

## Course Title: Pre-employment Curriculum

**Instructor feedback:** Daily feedback sheets will be used to gather updates from the students

Videos will be taken to be used by the instructors.

### Course description:

Title	Main topics/ Activity
<p>What issues do we face in education?</p> <p><i>How do I learn how to learn?</i></p>	<ul style="list-style-type: none"> <li>• Why do I need to know this?</li> <li>• When will I ever use this?</li> <li>• How is this relevant?</li> </ul> <p>Present education leaves many students not engaged in learning and finding it difficult to manage the complexities of life relating to the interface of society, schools, and business.</p>
<p><b>Needs:</b></p>	<p>The skills needed in our vastly complicated world, whether to earn a decent living or to be an active and informed citizen, are radically different from those required historically. Quite simply, the world has changed, and our schools remain stuck in time. “Knowledge workers” have become obsolete. What the world demands today are “smart creatives,” the term that Eric Schmidt and Jonathan Rosenberg use to describe the kind of people Google needs to hire in their book How Google Works.</p>
<p><b>School experience:</b> We will provide the missing skills like problem solving, creative and critical thinking, questioning, meta-cognition reflection, character development, business processing, financial literacy and societal values needed to succeed in today’s environment.</p>	<p>The program is designed to focus on the skills needed in work and society in a four (4) week time frame. It will cover the skills needed at work and in society in such important areas of teamwork, attitude, planning, problem solving and communications.</p>
<p><b>Mission:</b></p>	<ul style="list-style-type: none"> <li>• Get students excited about learning (life-long learners).</li> <li>• Have the reasoning skills to manage in today’s society and begin to build a set of skills to use in multiple careers.</li> <li>• Understand that problems are opportunities. The bigger the problem, the bigger the opportunity.</li> </ul>

