



Central administration for education with expenses

General Administration for STEM Schools Affairs

الإدارة المركزية للتعليم بمصروفات

الإدارة العامة لشئون مدارس المتفوقين في العلوم والتكنولوجيا

Capstone Exhibition Rubric 2023-2024

Poster Level of Proficiency

Criteria	Distinguished	Accomplished	Developing	Pre-Novice
Abstract (Poster) 5%	Distinguished includes all of the “Accomplished” criteria and the following: <ul style="list-style-type: none">- Abstract clearly ties together the entire project from Grand Challenge to chosen solution, design requirements and prototype, testing results and Conclusions,- Abstract alone generates excitement and desire to learn more about the topic,- Writing is professional, organized and well developed.	<ul style="list-style-type: none">- Abstract is a brief description of the entire work described in the poster- Abstract understandable without reading the entire poster.- Includes:<ul style="list-style-type: none">(1) purpose of the study,(2) brief statement of what was done (without including minor details of the methods),(3) brief statement of major findings, and(4) major conclusions.	Abstract present and relatively complete but not prepared according to all guidelines.	No abstract

Introduction (Poster) 10%	Distinguished includes all of the “Accomplished” criteria and the following: - Moves clearly from a broad view of the Grand Challenge and research on various solutions to an increasingly narrow focus on the team’s chosen solution, design requirements, and prototype, justifying each choice. - Provides a smooth transition from “what” choices they made and “why” they made them to the next section,	- Connection is made to Egypt’s Grand Challenges. - Connection is made to current semester Capstone Challenge - Clearly and objectively identifies the problem and summarizes prior solution attempts strengths and weaknesses. - Summarizes prior solution attempts strengths and weaknesses. - Includes design requirements for a new solution that can be tested - Summarizes how the team’s solution was chosen and how it addresses design requirements	- Introduction present and relatively complete but not prepared according to all guidelines	No introduction
Materials and Methods (Poster) 10%	Distinguished includes all of the “Accomplished” criteria and the following - The methods are clear enough to permit a reader to explain the method to another professional	- Prototype materials lists and/or illustrations are summarized - Describe how the prototype was constructed - A summary of Methods of the test plan for the prototype includes a summary of tests conducted and how they address design requirements.	- Materials and Method present and relatively complete but does not address all points indicated	No Methods or no Materials list
Results (Poster) 15%	Distinguished includes all of the “Accomplished” criteria and the following: - Well organized results that could be handed to a new team to replicate the work with high fidelity (Supporting documentation in the Capstone Portfolio contains all data collected) - The visual representation of the results alone (without the words in the Results section) leads the reader to a conclusion about the results.	- All types of prototype testing results are presented, whether positive or negative - Supporting documentation from the Capstone Portfolio is available to show data for tests or scenarios that were conducted for the prototype testing results - Includes a table or figure that is appropriate for the type of prototype test results being described	Results present and relatively complete but does not address all points indicated	No results

Analysis (Poster) 20%	Distinguished includes all of the “Accomplished” criteria and the following: - Analysis is clear, organized and well developed. - It explains, questions or persuades. - It is written to meet the needs of the intended audience.	- Discussion ties performance results (Positive and negative) to the original challenge or problem being addressed and to the Grand Challenge. - Analysis ties the prototype testing results to the design requirements - Analysis is supported by pictures, graphs, charts and other visuals, and prototype test results. - Analysis is supported by scientific laws and theories and provides evidence of learning transfer of discipline learning outcomes	Analysis present and relatively complete but does not address all points indicated	No analysis
Conclusions 10%	- Conclusions drawn from prototype test results and analysis are also compared with the team’s research on other solutions Findings.	- Conclusions are drawn from the prototype test results and analysis.	Conclusions and present and relatively complete but does not address all points indicated	No conclusions
Recommendation 5 %	- Recommendations are practical and directed towards a future research, engineering or policy group. - Recommendations are clearly informed by the problem, their proposed solutions, and their	- Recommendations for future study are provided, including specific ways the project could be improved in the future	Recommendations present and relatively complete but does not address all points indicated	No recommendations
Literature Cited (Poster) 5%	Distinguished includes all of the “Accomplished” criteria and the following: At least five citations are peer-review publications.	- Includes only sources cited in the poster text (at least 5 credible sources) Different kinds of sources (paper- books, encyclopedia - websites) not only websites - includes only papers actually read by the students - Is prepared according to 7th edition of the American Psychological Association (APA) style guidelines.	Literature cited Present and relatively complete but does not address all points indicated.	No literature cited (appropriate only if no citations used in the text)

