Course Description TECHNICAL WRITING

This course is designed for students who wish to apply writing skills to technology and industry. Students will write assignments emphasizing techniques of précis/abstract, comparison/contrast, problem solving, cause/effect, and persuasion as applied to the work place. Assignments and activities aim to be practical and applicable to various fields and careers. Assignments may include the use of computers and Internet research, and includes field research, group research projects, and individual and group presentations.

Assessments

Running Records
Conversations/Interviews/Observations
Writing Samples
Oral Presentations
Group/Individual Projects
Texts/Quizes
Student/Self-Assessment

Topics at a Glance Technical Use of Writing and Publishing Vocabulary Software The Writing **Textual Analysis** Process Grammar and Reading Conventions Synthesis of Presentation Multiple Sources Collaboration Research

Technical Writing: Curriculum Recommendations

- 1) Strong, solid writing skills:
 - Organize information accurately in a straightforward manner.
 - Distill complicated technical concepts; make concrete/understandable for diverse audiences.
- 2) Committed, accurate attention to detail with technical concepts and processes to create:
 - Simplified Procedural Descriptions
 - Reference Manuals
 - Final Products for Variety of Audiences (Revision, Editing, Refining)
- 3) Research & Information Gathering:
 - Interview extremely diverse clients; ability to talk with people/listen accurately.
 - Ask insightful, specific, directive questions to get necessary information. (For example, work with introverted engineer to draw out info, or politely focus/direct conversation with "chatty client", to get necessary information.
- 4) Technology Skills:
 - HTML Editors: XML, SGML
 - Adobe Suite: Dreamweaver, Photoshop, Illustrator
 - Microsoft Office Suite, Including Excel
 - Publishing Products: Framemaker & In-Design (Adobe Products from Technical Publications Suite)

Additional Information: Technical Writing is about understanding your audience, writing/explaining clearly so that the audience understands, researching the content and the best structure for presenting it, having the ability to show ideas both with words and graphics, and to problem solve, write, revise, and edit until the information is accurate and understood.

Standard: 1. Oral Expression and Listening

Prepared Graduates:

> Deliver organized and effective oral presentations for diverse audiences and varied purposes

Grade Level Expectation: Technical Writing

Concepts and skills students master:

1. Effective speaking in formal and informal settings requires appropriate use of methods and audience awareness

Evidence Outcomes

Students can:

- a. Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. (CCSS: SL.11-12.4)
- Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest. (CCSS: SL.11-12.5)
- Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate. (CCSS: SL.11-12.6)
- Identify a central idea or thesis, organize ideas, and develop a speech for an intended purpose and audience
- e. Choose specific words and word order for intended effect and meaning
- f. Select appropriate technical or specialized language

21 st Century Skills and Readiness Competencies

Inquiry Questions:

- How do different purposes and audiences affect presentation outcomes?
- 2. What connections are there between print text structures (such as description, proposition-support, critique, inductive-deductive) and the organization and development of content for a specific oral presentation?
- 3. Why is it important to match the vocabulary used to a particular audience? (For example, scientific terms are important to use when talking with biologists or physicists.)

Relevance and Application:

- 1. Strong communication and planning skills contribute to local and national stewardship.
- 2. Intentional word choice can influence the reader.
- 3. Strategic use of multimedia elements and visual displays of data can gain audience attention and enhance understanding.
- 4. An audience can be influenced by the use of theatrical devices such as pausing for emphasis and loud and soft tones.

- 1. Strong critical thinking in a group setting occurs when an oral presentation is clear and effective.
- 2. Knowledge is attained through clear and effective communication.
- 3. Great presenters plan for a presentation by determining their audience, research a topic of interest, and use the best presentation methods to convey key points.

Standard: 1. Oral Expression and Listening

Prepared Graduates:

> Use language appropriate for purpose and audience

Grade Level Expectation: Technical Writing

Concepts and skills students master:

e. Identify, explain, and use content-specific vocabulary,

terminology, dialect, or jargon unique to particular groups.

perspectives, or contexts (such as social, professional, political,

presentation met the purpose

cultural, historical or geographical)

3. Verbal and nonverbal cues impact the intent of communication

21 st Century Skills and Readiness Competencies **Evidence Outcomes** Students can: Inquiry Questions: 1. In what ways can speakers effectively engage audiences a. Give informal talks using an appropriate level of formality of throughout a presentation? verbal language and nonverbal interaction with audience b. Deliver formal oral presentations for intended purpose and 2. How are speaking, listening, and responding skills used audience, using effective verbal and nonverbal communication during an effective presentation? c. Deliver oral talks with clear enunciation, vocabulary, and 3. What can speakers learn about their own presentation skills appropriate organization; nonverbal gestures; and tone from listening to and critiquing the presentations of others? d. Analyze audience responses to evaluate how effectively the talk or

