11-12 ELA Standards: Technical Professions

ELA Reading Standards for Technical Professions

RT.11-12.1 Cite specific textual evidence to support analysis of technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

RT.11-12.2 Determine central ideas or conclusions of a text and analyze their development; summarize the complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

RT.11-12.3 Follow precisely a complex multistep procedure when carrying out processes, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

RT.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11-12 texts and topics.

RT.11-12.5 Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.

RT.11-12.6 Analyze the author's purpose in providing an explanation, describing a procedure, or discussing a process in a text, identifying important issues that remain unresolved.

RT.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

RT.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

RT.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

RT.11-12.10 By the end of grade 12 read and comprehend technical texts in the grades 11-12 text complexity band independently and proficiently.

ELA Writing Standards for Technical Professions

WT.11-12.1 Write arguments focused on discipline-specific content.

WT.11-12.2 Write informative/explanatory texts including technical processes.

WT.11-12.3 Narrative writing is incorporated effectively into arguments and informative/explanatory texts through precise descriptions of the step-by-step procedures and processes.

WT.11-12.4 Produce clear and coherent writing in which development, organization, and style are appropriate to task, purpose, and audience.

WT.11-12.5 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.

WT.11-12.6 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.

WT.11-12.7 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.

WT.11-12.8 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 specific 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.

WT.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.

WT.11-12.10 Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

ELA Speaking and Listening Standards for Technical Professions

SLT.11-12.1 Initiate and participate effectively in a range of *collaborative discussions*

- one-on-one
- in groups
- teacher-led

with diverse partners on Grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

SLT.11-12.2 Integrate multiple sources of information that is gained by means other than reading (e.g., interviews, texts read aloud; oral presentations of charts, graphs, diagrams; speeches) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

SLT.11-12.3 Evaluate a speaker's perspective, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.

SLT.11-12.4 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.

SLT.11-12.5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

SLT.11-12.6 Adapt speech to a variety of contexts and tasks, demonstrating a command of standard and/or formal English when indicated or appropriate.

ELA Language Standards for Technical Professions

LT.11-12.1 Demonstrate command of the conventions of standard English grammar and usage.

LT.11-12.2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

LT.11-12.3 Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

LT.11-12.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases.

LT.11-12.5 Demonstrate understanding of word relationships and nuances in word meanings.

LT.11-12.6 Acquire and use accurately a range of grade-appropriate general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

English 11/12: Reading and Writing for STEM Professions

(0.5 Credit)

COURSE **2**
Overview of Essential Questions 2
READING **3**
Extended Texts 3
Supporting Texts 4
WRITING **7**
Analysis Writing 8
Routine Daily Writing 10
RESEARCH **11**
Extended Research Opportunity 11
Short Research Opportunities 12
SPEAKING AND LISTENING (COMMUNICATION) **13**
Weekly Informal Communication 13
Small Group Communication 15
Whole Class Communication 16
TEXT COMPLEXITY **19**

DISCLAIMER: All curriculum materials (e.g., texts, authors) should be properly vetted and approved by the school district.

COURSE

Course Umbrella:	**Technical Professions**
Title of the Course:	**English 11/12: Reading and Writing for STEM Professions**
Course Code Number:	**418200**
Licensure Codes:	**Link to ADE Data Center: Course Code Management System**
Course Description:	A study of a wide range of STEM themed fictional works and STEM nonfiction articles. Students will analyze how logic contributes to the quality of people's daily lives and the role data plays in people's everyday lives.

Overview of Essential Questions	
Communication	● How can you use language to empower yourself? ● How is language used to manipulate and persuade? ● How do our values and beliefs shape who we are as individuals and influence our communication behaviors?
Literature	● What is literature supposed to do? ● How does literature reveal the values of a given culture or time period? ● How can literature serve as a vehicle for social change?
Technical Professions	● How does technology shape and form our identities? ● What purpose or function do ethics / philosophy have in governing technological advances? ● What roles do chaos and order play in society through technological advances?

DISCLAIMER: All curriculum materials (e.g., texts, authors) should be properly vetted and approved by the school district.

Course Level Essential Questions:	• How does logic contribute to the quality of people's daily lives? • What does it mean to observe? • What role does data play in society? • How does imagination contribute to scientific innovation?

