Design STEMs from the Data

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AMP-IT-UP
Project Overview

• 18-week STEM-ID course for 6, 7, 8
• 3 Math 1-week modules for each grade
• 3 Science 1-week modules for each grade

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STEM-ID Course Design

• 18 week STEM course
• Four multi-week mini challenges
  • Data, Systems, Visualization, Design
• Use of Design Log (eEDPL)
• Different experience for grades 6-8
• Integrates Math & Science content and practices
• Cross-Cutting to Math and Science
  • Experimental Design
  • Data Visualization
  • Decision Making

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Engineering Design Process

Identify the Problem
Problem Statement:
What design problem are you working on?

Understand
Design Requirements & Goals
Background Research
Customer Needs

Ideate
Brainstorm Design Ideas
Sketch to Communicate
All Ideas Welcome

Evaluate
Design Meets the Requirements?
Design Strengths/Weaknesses
Use a Decision Tool to Rate Designs
Select Promising Design(s)

Prototype & Test
Detailed Technical Drawings
Mathematical and Computer Models
Build Physical Model
Requirement Tests

Communicate your Solution
Share Your Solution
Justify Your Design Using Collected Data
Provide Design Process Documentation

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Advanced Manufacturing & Prototyping Integrated to Unlock Potential
Electronics Engineering Design Process Log

• Formatted to follow the EDP
• Provides a longitudinal document of the entire process
• Maintains student information in organized fashion
• Provides a scaffold document
• Can be used for both formative and summative assessment

example
AMP STEM-ID: What is this all about?

We have three stations

6th - Carnival Tycoon

7th – Flight of Fancy

8th – Bio-Bot

About 20 min per station then rotate

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Where can you get access to the curricular materials?

www.ampitup.gatech.edu

Click the Curricula tab

Currently only the STEM-ID courses available
Math & Science Modules late spring of 2017

Contact information
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