Rubric for student outcome 1a: Tree Trunk Considerations

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|  | **Performance Indicators** | **Below standard** | **Meets standard** | **Above standard** | **Exemplary performance** |
| 1 | Identification of appropriate mechanical constraints | Lists a few basic mechanical properties to be considered (E, A, height, etc.) | Provides several relevant factors that have been covered in class (yield stress, strains) | Elaborates on class topics and provides their importance in terms of the treehouse. | Introduces concepts not yet covered in class and/or considers material properties, and how they impact design. |
| 2 | Consideration of environment & Sustainability | Fails to mention environmental factors affecting the design. | Considers basic environmental factors (rainfall, climate) | Elaborates on different aspects of the environment; considers relation to mechanics. | Elaborates on different environmental factors and relates them to the design/material impact. |
| 3 | Consideration of client | Fails to recognize the needs of the client. | Considers generic client needs (cost, lifespan of structure, safety) | Considers needs specific to the client in question (use of structure, physical demands) | Elaborates on nonessential client desires such as aesthetics of the design and ease of construction. |
| 4 | Societal Impact (Curiosity & Project Engagement) | Shows little time commitment; only basic mechanical needs considered. | Due consideration has been given to mechanical elements. Only factors relevant to this single structure are considered. | Considered factors show evidence of interest to the immediate impact of the structure on its surroundings. | Evidence shown of interest in the modularity of the structure and/or long term impact on society. |