READING

Essential Vocabulary
Scientific process Engineering process Bioterror Memoir Bias

Extended Texts

Standards			**2 Extended Texts**	**Text Type**	**Example Texts & Resources**	**Text Complexity**
Reading Standards		**Language Standards**				
1	RT.11-12.1 RT.11-12.2 RT.11-12.4 RT.11-12.5 RT.11-12.6	LT.11-12.3 LT.11-12.4 LT.11-12.5 LT.11-12.6	Science Fiction Novels and Short Stories	Narrative	• Prey by Michael Crichton (nanotechnology) • Frankenstein by Mary Shelley (ethics) • The Eye of Minds by James Dashner (coding, ethics) • The Man Who Counted: A Collection of Mathematical Adventures by Malba Tahan • Selected Sherlock Holmes stories: by Sir Arthur Conan Doyle	Text Complexity Example
2	RT.11-12.1 RT.11-12.2 RT.11-12.4 RT.11-12.5	LT.11-12.3 LT.11-12.4 LT.11-12.5 LT.11-12.6	Nonfiction STEM Texts	Informational	• The Demon in the Freezer by Richard Preston (bioterrorism) • Astrophysics for People in a Hurry by Neil deGrasse Tyson	

DISCLAIMER: All curriculum materials (e.g., texts, authors) should be properly vetted and approved by the school district.

	RT.11-12.6				• The Radium Girls by Kate Moore • The Grapes of Math: How Life Reflects Numbers and Numbers Reflect Life by Alex Bellos	

Supporting Texts

Standards			6-10 Supporting Texts	Text Type	Example Texts & Resources	Text Complexity
Reading Standards		Language Standards				
1	RT.11-12.1 RT.11-12.2	LT.11-12.3 LT.11-12.4 LT.11-12.5 LT.11-12.6	Nonfiction articles exploring examples of science fiction becoming a reality	Informational	• Four Sci-Fi like Designs that Become Reality by Riccardo Bianchini • Fuelling the Future by Iwan Rhys Morus • When Science Fiction Comes True by Namwell Serpell	
2	RT.11-12.1 RT.11-12.2 RT.11-12.3 RT.11-12.4 RT.11-12.5 RT.11-12.6	LT.11-12.3 LT.11-12.4 LT.11-12.5 LT.11-12.6	How to Read STEM Texts	Informational	• "Reading and Understanding Scientific Texts" by Stephanie Gorski • "It's Not You - Scientific Research is Harder to Read than Ever" by Mehai Andrei • "Half of Americans Think Young People Don't Pursue STEM Because It Is Too Hard" by Brian Kennedy, Meg Hefferon, and Cary Funk	
3	RT.11-12.1 RT.11-12.4 RT.11-12.5 RT.11-12.7 RT.11-12.8	LT.11-12.3 LT.11-12.4 LT.11-12.6	Science & Math Articles	Informational	• Explore Science and Nature, Smithsonian • "Scientists Demonstrate Direct Brain-to-Brain Communication in Humans" by Robert Martone • "Climate Change is Causing 'Eco-Anxiety - Here's What We Can Do" by Kim Fitzsimons • "20 Mathematicians Who Changed the World" by Walt Hickey • Actuary Breaks Down 2020 Insurance Rate Hikes for Access Health CT Board by Christine Stuart	

4	RT.11-12.1 RT.11-12.4 RT.11-12.5 RT.11-12.7 RT.11-12.8	LT.11-12.3 LT.11-12.4 LT.11-12.6	Technology & Engineering Articles	Informational	• "Using Cellphones and Computers to Transmit Information" by Readworks.org • Nanotechnology Articles • Travelers Database Portal: "Nanotechnology at Work: A Complete DNA Analysis Lab Packed into a Microchip" by Lee Goldberg • "Her Code Got Humans on the Moon - And Invented Software Itself" by Robert McMillan • "'Hidden Figures': How Black Women Did The Math That Put Men On The Moon" by NPR	
5	RT.11-12.1 RT.11-12.2 RT.11-12.3 RT.11-12.4 RT.11-12.5 RT.11-12.6	LT.11-12.3 LT.11-12.4 LT.11-12.5 LT.11-12.6	Articles for Analyzing, Identifying, Observing Data and Details, Recording Data and Details, Making Predictions	Informational	**Technology** • **"**The Importance of Writing Skills in Tech-Related Fields" by Theresa McPhail • "The Mistakes I Made as a Beginner Programmer" by Samer Buna • "Tips on Note Taking for Programmers" by Cylix **Science** • **"**Science and Engineering Project Laboratory Notebooks" by Science Buddies • "Understanding the Record-Keeping Practices of Scientists" by Kalpana Shankar	