Relevance and Application:

- 1. Tone and eye contact can negatively influence an outcome.
- 2. Verbal and nonverbal cues can build or destroy the trust of an individual or an audience.
- 3. Real-time feedback technologies can provide nonverbal cues and systematic information regarding a speaker's degree of impact or persuasion on an audience.
- 4. World travelers often use nonverbal cues to communicate needs.
- 5. Forensic and debate techniques frequently self-correct to gain the favor of an audience's judgment.

- 1. Great presenters are accustomed to public speaking.
- 2. Great presenters think about what types of language (formal or informal) they need to use to convey a message.
- 3. Audience analysis is critical to being understood and credible.

Standard: 2. Reading for All Purposes

Prepared Graduates:

> Engage in a wide range of nonfiction and real-life reading experiences to solve problems, judge the quality of ideas, or complete daily tasks

Grade Level Expectation: Technical Writing

Concepts and skills students master:

2. Interpreting and evaluating complex informational texts require the understanding of rhetoric, critical reading, and analysis skills

critical reading, and analysis skills	
Evidence Outcomes	21 st Century Skills and Readiness Competencies
Students can: a. Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem. (CCSS: RI.11-12.7) b. Use reading and note-taking strategies (outlining, mapping systems, skimming, scanning, key word search) to organize information and make connections within and across informational texts	 Inquiry Questions: How do different genres, formats, and text features used in informational text help readers understand the author's purpose? What gives the written word its power? How do rhetorical devices and logic impact the reader? What is the role of logic in informational texts?
 c. Use cues, signal words, and transitions to identify text structures (such as critique, inductive/deductive) and to summarize central ideas and supporting details d. Obtain and use information from text and text features (index, bold or italicized text, subheadings, graphics) to answer questions, perform specific tasks, or identify and solve problems e. Explain and interpret the visual components supporting the text (maps, complex tables and diagrams) 	Relevance and Application: 1. Interpretation of text, supported by citing evidence, fosters reading skills and coherent thinking, speaking, and writing, which are priority skills for the workplace and postsecondary settings. 2. Civil engineers interpret legislative and legal terms as they construct bridges, roads, and reservoirs.
	Nature of Reading, Writing, and Communicating: 1. Critical readers ask questions in their mind as they read. 2. Reading Standards for Literacy in Science and Technical Subjects, Grades 11-12. (CCSS: RST.11-12.1-10)

Standard 2: Reading for all purposes

Prepared Graduates:

> Demonstrate comprehension of a variety of informational texts

Grade Level Expectation: Technical Writing

Concepts and skills students master:

4. Ideas synthesized from informational texts serve a specific purpose

Evidence Outcomes

Students can:

- a. Use Key Ideas and Details to:
 - i. Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text. (CCSS: RI.11-12.2)
 - ii. Designate a purpose for reading expository texts and use new learning to complete a specific task (such as convince an audience, shape a personal opinion or decision, or perform an activity)
- iii. Predict the impact an informational text will have on an audience and justify the prediction
- b. Use Craft and Structure to:
 - i. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines faction in Federalist No. 10). (CCSS: RI.11-12.4)
 - ii. Use text features and graphical representations to complement comprehension and enhance critical analysis of a text
- iii. Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging. (CCSS: RI.11-12.5)

21st Century Skills and Readiness Competencies

Inquiry Questions:

- Does a newspaper's headline affect an argument differently?
- 2. When people's ideas are challenged, does their ego or instinct respond first?
- 3. What is the greatest authoritative position from which to write for a specific purpose?

Relevance and Application:

- 1. Pharmacists require the ability to compare and synthesize ideas from informational texts to prevent unnecessary deaths.
- Mechanics use informational texts when making repairs to assess the sufficiency of a specific "fixing" function.
- 3. Air quality commissioners depend and must discern many research texts to make difficult and specific decisions.
- 4. Trusted Web sites are used to seek out visual and multimedia representations of printed text to enhance understanding.