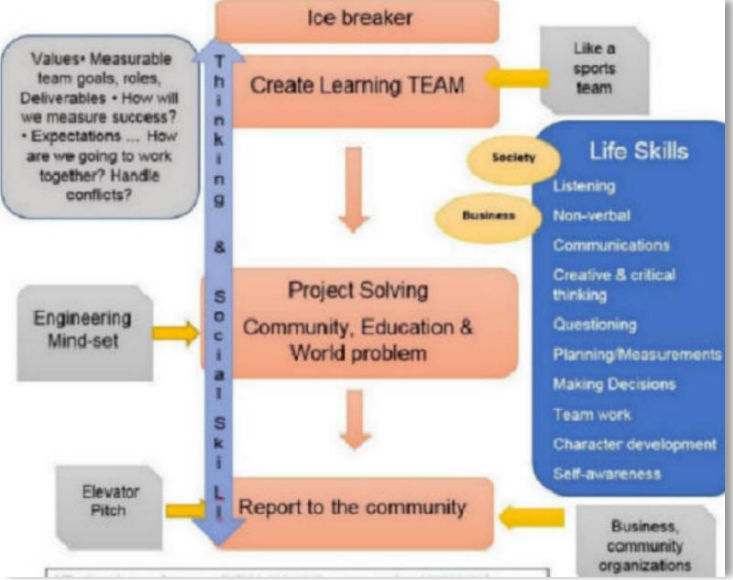


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	<ul style="list-style-type: none"> <li>• Have students better prepared for college or a career.</li> </ul>
<p><b>Goal:</b></p>	<p>The goal of the school's program is the formation of skilled and discerning minds in preparation for higher education, careers and lifelong learning. They will understand that problems are opportunities. "The bigger the problem, the bigger the opportunity" (<i>Vinod Khosla</i>).</p> <p>Through its learning and collaboration, Project Academy guide them in becoming life-long learners and also educates its students for service in the community and in today's global civilization as part of human brotherhood.</p>
<p><b>Structure uniqueness</b></p> <p><i>The process complies with the common core learning standards</i></p>	<ul style="list-style-type: none"> <li>• Ownership mindset ... <b><i>Think like an owner</i></b></li> <li>• Cultural Engineering mindset ... <b><i>Provide leadership &amp; management of a project</i></b></li> <li>• Growth mindset ... <b><i>Your brain is like a muscle, use it or lose it</i></b></li> <li>• Team mindset ... <b><i>To be successful. need to work together</i></b></li> <li>• Brand mindset ... <b><i>Who are you and how to show the world</i></b></li> </ul>
<p><b>Values:</b></p> <p>The school will foster a community based culture of a learning environment, use of visual thinking process with all treated as adults and with respect. A school vest will be worn to signify connection to each other. <b>Key words are:</b> Trust, Empathy, Kindness, Curiosity, Innovation, Persisting, Flexibility, Continuous learning, Humor and Taking responsible risk.</p>	
<p><b>Life-Skills:</b></p> <ul style="list-style-type: none"> <li>• <b>Attitude</b> (positive attitude, focus, emotions, flexible, moral leadership )</li> <li>• <b>Social &amp; emotional learning</b> ( <a href="#">character development</a>, <a href="#">empathy</a>, responsibility, <a href="#">self-esteem</a> )</li> </ul>	



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	<ul style="list-style-type: none"> <li>• <b>Team-work</b> ( charter, respect, values, <a href="#">listening</a>, trust, diversity, culture, ) ,, <b>working like a sports team</b></li> <li>• <b>Problem solving</b> ( <a href="#">creative &amp; critical thinking</a>, decisions, planning, curiosity, <a href="#">reflection</a> )</li> <li>• <b>Personal skills</b> (<a href="#">financial literacy</a>, <a href="#">time management</a>, communication )</li> <li>• <b>Business literacy</b> (quality, processes, matrices, reporting, <a href="#">leadership</a>, judgement )</li> <li>• <b>Key Company Interface</b> Email, Social networking, YouTube, Self-branding skills (Who you are ), Networking</li> </ul>
<p><b>Facilitators</b> Need to train local facilitator</p>	<p>The following team will support the groups learning during the project</p> <ul style="list-style-type: none"> <li>• Bill Wolfson BSEE, MS in Physic</li> </ul>
<p><b>Description:</b> Learning through doing and discussion with other students.</p>	<p>The class project will focus on the chosen skills that occur during the team creation &amp; problem solving process. The students will be challenged to be cognitively ready to learn during the process. Included as standards' will be forming the team and the problem-solving process.</p>
<p><b>LEARNING OUTCOMES / OBJECTIVES</b></p> <p>How are we going to integrate character development?</p>	<p><b>What are the learning outcomes?</b> By the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Clearly articulate the nature of the design process &amp; problem solving</li> <li>• See the World as a place of excitement and inspiration</li> <li>• Use assessment strategy and feedback as learning tools</li> <li>• Use of relevant soft-skills in their life to better interface with society</li> <li>• Begin the steps to become a lifelong learner</li> <li>• Understand the processes within a business and personnel finance</li> <li>• Understand that problems are opportunities in life</li> </ul>
<p><b>Student's Responsibility:</b> <i>Taking responsibility for attendance and class participation.</i></p>	<ul style="list-style-type: none"> <li>• If at any time you start to feel lost or behind in the course, don't panic or keep silent--- let us know so we can help.</li> </ul>