6	RT.11-12.1
	RT.11-12.2
	RT.11-12.3
	RT.11-12.4
	RT.11-12.5
	RT.11-12.6
		LT.11-12.3
		LT.11-12.4
		LT.11-12.5
		LT.11-12.6
		SLT.11-12.2
			Videos for Analyzing, Identifying, Observing Data and Details, Recording Data and Details, Making Predictions	Informational	• Data Nuggets
					• Phenomena for NGSS
					• Great Big Story (video)
					  ○ Tech & Science
					  ○ On the Brink: Extinction
					• Science Buddies
					• National Geographic:
					  ○ Science & Space
					  ○ Technology
					  ○ Environment	

					○ Animals	
7	RT.11-12.4 RT.11-12.5 RT.11-12.8	LT.11-12.3 LT.11-12.4 LT.11-12.5 LT.11-12.6	Legal Regulations for STEM	Informational	● Information Technology ● U.S. Environmental Protection Agency: Laws and Regulations ○ Clean Air Act Regulatory Information By Topic ○ Federal Water Pollution Control Act ○ Endangered Species U.S. Code	
8	RT.11-12.1 RT.11-12.2 RT.11-12.4 RT.11-12.5 RT.11-12.6	LT.11-12.3 LT.11-12.4 LT.11-12.5 LT.11-12.6	Real-World Scientific Problems Explored in Nonfiction Articles	Informational	● Article through Travelers Database Portal (Must go the Arkansas State Library System to access Traveler Database in order for link to work): "Bioterrorism: A Renewed Public Health Threat" by P.J. Maddox ● "How Small Can Transistors Get?" by ReadWorks.org ● "Noisy Humans Drown Out Sounds of Nature in Protected Areas" by Robert Lee Holtz ● "Funding boosts efforts to cut light pollution along Florida's nesting beaches" by ReadWorks.org ● "What causes disease outbreaks and how can we stop them?" by John Barrat	Text Complexity Example
9	RT.11-12.1 RT.11-12.2 RT.11-12.3 RT.11-12.4 RT.11-12.5 RT.11-12.6	LT.11-12.3 LT.11-12.4 LT.11-12.5 LT.11-12.6	Current Events Articles used to help students stay informed about changes and advances in STEM areas	Informational	● BBC: Science & Environment, Technology ● CNN: Space & Science ● FOX: Technology, Science ● MSN: Technology, Science	

WRITING

Essential Vocabulary
Claim Counterclaim Concession

Extended Process Papers

Standards			2 Extended Process Papers[1]	Text Type	Examples	Instructional Focus[2]
Writing Standards		Language Standards	Analyze two or more Texts which Addresses Similar Central Ideas	Informational	• The student will compare and contrast a novel or short story with scientific articles. • The student will compare and contrast the same topic across multiple texts (e.g., articles, videos, podcasts).	Ideas, Organization, Word Choice, Conventions
1	WT.11-12.2 WT.11-12.4 WT.11-12.5 WT.11-12.6 WT.11-12.8 WT.11-12.9	LT.11-12.1 LT.11-12.2 LT.11-12.3 LT.11-12.6				
2	WT.11-12.1 WT.11-12.3 WT.11-12.4 WT.11-12.7 WT.11-12.10	LT.11-12.1 LT.11-12.2 LT.11-12.3 LT.11-12.5	Address One of the Essential Questions	Argumentative	• The student will answer one of the essential questions, referencing multiple resources and primary texts. • The student will consider a possible solution to a real-world problem and answer one of the essential	Ideas, Organization, Voice, Sentence Fluency, Conventions

[1] 2-4 pages
[2] Ideas, Organization, Voice, Word Choice, Sentence Fluency, Conventions, Presentation

					questions, citing research to support his or her response.	