- Readers use relevant background knowledge and consistently apply it to what they are reading to better facilitate drawing conclusions and increase comprehensibility of the text.
- 2. Reading Standards for Literacy in Science and Technical Subjects, Grades 11-12. (CCSS: RST.11-12.1-10)

Standard: 3. Writing and Composition

Prepared Graduates:

> Effectively use content-specific language, style, tone, and text structure to compose or adapt writing for different audiences and purposes

Grade Level Expectation: Technical Writing

Concepts and skills students master:

2. Ideas, evidence, structure, and style create persuasive, academic, and technical texts for particular audiences and specific purposes

Evidence Outcomes

Students can:

- a. Select appropriate and relevant information (excluding non-necessary details) to set context
- b. Address audience needs and anticipate audience questions or misunderstandings
- c. Select and build context for language appropriate to content (technical, formal)
- d. Control and enhance the flow of ideas through transitional words or phrases appropriate to text structure
- e. Support judgments with substantial evidence and purposeful elaboration
- f. Revise writing using feedback to maximize effect on audience and to calibrate purpose

21st Century Skills and Readiness Competencies

Inquiry Questions:

- 1. Why is it important to identify audience needs and address counterarguments?
- 2. Why is relevance a key element of technical writing?
- 3. How is credibility of sources pertinent to academic or persuasive writing?

Relevance and Application:

- Technical writers provide relevant, appropriate, and accurate information to provide customers and consumers with instructions, details, manuals that help them in the safe use of equipment.
- 2. Skills of anticipating audience questions and misunderstandings are very useful in job interviews, presentations, and persuasion of many types of audiences.

- 1. Writers prepare to write by thinking about their intended audience and the purpose of their work.
- 2. Writers anticipate what questions may be asked or could be misunderstood with their topic and devote quality time to responding to these questions.
- 3. Writing Standards for Literacy in History/Social Studies, Science and Technical Subjects, Grades 11-12. (CCSS: WHST.11-12.1-6 and 10)

Standard: 3. Writing and Composition

Prepared Graduates:

> Write with a clear focus, coherent organization, sufficient elaboration, and detail

Grade Level Expectation: Technical Writing

Concepts and skills students master:

4. Elements of informational and technical texts can be refined to inform or influence an audience

audience					
Evidence Outcomes	21 st Century Skills and Readiness Competencies				
Students can: a. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. (CCSS: W.11-12.2) i. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. (CCSS: W.11-12.2a) ii. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. (CCSS: W.11-12.2b) iii. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. (CCSS: W.11-12.2c) iv. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. (CCSS: W.11-12.2d) v. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. (CCSS: W.11-12.2e) vi. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic). (CCSS: W.11-12.2f)	Inquiry Questions: 1. Why is audience determination important to the writer? 2. What are the implications if the revision process is not done? 3. Why do authors want to appeal to the readers' senses? 4. How is this beneficial to the reader? Relevance and Application: 1. Forest rangers and cattlemen can sometimes refine information to differentiate their respective points of view. 2. Public service announcements are examples texts or information sources which introduce complex ideas in organized, simplified ways. 3. Advertisers often use simile, metaphor, and analogy to create desire for their products. Nature of Reading, Writing, and Communicating: 1. Writers can clearly articulate their thoughts to inform an audience. 2. Writing Standards for Literacy in History/Social Studies, Science and Technical Subjects, Grades 11-12. (CCSS: WHST.11-12.1-6 and 10)				
Formatting messed up here Missing Below: Content area: TECHNICAL WRITING, Standard 3: Writing and	1.				
Composition, Prepared Graduates: Apply standard English conventions to effectively communicate with written language, Grade Level Expectation: Technical writing					

Concepts and skills students master:

3. Writing demands ongoing revisions and refinements for grammar, usage, mechanics, and clarity

Evidence Outcomes

Students can:

- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (CCSS: L.11-12.1)
 - i. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested. (CCSS: L.11-12.1a)
 - i. Use a variety of phrases (absolute, appositive) accurately and purposefully to improve writing
 - ii. Use idioms correctly, particularly prepositions that follow verbs
 - iii. Ensure that a verb agrees with its subject in complex constructions (such as inverted subject/verb order, indefinite pronoun as subject, intervening phrases or clauses)
 - iv. Use a style guide to follow the conventions of Modern Language Association (MLA) or American Psychological Association (APA) format
 - v. Use resources (print and electronic) and feedback to edit and enhance writing for purpose and audience
- b. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in expectations 1–2 above.) (CCSS: W.11-12.4)
- c. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (CCSS: W.11-12.5)
- d. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. (CCSS: W.11-12.6)

21st Century Skills and Readiness Competencies

Inquiry Questions:

- 1. How does word choice affect the message a writer conveys?
- 2. How does a writer plan his/her work for a specific audience?
- 3. Why is it important to know and properly use the English conventions of writing?
- 4. What are both a benefit and a caution to using grammar and spell-checker tools?
- 5. How does reviewing previous drafts and revisions improve a writer's work?

