry L. Personal Interview, 4 June 1997

Dr. Jones has been a great source of information because he has a lot of experience in the field and can help me with questions I have based on his vast knowledge. He helped me think of a narrower field that I may want to concentrate on: zoonoses, rather than just concentrating on a broad topic such as feline parasites. He is also my Mentor so I will be receiving much more information from him in the future.

Kalette, Denise and Richard Lanham. Cats and Veterinary Medicine. New Haven: Yale University Press, 1992.

The most beneficial element of this source was that it gave specific information about veterinary medicine specific to cats. Much of the information was very technical and hard to understand, but I was able to get a lot of good information about common ailments that effect cats and how to prevent them.

“The Veterinary Profession.”

<http://netvet.wustl.edu/vetjob.htm>. Online. World Wide Web. 15 January 1998.

This site was extremely helpful in my search for information regarding a career in veterinary medicine. Basically, all of the questions that I was planning on asking my Mentor were answered. The wages, job description, employment opportunities and many other topics were covered at this site, making it very valuable to me.

Woodland Park Zoo. Volunteer Opportunities. Washington, 1997

I was very interested in working at the zoo to earn my volunteer hours. This informational brochure helped me realize that in order to volunteer at a place so widely known, I would have to apply much earlier. The brochure basically told me that the only experience I could gain with animals at the zoo in the near future was at the petting zoo area. This was not something I was interested in and it pointed me in the direction of the Veterinary Hospital.

STYLE GUIDE FOR ANNOTATED BIBLIOGRAPHY

1. Book with single author

Whelan, Gloria. Goodbye, Vietnam. New York: Simon and Schuster, 1992.

2. Book with more than one author

Roberts, Kenneth, and Philip Schakleton. The History of the Kayak. Toronto: Macmillan Press, 1996.

3. Encyclopedia Article

Moore, John L. “Volcano.” World Book Encyclopedia, 2002 ed.

4. Internet (World Wide Web)

The basic MLA format for online sources includes:

Author’s name

Title of the work you used

Title of the online site or homepage

Date of its publication, if known

Date you found the source

Source’s complete web address in angle brackets < >.

Note: Dates are written in “international style” with day, month, and year

Jones, Joel, “Wearing Out the Internet.” Internet Concerns. 15 Jan. 1998. 23 March, 2003.
<http://www.centaur.com/new/conc/internet/htm>

When an author or web date is unknown, begin with the title of the work you used.

“The Perils of Cocaine.” Drug Help. (date unknown). 27 March, 2003.
<http://www.drughelp.org/research/hernarc.htm>

5. Proquest

Sparks, Catherine. “Men That Changed the World.” New York Times, 29 Dec. 1999, Proquest. 12 Jan. 2000.

6. Issues and Controversies

More than one author contributes to this news digest. Locate the first name listed in the Bibliography on the last page of the article. Either use this person’s name, followed by ‘et al’ (and others), or name all the writers.

Beers, David. et al. “Military Draft.” Issues and Controversies on File. 28 February, 2003.

7. Magazine Article

Fonda, Daron. “National Prosperous Radio.” Time. (March 24, 2003): 49-51.

8. Newspaper Article

Braham, Daphne. “Post Iraq Woes Begin.” Seattle Times, 30 Mar. 2003: A2.

9. Work in an Anthology or Collection of Essays

Lazard, Naomi, “In Answer to Your Query.” The Norton Book of Light Verse. Ed. Russell Baker, New York: Norton, 1986. 52-53

10. More On-Line Works Cited Examples

Personal site

Pellegrino, Joseph. Home page. 16 Dec. 1998, 1 Oct. 1999
<<http://www.english.cku.edu/pellegrino/personal.htm>>.

Professional site

Mortimer, Gail. *The William Faulkner Society Home Page*. 16 Sept. 1999. William Faulkner Soc. 1 Oct. 1999 <<http://www.acad.swarthmore.edu/faulkner>>.

U.S. Department of Education (ED) Home Page. 29 Sept. 1999 US Dept. of Education. 1 Oct. 1999 <<http://www.ed.gov/inex.html>>.

Book On-Line

An online book may be the electronic text of part or all of a printed book, or a book-length document available only on the Internet.

Bird, Isabella L. *A Lady’s Life in the Rocky Mountains*. New York, 1881.
Victorian Women Writers Project, E. Perry Willett, 27 May 1999. Indiana U. 4 Oct. 1999
<http://www.indiana.edu/~letrs/vwwp/bird/rock.html>

11. Interview

Shaw, Henry. Personal Interview. 13 May 2002.

12. Video

“Alzheimer’s Disease.” Videocassette. Prod. Hospital Satellite Network.
American Journal of Nursing, 1996. 34 minutes

13. Television Program or Radio Program

“Embedded Reporters in Bagdad.” All Things Considered. PBS, WGBH, Boston
29 March 2003.