Analysis Writing

Standards			8-12 Analysis Papers[3]	Text Type	Examples	Instructional Focus[4]
Writing Standards		Language Standards	Short Response to Essential Question(s)	Informational	● The student will respond to essential question before and after unit of study. Compare answers.	Ideas, Voice
1	WT.11-12.1 WT.11-12.4	LT.11-12.1 LT.11-12.2				
2	WT.11-12.2 WT.11-12.3 WT.11-12.4	LT.11-12.1 LT.11-12.2 LT.11-12.3	Observation Journals	Informational	● Cold read of STEM document / text and the student writes down observations, raw conclusions, and defense of findings.	Purpose, Ideas, Organization, Word Choice
3	WT.11-12.2 WT.11-12.3 WT.11-12.4 WT.11-12.6	LT.11-12.1 LT.11-12.2 LT.11-12.3	Data Graphs	Informational	● The student will record observations and details and convert to graph format. Present and defend.	Purpose, Ideas, Organization, Word Choice
4	WT.11-12.2 WT.11-12.3 WT.11-12.4	LT.11-12.1 LT.11-12.2 LT.11-12.3	Process Models	Informational	● The student will observe and record a process, and write so that another person can replicate the process.	Purpose, Ideas, Organization, Word Choice
5	WT.11-12.2 WT.11-12.3 WT.11-12.4	LT.11-12.1 LT.11-12.2 LT.11-12.3	Summary of Process / Phenomenon / Procedure	Informational	● The student will write clear, concise one sentence or short paragraph to cohesively summarize information.	Purpose, Ideas, Organization, Word Choice
6	WT.11-12.1 WT.11-12.3	LT.11-12.1 LT.11-12.2	Claim-Evidence-	Argumentative	● The student will read to determine problem, pose solution, provide	Ideas, Organization, Word Choice,

[3] ½ page to 1 page
[4] Ideas, Organization, Voice, Word Choice, Sentence Fluency, Conventions, Presentation

	WT.11-12.4	LT.11-12.3	Reasoning Response (CER)		evidence to support their claim, provide interpretive commentary to support reasoning.	Sentence Fluency, Conventions
7	WT.11-12.1 WT.11-12.2 WT.11-12.4 WT.11-12.9	LT.11-12.1 LT.11-12.2 LT.11-12.6	One-Minute Paper	Informational Argumentative	● The student will analyze the author's purpose and how it is supported through the use of rhetorical devices. ● The student will analyze the author's bias and how it shapes the claim of the text. ● The student will write a persuasive one-minute Paper to address provided question or argue for or against given topic. (Suggestion: Use a current events real-world scientific problem.)	Ideas, Voice
8	WT.11-12.6 WT.11-12.7 WT.11-12.8	LT.11-12.4 LT.11-12.6	Question-Hypothesis-Question	Informational	● In preparation for discussion or Socratic Seminar, the student will develop questions related to unit of study, answer them, and develop appropriate follow-up questions. This could be done individually, in pairs, or in a small group. ● In preparation for an interview, the student will use the question-hypothesis-question method in order to anticipate questions and answers.	Ideas, Voice
9	WT.11-12.1 WT.11-12.2 WT.11-12.4 WT.11-12.9	LT.11-12.1 LT.11-12.2 LT.11-12.6	3 A's Protocol Writing	Informational	● The student will individually read a scientific text / article prior to other representations of a concept. After reading the text, he or she responds in writing stating what he or she AGREES with, what he or she ALREADY does/knows, and what he	Ideas, Organization, Word Choice, Sentence Fluency, Conventions

					or she ASPIRES to do more of/do better.	
10	WT.11-12.1 WT.11-12.2 WT.11-12.4 WT.11-12.9	LT.11-12.1 LT.11-12.2 LT.11-12.6	Solicitation for Project Support, Thank You Letters	Formal Business	● The student individually or in small groups crafts proposal request letters and thank you letters for projects with assistance from outside entities.	Ideas, Organization, Word Choice, Sentence Fluency, Conventions