Relevance and Application:

- 1. Correct writing is an asset that will aid in job hunting.
- 2. Using the dictionary, spell-checker, and other tools can teach as well as correct or edit writing.

- 2. Writers save copies of their revisions to see how their writing has progressed.
- 3. Writers use proper English conventions when writing.

Standard: 4. Research and Reasoning

Prepared Graduates:

> Gather information from a variety of sources; analyze and evaluate the quality and relevance of the source; and use it to answer complex questions

Grade Level Expectation: Technical Writing

Concepts and skills students master:

1. Independent research designs articulate and defend information, conclusions, and solutions that address specific contexts and purposes

Evidence Outcomes Students can:

- a. Define and narrow a topic for self-designed research for a variety of purposes and audiences
- b. Critique research questions of self and others for bias and underlying assumptions
- c. Critique and defend sources and information based on credibility, relevance and appropriateness relative to context and purpose
- d. Design and defend a set of diverse research strategies (e.g. cross-referencing bibliographies, creating annotated bibliographies, researching source credentials) to identify information appropriate to the needs of a research question, hypothesis, or thesis statement
- e. Critique and defend evidence relative to its use to address a particular context and purpose
- f. Determine and use the appropriate style guide to govern format and documentation of quotations, paraphrases, and other information from a range of research sources

21st Century Skills and Readiness Competencies Inquiry Questions:

- 1. How do researchers identify a significant problem or issue to study?
- 2. If an initial inquiry proves fruitless, how can they reformulate the research question to address an alternative topic, issue, or problem? (intellectual flexibility)
- 3. How do researchers check for clarity and credentials of the contributing authors that they selected for their research?
- 4. How do researchers check their resources and evaluate evidence to ensure that they were relevant and significant to the research question or purpose?

Relevance and Application:

- 1. Fact-checking tools help confirm the accuracy of self-designed research such as small business interests.
- 2. Inventors in sports medicine speak to the breadth of issues related to a research topic but not necessarily addressed within the original research.
- 3. Students use factual information to support their ideas to go to a certain college or the military.
- 4. Data organization is a skill used in medical testing.
- 5. Following up on citations found in research articles online and in libraries helps us validate accuracy of information and deepen our understanding.

- 1. Researchers must be flexible with their thinking so new learning can take place.
- 2. People are consumers of information.
- 3. People are generators of information.

Standard: 4. Research and Reasoning

Prepared Graduates:

> Gather information from a variety of sources; analyze and evaluate the quality and relevance of the source; and use it to answer complex questions

Grade Level Expectation: Eleventh Grade

Concepts and skills students master:

1. Self-designed research provides insightful information, conclusions, and possible solutions

Evidence Outcomes

Students can:

- a. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. (CCSS: W.11-12.7)
- b. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. (CCSS: W.11-12.8)
- c. Evaluate quality, accuracy, and completeness of information and the bias, credibility and reliability of the sources
- d. Document sources of quotations, paraphrases, and other information, using a style sheet, such as that of the Modern Language Association (MLA) or the American Psychological Association (APA)

21st Century Skills and Readiness Competencies

Inquiry Questions:

- 1. How do you know if an online source is credible?
- 2. How can subjective viewpoints be used in research?
- 3. How do you know if an author is using someone else's ideas in writing?

Relevance and Application:

- 1. Representing and accurately citing data, conclusions, the opinions of others can be compromised if the researcher does not recognize his/her bias on the topic.
- 2. Accurately documenting sources of information can prevent accusations of plagiarism which can sometimes lead to legal action.

- 1. Researchers follow the reasoning that supports an argument or explanation and can assess whether the evidence provided is relevant and sufficient
- 2. Writing Standards for Literacy in History/Social Studies, Science and Technical Subjects, Grades 9-10. (CCSS: WHST.9-10.7-9)

Glossary of Terms

TECHNICAL WRITING Academic Vocabulary

Standard 1: Oral Expression and Listening

audience, collaboration, content-specific, deductive, feedback, field research, inductive, interdependence, perspective, purpose, relevance, rhetoric, substantiate, synthesize, theatrical devices

Standard 2: Reading for All Purpose

Analyze, authoritative, evidence, index, inference, interpret, jargon, logic, objective, preview, rhetorical devices, style, subheading, subjective, technical writing, text structure, tone

