D.A.T.S. 101

WebQuest Description: Welcome to D.A.T.S. 101! Designers and Architects of Technical Significance is a six week course for your 6th grader to help develop her or his attention, appreciation, motivation, and enthusiasm for practicing design and fine tuning their understanding of basic building procedures and protocols.

Grade Level: 6-8

Curriculum: Professional Skills

Keywords: Design, Architecture, 3D, Model, Construction, Plan, Digital, Art, Graphics

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Introduction

WELCOME TO D.A.T.S. 101! D.A.T.S. 101 is the course for you if you look forward to working in virtual reality to produce objects within your physical reality. Your planning to the real product-making process will become second nature to your learning as you develop your interest behind what you enjoy best about design and the building process. Description of Learners: "Let's take this object apart and fix it", is what you may say when something is not working correctly. Or perhaps, you want to make your object faster, better, or stronger? Signing up for the D.A.T.S. 101 course, we dive into activities with tools and devices that allow you to design your objects, items, and concepts with the help of modern software and technology. Goals and Objectives: 1. Experimenting with small-scale objects for designing houses, bridges, and commercial structures as an introduction into building processes and their physical protocol. Comparing structural foundations and vital supports of constructed models &nbsp;2. Examining and providing full explanation of models, historical construction techniques, and modern methods for evaluating classroom objectives and assignment submission critique. Identifying protocols of designs of traditional and abstract modeling. 3. Mastery of technology assisted tools and software for designing concepts. Activities: Check out these links below of potential possibilities of inspiration http://designintheclassroom.com/designTasks/index.html Floor Plan Software - https://www.smartdraw.com/floor-plan/examples/ Designing Furniture - http://designintheclassroom.com/designTasks/cChair/index.html Paper Bridge Idea - http://designintheclassroom.com/designTasks/paperBridge/index.html This is an introduction course to prepare, motivate, and inspire you under the D.A.T.S. curriculum. (Having fun while learning)

Tasks

You and your classmates will discuss the activities to construct, from the planning phase, to the crafting of this activity and what purpose it would serve. Where do we start? Take a look at this: http://www.sciencebuddies.org/engineering-design-process/engineering-design-process-steps.shtml This is where your understanding to completing the project will come in handy. What tools are available for me to start? The class will have full access to the following items: Digital camera for full portfolio documentation of all drawings, plans, design, and models that student performs (which is a part of the final exam package) Lego's Wooden Logs Reading materials (link, magazines, books, social media tools [Instagram, Pintrest, Tumblr, etc.]); Writing journals; Mini-Documentary films and shorts of various designing platforms to encourage new thoughts on their use of mediums (what are you using for your ideas?), and methods (what went into this process that helped you construct this idea?) A write up into the journal entry can go here as well Tablets / Pads / Smartphones with Applications / Software: Designing software (furniture, bridges, tunnels, etc.) Floorplan Creator 3D Modeling (Cars, New transportation models - trains, plans, boats, etc.) MineCraft Toothpicks Popsicle sticks Playing Cards Glue Matboard Cardboard Clay Rulers Cardboard tubes Pencils Paper Original Size XL Edition XXL Edition

Process

Before any building or construction can take place, we must first plan what the class will work on together to achieve this assignment. Step 1: What do you want to work on for the assignment? (for this assignment, we will use constructing the bridge as an example) Step 2: Discuss these ideas, plans, themes, and motivations with your team How can your strengths be used for the project? Are there weaknesses that you need to bring up? (REMEMBER, YOUR SPECIFIC TASK IS A PRODUCT OF THE COLLECTIVE ASSIGNMENT'S OBJECTIVE)** Check out any and all social account platforms that may assist with your designing and planning** Helpful Hint: https://diy.org/search/design%20modeling PHASE 1 FOR PROJECT: "JUST MAKE IT!" There are NO wrong ideas in this phase. Do you can do for your assignment's success that is still in union with the final objective of the project (continuing with the above example, planning the bridge layout, its order of columns, structural patterns, lanes, lighting, foundation, foundation design, overhead design, possible signs, cut-a-ways, and medians) PHASE 2 FOR PROJECT: "Digital Designs, Discussion, and Debates" Now that you have planned, you decide what will work best to be used within your preferred area of final planning using the best tools of design. No matter what you are doing, use your plans to enhance your ideas, concepts, or sketches into products that you can save for other students review. Theatrical films and documentaries will be reviewed for questionable inspiration. Open floor dialogue discussions can be had about plans, as well as "insight approval" from instructor. Submission of plans are going to be used - and graded from - the construction aspect of submitted final drafts. Thinking about what materials will best work for your idea is crucial here, which is why strict, strategic, and successful discussion is needed as you submit your request for parts and materials to carry out your assignment. (Continuing example from above, items of use may be wooden logs, Popsicle sticks, glues and adhesives, rulers, pencils, cardboard, matboard, Jenga pieces, PHASE 3 FOR PROJECT:
"Building your Plans" Whatever has been your main theme for construction is now where you bring the plans to the classroom. Constructing your models are now in process, which will be later brought together for the final unit collaboration (Continuing example from above, bringing together the items of separate construction components such as foundation blocks, roadway lanes, overhead and undercarriage formations, lighting, etc.)

**Evaluation**

There are four levels of grading that will be used throughout the course. Each level represents how effective the students work is in relation to the academic systems of grade level categories. Freshman Level: Basic understanding to the materials, no full completion to course objectives, did not reach goalsSophomore Level: Understanding of materials and objectives, practice is still needed to complete goalsJunior Level: Comprehension of material and objective processes are achieved with minimum goal completionSenior Level: Full comprehension to the materials, achieving all objectives, goals, and course procedures are met. Each academic level has four grading categories ranging in an accumulative score of 1000 points. Each category has their own point system, which the student will be graded by. (1) Planning - total: 200 points (2) Design and Critique - total: 225 points (3) Application Mastery - total: 275 points (4) Content and Participation - total: 300 points D.A.T.S. 101 is the introductory course that seeks to bring all participating students beyond the freshman level of design operation with proper guidance and support to the materials for complete understanding and mastery. Achievement levels and ranking within each level can be viewed below.

<table>
<thead>
<tr>
<th>Category and Score</th>
<th>Freshman Level</th>
<th>Sophomore Level</th>
<th>Junior Level</th>
<th>Senior Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
<td>Satisfactory planning: requires deeper thinking, lacking insight</td>
<td>Average planning: Basic insight with several errors</td>
<td>Extraordinary planning: strong insight with minor error</td>
<td>Superior display of planning: creative thinking, group interest, and project insight with minimal error</td>
</tr>
<tr>
<td>Design and Critique</td>
<td>Basic:</td>
<td>Average:</td>
<td>Proficient:</td>
<td>Innovative:</td>
</tr>
<tr>
<td>Application Mastery</td>
<td>Satisfactory:</td>
<td>Average:</td>
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**Conclusion**

**Teacher Page**

**Standards**

**Credits**

**Other**