Routine Daily Writing

Standards		**Examples**
Writing Standards	**Language Standards**	● **Brainstorming:** Students list words or ideas in response to a provided a topic or question. ● **Warm Ups:** Students respond to a question or complete an activity to help prepare them for the upcoming lesson. ● **Exit Tickets:** Students respond to a question or reflect on their learning at the end of a lesson. ● **Quick Writes:** Students write short responses to questions about a wide range of topics. Frequently used strategy for helping students organize their thoughts before a discussion. ● **Summaries:** Students write a brief summary of what they have learned in the unit, using words from a vocabulary bank (co-created by the teacher and students to include the most important vocabulary terms). ● **RAFT:** Role, Audience, Format, Topic ● **GIST:** Students write a one sentence summary of a passage. ● **Shrinking Notes:** Students condense notes to most important facts. ● **Note Taking:** During close reading, students record information (e.g., summary notes, definitions for unknown words, comparisons, questions for the author, challenging ideas). ● **Reaction Response**s: Students write their opinions of a selected passages. ● **Logbooks:** Students catalogue their learning processes. ● **Fact Collecting:** Students write down facts. ● **Journaling or Blog Posts:** Students write informal responses to texts (e.g., photographs, artwork, video clips, films, poems, novels, articles). ● **Reflections:** Students write reflections on their learning (e.g., points of confusion, breakthroughs in understanding, goals for discussion). ● **Sentence Frame:** The teacher provides a sentence frame (for example, a thesis sentence with fill-in-the blank content). Students complete the sentence frame using their content and have it approved by the teacher before continuing to write the rest of the paragraph or essay.
WT.11-12.10	LT.11-12.1 LT.11-12.2 LT.11-12.3 LT.11-12.6	

RESEARCH

Note: Research opportunities could connect to or be in support of extended process papers and analysis writing.

Essential Vocabulary
Claim / Thesis / Central Idea Style Manual

Extended Research Opportunity

Standards	1 Extended Research Opportunity	Research Type[5]	Examples	Research Component Focus[6]
WT.11-12.2 WT.11-12.6 WT.11-12.8 WT.11-12.9	While analyzing two or more texts with similar theme and/or ideas, student will include scholarly research to support findings and reasoning.	Paper	Focus on current science-related topic with possible solutions. ● The student will compare and contrast the ideas presented in two or more research studies, evaluating for adherence to scientific / engineering process and relevance in today's society.	Selection of Sources, Organization and Synthesis, and Citation / Documentation

[5] Presentation, Project, Paper
[6] Research Question, Selection of Sources, Note Taking, Organization and Synthesis, Citation / Documentation

Short Research Opportunities

Standards		1-2 Short Research Opportunities	Research Type[7]	Examples	Research Component Focus[8]
1	WT.11-12.7 WT.11-12.8 WT.11-12.9	During engineering process study, students will conduct their own experiment.	Presentation or paper	• The student will study a STEM experiment and replicate, record the process and data, and modify to observe changes in data. Present findings to the class. • The student will research the historical background of the scientific principle proven and provide short paper tracing the concept.	Research Question, Selection of Sources, Note Taking, Citation / Documentation
2	WT.11-12.7 WT.11-12.8 WT.11-12.9	Error Analysis	Presentation or paper	• The instructor provides problem scenarios which contain errors in interpretation of a graph or other statistical information. The student must read and analyze the information identifying the error(s) and writing a new conclusion based on research.	Note Taking, Organization, Synthesis

[7] Presentation, Project, Paper
[8] Research Question, Selection of Sources, Note Taking, Organization and Synthesis, Citation / Documentation

SPEAKING AND LISTENING (COMMUNICATION)

Essential Vocabulary

Weekly Informal Communication

Standards			One-to-One	Speaking and Listening Skills	Non-Verbal Skills
Speaking and Listening Standards		Language Standards			
1	SLT.11-12.1 SLT.11-12.6	LT.11-12.1 LT.11-12.6	**Think-Pair-Share** ● Students explore a question or topic, provide a written response, and partner with fellow classmates to discuss.	● Respond thoughtfully to diverse perspectives. ● Participate in conversations by posing and responding to questions that probe reasoning and evidence.	● Demonstrate effective and appropriate proxemics.
2	SLT.11-12.1 SLT.11-12.3 SLT.11-12.6	LT.11-12.1 LT.11-12.6	**Sage and Scribe** ● Students partner up and one takes on the roll of the teacher while the other takes notes. Notetaker then provides feedback regarding shared information.	● Come to discussions prepared, having read and researched material under study.	● Demonstrate effective and appropriate proxemics. ● Demonstrate effective and appropriate eye contact, facial expressions, and posture. ● Demonstrate effective and appropriate diction and paralanguage (e.g.,