Standard 3: Writing and Composition

abstract, accuracy, anticipate, appropriate, articulate, conventions of standard English, glossary, format, Informational/Expository text, multimedia, paraphrase, plagiarism, resume, summary, visual aid

Standard 4: Research and Reasoning

citations, bias, evaluate, evidence vs. inferences, primary source, secondary source

Word	<u>Definition</u>
Abstract	A summary of a text, article, document, etc
Accuracy	The quality of being true, correct, or exact
Analyze	To examine critically and bring out the essential
	elements
Anticipate	To predict or guess what might happen in the future
Appropriate	Suitable or fitting for a specific purpose, person, or occasion.
Articulate	To explain an issue in more depth
Audience	The people who will be reading the writing or listening to the speech or presentation
Authoritative	Recognized or accepted as being true or reliable
Bias	A particular tendency or inclination, especially
	one that prevents unprejudiced consideration of a
	question
Citation	Written indication for the source of borrowed
	materials
Collaboration	The act of working with one or more people to
	complete a project, assignment, or task which
	involves individual and group work in order to
	take advantage of the different abilities of each
On the transfer	group member
Content-specific	Vocabulary or concepts pertaining to a particular topic or procedure
Conventions of standard English	The proper use of grammar and punctuation
Credibility	Believable or worthy of being believed
Critique	To review or analyze a source of information critically
Deductive	To work from a larger picture of general
	principles to smaller, exact details
Evaluate	To judge and determine the value or quality of
	something
Evidence	Something that gives proof to a claim or process

Exposition/expository text	Writing that is intended to make clear or to explain something using one or more of the
	following methods: identification, definition,
	classification, illustration, comparison, and
	analysis.
Feedback	A verbal or nonverbal response to a
	communication process or product
Field Research	Research done in the field especially through
	interviews and surveys
Format	The layout or specific design of a publication
Glossary	An alphabetical listing of terms accompanied by their definitions
Index	detailed alphabetical listing of names, places, and
	topics along with the numbers of the pages on
	which they are mentioned or discussed
Inductive	Working from specific details to larger, general principles
Inference	Something that is guessed, speculated or
	surmised, but without specific proof.
Informational/Expository text	A type of nonfiction written to inform, explain, or
	persuade that does not use narrative structure
	to achieve its purpose
Interdependence	When at least two different elements depend on
Interpret	each other
Interpret	To clarify or explain the meaning of something The specific vocabulary of a job or area of
Jargon	employment that is used by the people that work
	in that field
Logic	The system or principles of reasoning applicable
- 9	to any branch of knowledge or study
Multimedia	The combined use of several modes of
	communication, including written text, visual
	images, diagrams, or sound.
Objective	Not influenced by personal feelings,
	interpretation, or prejudice; based on facts;
	unbiased
Paraphrase	Presenting someone else's ideas in your own
Paranastiva	words, phrases, and sentence structure
Perspective Plagiarism	A viewpoint or opinion about something The use of another person's words and/or ideas
Flagiansiii	without properly documenting or giving credit to
	that person
Preview	To look over a text before reading it in order to
	determine subject matter and questions you may
	have
Primary source	An original, authoritative document
Purpose	A specific reason or driving force to write a
	document or complete a task
Relevance	Being pertinent to or related to the topic at hand
Resume	A one or two-page summary of job qualifications
Rhetoric	The art of effective expression and the
	persuasive use of language.
Rhetorical devices	Literary techniques such as alliteration and
Socondary course	metaphor used in expression and persuasion
Secondary source	An account of a person, place or thing that was not created contemporaneously
1	mot oreated contemporaneously

Style	The way an author uses words and sentences
Subheading	A title or <u>heading</u> of a subdivision, as in a
	chapter, essay, or newspaper article
Subjective	Influenced by personal feelings, interpretations,
	or prejudice; not based on facts, biased
Substantiate	To establish by proof or competent evidence
Summary	A condensed version of a piece of communication
	which includes general information and other
	important details
Synthesize	To combine parts or elements to form a whole
Technical writing	Writing done in the workplace written carefully
	for a specific audience with predictable
	organization, concise style, objective tone, and
	visual elements.
Text structure	The format or way in which a text is laid out
Theatrical devices	A method or manner of presenting yourself, such
	as pausing or hand gestures, which adds to a
	presentation.
Tone	The way words make readers feel
Visual aid	Information presented in a visual form such as a
	illustration, picture, table, graph, or diagram