***Remember to do the following:**

1. Alphabetize all, according to author’s or article’s first letter.
2. Indent the 2nd line 5 spaces.
3. Re-check each source to make sure all details are accounted for.
4. Underline name of book, magazine, web’s home page, or *italicize* it.
5. MLA rules are updated periodically. Check with your teacher.

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Addendum Criteria

For students whose projects have changed somewhat due to circumstances beyond their control, or for those who decide they want to focus on something other than what they stated in their original project proposal, an addendum to the original proposal is needed. An addendum is also required if a student changes rubrics. This addendum must meet the same requirements as the original project proposal as far as grammar, spelling, punctuation, and content are concerned (see Proposal Specifics). In addition, the addendum should include the following:

- An explanation of the changes you are making in your project and how those changes differ from your original plan.
- Why you are making the changes in your project
- A detailed description of what you plan to do instead (which must be equal to or greater than your original idea)
- For a change of rubric, the components of the new rubric must be addressed and approved.

The reasons why your project has changed are important – if the reasons are not compelling enough, your changes will not be approved. If you change rubrics, you must address each component of the new rubric. **Your teacher, advisor, mentor and parents must approve the addendum BEFORE you implement it.**

Note: Addenda will not be accepted past the second week of the Presentation Seminar (2nd semester). If you are going to make changes in your project, they need to be made before then.

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Proposal Review

Title:

Date:

Name:

In reviewing this proposal, look for the following components:

1. Steps Has the student adequately discussed the steps necessary to complete this project?

2. Final Product Has the student named a concrete product for her project? Will the student be able to produce the desired product by his / her deadline? Has the student set reasonable standards for a high quality product (see Product Standards)?

3. Learning Based on what you know about this student, does this project represent a reasonable learning stretch for this student?

4. Time Will this project take 40 hours to complete (a required minimum)?

5. Dates A timeline is attached. Note what goals have been set. Has this student given him / herself enough time to complete the goal?

Student's signature

Date

Teacher's signature

Date

Parent's signature

Date

I have reviewed this proposal and have determined that this project can be reasonably accomplished in 40 hours. The process described is appropriate for the project.

Mentor's signature

Date

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Contract

The student understands that the responsibility for completing the Culminating Project, its content, presentation, and exhibition, lies solely with the student.

Although the student may receive the advice and counsel of outside sources concerning his / her project, the student hereby agrees that the content of the project is an original demonstration of his / her own abilities. The student understands what constitutes plagiarism and accepts the obligation not to plagiarize. Failure to comply will result in the refusal of certification by MTHS and the Edmonds School District.

The student understands that the Culminating Project teacher must approve the proposal before work hours are credited and work begins on the actual project. The student agrees that upon completion of his / her project, he / she will present the project to a panel and other interested parties for approval at a public presentation. In order to be eligible for the public presentation, the student must successfully complete an in-class presentation. The successful completion of the Senior Culminating Project is a graduation requirement.

The parent / guardian agrees to review the student's proposal for feasibility, particularly in terms of potential costs and supports needed. Any concerns or questions about this, as well as concerns about grades should be brought to the attention of the student and the teacher.

The Senior Culminating Project advisor agrees to inform the student and parent regarding course progress through the Mountlake Terrace High School Progress Report.

Student's signature

_____ @ _____
Student's email

Date

Parent / Guardian signature

Parent / Guardian email or phone #

Date

Teacher signature

Teacher email or phone #

Date

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Mentor Information

Please complete the following information about your project field expert and return this form to your advisor.

Student Name: _____
First Middle Last

Project Title or Topic: _____

Culminating Project Teacher: _____ **Period** _____

IF YOU CHANGE YOUR FIELD EXPERT, YOU MUST COMPLETE A NEW FIELD EXPERT INFORMATION FORM

| |
|--|
| <i>FIELD EXPERT INFORMATION</i> |
|--|

Field Expert Name: Ms. Mrs. Mr. _____
First Last

Occupation, position or title: _____

Business Name: _____

Address: _____ Business _____ Home _____
Street City State Zip

Work Phone: () _____ Home Phone: () _____

Email Address: _____ @ _____

Signatures:

Student Signature Date

May we add your name to our resource list of possible field experts for future Culminating Projects? (This will not obligate you.)

- YES NO I NEED MORE INFORMATION

Field Expert Signature Date

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Mentor Information

Student Name: _____

Mentor Name: _____

Project Title: _____

Please answer the following questions as accurately as possible:

- 1. How much knowledge of the topic did your student possess when you first met?**

- 2. Approximately how many hours have you spent with the student on the project to this point?**

- 3. What growth in your student's skills and knowledge have you observed since the project began?**

- 4. What evidence do you see that the student's project is meeting the product standards as defined in the proposal and Product Standards?**

- 5. At this point, what skills or knowledge should this student work on developing?**

Mentor signature

Date

Student signature

Date