					intonation, pitch, and/or rate of speech).
3	SLT.11-12.1 SLT.11-12.12 SLT.11-12.13 SLT.11-12.16 SLT.11-12.25	LT.11-12.1 LT.11-12.3 LT.11-12.6	**Process** ● Orally describe a process [simple task] to partner; partner successfully completes process from other's instruction.	● Come to discussions prepared, having read and researched material under study. ● Organize a topic substantively with appropriate style to match intended purpose and audience. ● Engage in a range of formal and informal tasks. ● Work with peers to promote civil, democratic discussions and decision making. ● Synthesize comments, claims, and evidence made on all sides of an issue.	● Demonstrate effective and appropriate proxemics. ● Demonstrate effective and appropriate eye contact, facial expressions, and posture. ● Demonstrate effective and appropriate diction and paralanguage (e.g., intonation, pitch, and/or rate of speech).
4	SLT.11-12.3 SLT.11-12.6	LT.11-12.1 LT.11-12.6	**Interview** ● Students interview students or people not enrolled in the class.	● Students interview fellow classmates regarding their thoughts and opinions on current scientific articles in relation to scientific principles. ● Students interview people outside of the classroom regarding their knowledge and expertise on STEM related topics.	● Demonstrate effective and appropriate diction and paralanguage (e.g., intonation, pitch, and/or rate of speech). ● Demonstrate effective and appropriate proxemics. ● Determine appropriate attire for a given occasion.

Small Group Communication

Standards			Small Group	Speaking and Listening Skills	Non-Verbal Skills
Speaking and Listening Standards		Language Standards			
1	SLT.11-12.1 SLT.11-12.2 SLT.11-12.4 SLT.11-12.6	LT.11-12.1 LT.11-12.2	**Small Group Research** ● Work in small groups on assigned research topic. Students should review multiple sources of information and present findings.	● Set clear goals and deadlines. ● Determine what additional information or research is required to deepen the investigation or complete the task. ● Present information, findings, and supporting evidence. ● Establish individual roles as needed.	● Adapt nonverbal communication to audience. ● Demonstrate effective and appropriate proxemics.
2	SLT.11-12.1 SLT.11-12.4 SLT.11-12.5 SLT.11-12.6	LT.11-12.1	**Gallery Walk (digital or physical)** ● Students evaluate artifacts with a similar theme or idea and draw conclusions through reflection and discussion.	● Work with peers to promote civil, democratic discussions and decision making. ● Promote divergent and creative perspectives. ● Respond thoughtfully to diverse perspectives. ● Resolve contradictions when possible. ● Clarify, verify, or challenge ideas and conclusions.	● Adapt nonverbal communication to audience. ● Demonstrate effective and appropriate proximity to others.
3	SLT.11-12.3 SLT.11-12.4	LT.11-12.1	**Small Group Discussion** ● Students are broken into small groups and assigned topic (can be the same or different for each group). Group members	● Synthesize comments, claims, and evidence made on all sides of an issue. ● Participate in conversations by posing and responding	● Adapt nonverbal communication to audience. ● Demonstrate effective and appropriate eye

			discuss topic and establish their opinion based on expertise. Come back together as a whole class and share opinions.	to questions that probe reasoning and evidence. ● Promote divergent and creative perspectives.	contact, facial expressions, and posture.
4	SLT.11-12.1 SLT.11-12.3 SLT.11-12.4	LT.11-12.3 LT.11-12.4	**STEM Current Events Discussion** ● Students are assigned a STEM current events text that has not been discussed in class previously. The same text could be given to each group or different texts could be distributed. Students then analyze the text within assigned parameters (e.g., word choice, ideas, claims, bias, logical process, etc.). Students could then present their analysis to the class.	● Work with peers to promote civil, democratic discussions and decision making. ● Organize a topic substantively with appropriate style to match intended purpose and audience. ● Present information, findings, and supporting evidence.	● Demonstrate effective and appropriate eye contact, facial expressions, and posture. ● Demonstrate effective and appropriate proxemics.

Whole Class Communication

Standards			Whole Class	Speaking and Listening Skills	Non-Verbal Skills
Speaking and Listening Standards		**Language Standards**	**Panel Discussion** ● Students prepare a pro or con argument in small groups and then send a representative to participate in a panel discussion. Students respond to commentary with further questions or insights.	● Respond thoughtfully to diverse perspectives. ● Evaluate a speaker's perspective, reasoning, and use of evidence and rhetoric. ● Assess the stance, premises, links among ideas, word choice, points of emphasis, and tone used. ● Participate in conversations by posing and responding to	● Demonstrate effective and appropriate eye contact, facial expressions, and posture. ● Demonstrate effective platform movement during delivery. ● Demonstrate effective and
1	SLT.11-12.3 SLT.11-12.6 SLT.11-12.2	LT.11-12.1 LT.11-12.3			