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<p><i>Keeping a journal during the course:</i></p> <ul style="list-style-type: none"> <li>○ <i>Take notes</i></li> <li>○ <i>Questions to ask/ideas and reflections</i></li> </ul>	<ul style="list-style-type: none"> <li>• Please let us know if we should adjust our communication style. Are we going too fast? Too slow? Are we being too techie?</li> </ul>									
<p><b>Student activity</b></p>	<ul style="list-style-type: none"> <li>• We will support the students to buy and wear vests with the school logo</li> <li>• Certain students will be given the opportunity to support other students in the learning process. These will be called master designers.</li> <li>• Students are viewed as active authors of their own development</li> </ul>									
<p><b>Weekly Schedule:</b></p>	<p>To Be Determine</p>									
<p><b>Implementation:</b>  <i>Areas of discussion ...can be tailored to local needs such as the local community food needs.</i></p> <table border="1" data-bbox="136 1008 597 1352"> <tr><td>See the problem/Bug</td></tr> <tr><td>Frame it</td></tr> <tr><td>Research</td></tr> <tr><td>List possible solutions</td></tr> <tr><td>Pick a few</td></tr> <tr><td>Select</td></tr> <tr><td>Test</td></tr> <tr><td>Reflection</td></tr> <tr><td>Present solution</td></tr> </table> <p>Other possible problems that could be worked on are <a href="#">the Grand Challenge</a> for engineering determined by the National Academy of Engineering.</p>	See the problem/Bug	Frame it	Research	List possible solutions	Pick a few	Select	Test	Reflection	Present solution	<p>The course will be done with hands on learning using methods from <a href="http://WPI/engineeringlens.org">WPI/engineeringlens.org</a></p> 
See the problem/Bug										
Frame it										
Research										
List possible solutions										
Pick a few										
Select										
Test										
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Present solution										
<p><b>Tasks:</b></p>	<p><u><a href="#">Ice-Breaker</a></u></p> <p><u><a href="#">Team creation</a></u></p> <p><u><a href="#">Select problem</a></u></p> <p><u><a href="#">Problem solving</a></u></p> <p><u><a href="#">Testing-Reporting</a></u></p>									

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<p><b>Course Rubrics</b></p> <p>Three areas of learning targets</p> <ul style="list-style-type: none"> <li>• Knowledge ... Content</li> <li>• Skills ... Processes</li> <li>• Reasoning ... Thinking skills, character development</li> </ul>	<p>Creating learning targets...How will I be successful. measurements &amp; feedback</p> <p>Assessment (learning targets) will be by skill level with students and community giving the feedback.</p> <p><b>Badges as translators of competency</b></p> <p>Create skills targets (<b>badges</b> ) for:</p> <table border="1" data-bbox="673 556 1487 682"> <tr> <td>Problem solving</td> <td>Character</td> <td>Entrepreneurship</td> </tr> <tr> <td>Innovation</td> <td>Community</td> <td>Values</td> </tr> <tr> <td>Collaboration</td> <td>Attention to detail</td> <td></td> </tr> </table>	Problem solving	Character	Entrepreneurship	Innovation	Community	Values	Collaboration	Attention to detail	
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Innovation	Community	Values								
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<p><b>Course Expectations</b></p> <p>Team assignments and discussion board postings.</p>	<p>Students are expected to participate in discussion forums and complete the assigned projects on time. Students are responsible for making arrangements with the instructor when difficulties arise in completing an assignment on time.</p>									
<p><b>What Is a Design-centric culture?</b></p>	<p>Empathy, Who's the customer, something good for society, Understand the need and expected out-come.</p>									
<p><b>Should set up the following:</b></p>	<ul style="list-style-type: none"> <li>• Web based tool for communication and information sharing</li> <li>• Google Docs</li> <li>• Web Blog</li> </ul>									
<p><b>One-hour Class Period Structure</b></p> <ul style="list-style-type: none"> <li>• 15 min. of class learning/discussion</li> <li>• 30 min. of Exercise / Activities by the teams</li> <li>• Break</li> </ul>	<p><b>Class Activities ... Tied to the curriculum</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Improv.</a></li> <li>• <a href="#">Drawing exercise</a></li> <li>• Problem solving</li> <li>• Team building games, poker</li> <li>• Socratic Questioning</li> </ul>									
<p><b>Example of a 4-week schedule 7 hr /day</b></p>										
<p><b>Week 1</b></p> <p><a href="#">Week 1</a>;</p>	<p><a href="#">PP1</a>      <a href="#">team</a>, <a href="#">sports</a>, <a href="#">improv</a></p>									



