

Structural Analysis Methods

Post Secondary

OVERVIEW:	Structural Analysis — Have the students get in teams to research various methods for the analysis of structures. The students should present it in front of the class. The presentation should include a brief history of the method, including the founder of the method and a brief biography, along with the details and derivation of the method.
OBJECTIVE:	<ul style="list-style-type: none"> • Learn about the founders of each method and projects that they worked on. • Understand the derivation of each method. • Demonstrate an understanding of how and when to use each method when analyzing a structure.
STANDARDS:	<p>National Educational Technology Standards (NETS-S)</p> <ol style="list-style-type: none"> 1. Creativity and Innovation - The students constructing an appealing and interesting presentation of their structural analysis method. 2. Communication and Collaboration - Students are working in groups to put together a presentation and paper that has the appropriate amount of information and is appealing. 3. Research and Information Fluency – Students must be able to research their method and its founder. 4. Critical Thinking, Problem Solving, and Decision Making – Students must work together to put a presentation together in a timely manner. 5. Digital Citizenship – Students must make sure not to plagiarize any material. Students must properly cite where all of their information has come from. 6. Technology Operations and Concepts– Students use PreZentit to create a presentation.
MATERIALS:	<ul style="list-style-type: none"> • PreZentit (A presentation application) • Computer with Internet access • Print resources

PROCEDURE:	<ol style="list-style-type: none">1. Assign students, in groups, different methods for structural analysis.2. Have the groups research each of these methods, including:<ol style="list-style-type: none">a. The founder of the method and his research and projects that he worked on.b. The derivation of each method.c. The sign convention for each method.d. An example of how and when to use each method.3. When students have completed their research, ask them to summarize their findings in a one-page report.4. After the report has been completed, have each group present the research to the class. The presentation will last between 25-30 minutes.5. After all of the groups have presented their particular method of structural analysis, have a quiz to test the understanding of the material.
EVALUATION:	<p>The presentation will be a total of 50 points</p> <ol style="list-style-type: none">a. 15 points for the founder's biography and work.b. 15 points the derivation.c. 20 points for the appropriate use of the method and proper work. <p>The paper will be out of 20 points</p> <ol style="list-style-type: none">a. 15 points for proper information on the method and its founder.b. 5 points for proper punctuation and grammar. <p>The quiz will be out of 30 points</p>