				questions that probe reasoning and evidence.	appropriate diction and paralanguage (e.g., intonation, pitch, and/or rate of speech).
2	SLT.11-12.4 SLT.11-12.5 SLT.11-12.6	LT.11-12.1 LT.11-12.2 LT.11-12.6	**Presentation and Q & A** ● Students present on an assigned topic from Research Expectations. During these presentations, the audience (students) should provide feedback.	● Assess the stance, premises, links among ideas, word choice, points of emphasis, and tone used. ● Organize a topic substantively with appropriate style to match intended purpose and audience.	● Demonstrate effective platform movement during delivery. ● Adapt nonverbal communication to audience. ● Determine appropriate attire. ● Evaluate the credibility and accuracy of each source.
3	SLT.11-12.1 SLT.11-12.6	LT.11-12.3 LT.11-12.6	**Instructor Presents Statement / Conclusion with Data and Reasoning** ● Students write their responses in each corner of the same paper, share merits of their ideas, and their consensus in the middle using a discussion diamond.	● Refer to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. ● Assess the stance, premises, links among ideas, word choice, points of emphasis, and tone used. ● Synthesize comments, claims, and evidence made on all sides of an issue.	● Adapt nonverbal communication to audience. ● Demonstrate effective and appropriate proxemics.

4	SLT.11-12.1 SLT.11-12.2 SLT.11-12.3 SLT.11-12.6	LT.11-12.3 LT.11-12.6	**Agree-Disagree Line** ● After participating in a classroom activity or reading current events article, the instructor posts signs representing different viewpoints. ○ Students move to viewpoint sign depending on whether they agree or disagree. ○ Students discuss their thinking with the group. ○ Students can move as they revise their thinking. ○ Students do at least two rotations before debriefing.	● Convey a clear and distinct perspective. ● Promote divergent and creative perspectives. ● Respond thoughtfully to diverse perspectives. ● Evaluate a speaker's perspective and use of evidence, reasoning, and rhetoric.	● Adapt nonverbal communication to audience. ● Demonstrate effective and appropriate proxemics.

TEXT COMPLEXITY

Extended Text Title: The Demon in the Freezer by Richard Preston	
Qualitative Measures	
Structure	**Quantitative Measures**
The structure of the text is moderate to moderately difficult based on sentence length and word frequency. The format of the text is told in narrative form but includes specific medical terminology which may be unfamiliar to the student reader.	Lexile: 810-1000L
Language Conventionality and Clarity	**Reader-Task Considerations**
The word choice includes a few instructionally significant words and some complex domain and content specific words.	These are to be determined locally with reference to such variables as a student's motivation, knowledge, and experiences as well as purpose and the complexity of the task assigned and the questions posed.
Knowledge Demands	**Recommended Placement**
The text requires the reader to have some basic understanding of pandemics and government controls of potential bioterroristic substances. The reader also needs to understand strategies for reading personal journals and memoirs.	As an informational text, the The Demon in the Freezer is more difficult to read than a fictional or narrative work.
Purpose	
The purpose of the novel is to provide real-world context for the scientific process of problem solving.	

Supporting Text Title: "Bioterrorism: A Renewed Public Health Threat" by P.J. Maddox	
Qualitative Measures"	
Structure	**Quantitative Measures**
The structure of the text is difficult based on sentence length while word frequency falls into the easier range. The format of the text is a professional journal article and includes specific medical terminology and acronyms that may be unfamiliar to the student reader.	Lexile: 1410-1600L
Language Conventionality and Clarity	**Reader-Task Considerations**
The word choice includes a few instructionally significant words and many complex domain and content specific words.	The article should be paired with The Demon in the Freezer to provide background, historical context, and content knowledge to support reading of the novel and understanding of the topic.
Knowledge Demands	**Recommended Placement**
The text requires the reader to have some basic understanding of pandemics and government controls of potential bioterroristic substances. The text also requires the reader to understand the purpose of footnotes and APA style formatting.	As an informational text, the "Bioterrorism: A Renewed Public Health Threat" is more difficult to read than a fictional or narrative work.
Purpose	
The article provides historical context and background knowledge to support the credibility of the novel's author as well as the problem of bioterrorism and how it is being addressed by the U.S. government.	