Title	Main topics/ Activity
Week 2	<a href="#">Week 2</a>
Week 3	<a href="#">Week 3</a>
Week 4	<a href="#">Week 4</a>
<b>Student take away (Outcomes):</b>	<ul style="list-style-type: none"> <li>• Acquire self-awareness and apply self-management skills to achieve personal well-being and effectiveness</li> <li>• Act with integrity and make responsible decisions that uphold moral principles</li> <li>• Acquire social awareness and apply interpersonal skills to build and maintain positive relationships based on mutual respect</li> <li>• Be resilient and have the ability to turn challenges into opportunities</li> <li>• Be an outstanding employee for the company and grow in opportunity</li> </ul>

## Course details:

Major area	Theme
Introduction / Creating a learning collaborative in the classroom / pre-Assessment of engineering knowledge and thinking skill awareness	Attributes, Values, Teacher Skills and the relation to excellence in academics and the larger world of work.  Developing the outcome goals for the class.
Work in teams	Part of Team Project ...Collaboration, decision making, brain writing
Problem framing and solving Empathy	Part of Hands on Learning ... understanding what is the true problem and tinkering with ways to solve the problem
Creative and critical thinking skills around the design process	Learn the tools of brainstorming, brain-writing, and decision making for divergent and convergent processing skills



Major area	Theme
Brain Plasticity ... Growth mindset <ul style="list-style-type: none"> <li>• Carol Dweck, Ph.D</li> <li>• Claude M. Steele Ph.D</li> </ul>	... we continuously are able to learn new things Two 30 minutes discussions a total of 60 minutes spent teaching not math but a single idea: <b>that the brain is a muscle</b> . Giving it a harder workout makes you smarter. That alone improved their math scores.
Habits of Mind	Built into projects and continuous discussion
Infusion of thinking skills	Create an appreciation for life-long learning by providing opportunities to develop creative and critical thinking skills
Dialogue	... 6 Hats How to create dialogue and not shouting matches. Using dialogue question
Professionalism	Respectful dealing with others
Entrepreneurships / Innovation	Business processes... Persistence, problems as opportunities, finding humor, accuracy in your work, remain open to continuous learning
Conclusions, Self-Assessment Quality focus	Understand why you did certain things, What can you learn from your actions to improve How can you use data to improve?
Community support <ul style="list-style-type: none"> <li>• <b>Job training</b></li> <li>• <b>Internships</b></li> <li>• <b>Technicians</b></li> <li>• <b>Apprenticeships</b></li> <li>• <b>Mentors</b></li> </ul>	<ul style="list-style-type: none"> <li>• Get a partnership with industry that provides career opportunity if we provide a person with good soft-skills. Retail stores, Warehouses, etc.</li> <li>• Relationship with non-profits that focus on this area.</li> </ul>
<b>Mentor support option:</b>	A team of mentors from different Business and organizations will be available to support the student. A mentor fair will occur where mentors present themselves to the students. The student will have to opportunity to pick someone they would like to get support from. These mentors will be trained in our program and how they could support a student.
	<b><u>Manufacturing elements learned in the 4 weeks</u></b>
Hand-Outs descriptions to organizations needed for support:	<a href="#">Community introduction</a> <a href="#">Business organizations</a> --- <a href="#">Second doc.</a> <a href="#">List of Life &amp; Business skills</a>

The conversation is structured by the use of four strategies: **predicting, clarifying, question generating/connecting, and summarizing.**



**Modules incorporation:** Project Academy syllabus can be divided into modules to be used by the client in their particular environment. ***As an example, the potential customer may train students in coding but does not have a module on teamwork.*** In addition, we provide professional development to the customer to train their staff in our modules and their use and/or add additional foundational and life skills. Our approach is to work with the client and custom our processes to their needs.