<p>(Poster) Layout Title, Name, Affiliation, Size, Graphics, Tables, Photos, Other Images (Poster) 10%</p>	<p>Distinguished includes all of the “Accomplished” criteria and the following</p> <ul style="list-style-type: none"> - Writing is clear and readable - The poster demonstrates brevity (focused, well synthesized and straight to the point) while targeting a professional audience - Visuals are well titled and labeled and tell clear stories with no other supporting text necessary. 	<ul style="list-style-type: none"> - Text is readable from a distance of about <u>one meter</u> - Title is at top of the poster, short, descriptive of the project and easily readable at a distance of about <u>two meters</u> (words about 1.5-2.5 cm tall). - Includes presenter’s name and school’s name in a section about 20-30% smaller than the title. - Include grade level, semester and academic year (i.e., Grade 1, Semester 2, 2023/2024) - Illustrations, tables, figures, photographs or diagrams have unique identification numbers and a key to identify symbols - Text includes references to specific graphics or pictures - Legends include full explanation and where appropriate, color keys, scale, etc. - All images presented in appropriate layout and size relative to text - Uses forms that are common among STEM disciplines (E.g. notes, descriptive/ narrative accounts, research reports) - Writing uses correct grammar and spelling, - Consistency between the Font and background color 	<p>Elements are present but not meeting all of the requirements in the “Accomplished” column, or some elements are missing</p>	<p>___ No graphics, tables, photos or other images (the poster should include at least some images)</p>
<p>Presentation 10 %</p>	<ul style="list-style-type: none"> - Uses Specific Terminology/ Language - Speaks with Appropriate Loudness, Speed, and Voice Inflection - Uses Gestures and Body Language - Demonstrates Enthusiasm for Subject and Interest in evaluation - Produces Quality Visual Aids and Uses Effectively - Provides Quality Materials and Uses Handouts Effectively 	<ul style="list-style-type: none"> - Introduces Self and Team (Uses Topic Transition Introductory) - Provides an Overview of Topic or Agenda of Key Ideas - Clearly Describes and Emphasizes Key Ideas and Knowledge - Restates objectives of Presentation - Summarizes Key Ideas - Reinforce the relationship between the capstone project and learning outcomes. - Responds to evaluator Questions and Comments. 	<p>Elements are present but not meeting all of the requirements in the “Accomplished” column, or some elements are missing</p>	<p>One student monopolies presentation</p>

Prototype Level of Proficiency				
Criteria	Distinguished	Accomplished	Developing	Pre-Novice
Constructi on of a testable prototype (Prototype) 50%	Distinguished includes all of the “Accomplished” criteria and the following: - Prototype is directly relevant to the chosen solution (E.g. an actual water treatment step). - If software prototype (simulation) is used, modeling software such as Excel, Lab View, or a programming language is demonstrated live and can be tested	<ul style="list-style-type: none"> - Students can describe design requirements chosen for this prototype. Choice of design requirements is logical and well-reasoned. - A prototype has been constructed that was suitable for testing. - Students can demonstrate their prototype is testable or show visual proof that prototype is testable. - If a software prototype (simulation) was used, the selection of modeling methods is logical and justified and students can identify the functions or relationships contained in their software prototype - The prototype materials are student purchased - Students design and construct the prototype— <u>NOT done by other people</u> - During the testing of the prototype, all Safety Rules are followed 	A prototype or model has been constructed, some justification for the selection of design requirements and modeling approach is provided, but it is incomplete	No prototype or model; or no evidence that constructed prototype or model would facilitate test of any of the design requirements.

منسق الكابستون

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د.عزيزة رجب خليفة