

**City Polytechnic High School of Engineering, Architecture and Technology, a 9-14 P-TECH School**  
**2017 - 2018 WORK BASED LEARNING ADVISORY OVERVIEW (last updated 8.9.17)**

Fall 2017: January 2nd - January 12th, 2018  
 Spring 2018: May 21st - June 1st, 2018

**Rationale and Goals**

Workplace Learning or Work Based Learning (WBL) provides students with hands-on, direct exposure to their chosen career pathway. This strand, which extends across six years at City Poly HS, is made up of a range of experiences that are designed to create meaningful linkages between work and school and provide students with meaningful exposure to successful professionals in the Engineering and Architectural fields. This is all designed to "break down" the traditional wall between work and school and provide meaningful exposure to successful professionals in the field.

**WBL Continuum and Curriculum Overview**

The WBL Continuum comprises of experiences that have been specifically designed around the needs of the Civil Engineering, Architectural Technology and Construction Management industries.

Experiences	CAREER AWARENESS	CAREER EXPLORATION	CAREER PREPARATION	GRAND TOTAL
	HS Years 1 & 2	HS Years 3 & 4	College Years 5 & 6	
Classroom Learning	Career Awareness Lessons Career Research Guest Speakers Professional Skills Development	Career Exploration Lessons Career Guidance Career-Related Projects Industry Research	Career Coaching Occupational Training Technical Skills Training Work Readiness Activities	Minimum 324 hours
CTE Coursework	Intro to Engineering & Design Civil Engineering & Design	*Declare Major* Engineering Design & Dev't CTE Elective	Civil Engineering A.A.S. Architectural Technology, A.A.A. Construction Mgmt, A.A.S.	216 hours (NYS CDOS)
Community Activities	Career Fairs College Visits Community Resource Awareness	Community Service Mock Interview College Visits Out-of-School-Time Activities Industry Certification	Volunteering Competitions Industry Certification	100 hours (DOE Seal of Recognition for Service)
Workplace Learning	Workplace Challenge Career Mentor Workplace Tour	Workplace Challenge Informational Interview Job Shadow Internship	Workplace Challenge Internship Work Experience/Co-Op Apprenticeship	54 hours (NYS CDOS)
Subtotal Hours	231 hours	231 hours	232 hours	> 694 hours

College Board Advisory Guides: <https://bigfuture.collegeboard.org/get-started/educator-resource-center/college-board-advisory-guides>

**Attendance and Behavior Policy**

WBL is an essential and integrated element of the P-TECH 9-14 model school. The six-year sequence begins in the 9th grade. Students participate in WBL Advisory as an intensive at the end of the fall and spring semesters, and throughout the summer (i.e. internships). Therefore, **perfect attendance** during this time is crucial as attendance and timeliness are highly valued professional skills in our CTE community and industry. Students are expected to conduct themselves in accordance with **the NYCDOE Discipline Code and City Poly Core Values**, in addition to the accepted norms of the workplace.

## Calendar of Dates - Sample Pacing Guide

WBL Advisory is a two-week intensive program in at the end of the Fall 2017 and Spring 2018 semesters, which students participate in Classroom Learning, Community Activities, and Workplace Learning.

Semester & Dates		Monday	Tuesday	Wednesday	Thursday	Friday
Fall 2017	January 1 - 5	School Closed	Day 1	Day 2	Day 3	Day 4
			Classroom Learning	Classroom Learning	Classroom Learning	Community Activities
	January 8 - 12	Day 5	Day 6	Day 7	Day 8	Day 9
		Community Activities	Community Activities	Community Activities	Workplace Learning	Workplace Learning
Spring 2018	May 21 - 25	Day 10	Day 11	Day 12	Day 13	Day 14
		Classroom Learning	Classroom Learning	Community Activities	Community Activities	Community Activities
	May 28 - June 1	Schools Closed	Day 15	Day 16	Day 17	Day 18
			Workplace Learning	Workplace Learning	Workplace Learning	Workplace Learning

## Daily Schedule

Period			Grade 9 and 10	Grades 11 and 12	Grade 13 and 14
0	7:43	8:28			
1	8:30	9:15	TBD	TBD	TBD
2	9:17	10:02	TBD	TBD	TBD
3	10:04	10:49	TBD	Lunch	TBD
4	10:51	11:36	TBD	TBD	TBD
5	11:38	12:22	TBD	TBD	TBD
6	12:24	1:08	TBD	TBD	TBD
7	1:10	1:54	Lunch	TBD	Lunch
8	1:56	2:40	TBD	TBD	TBD
9	2:42	3:22	TBD	TBD	TBD

## Advisory Groups and Faculty/Staff Advisors

Industry	Grade 9	Grade 10	Grades 11	Grade 12	Grade 13	Grade 14
Engineering Industries	1. TBD 2. TBD 3. TBD	1. TBD 2. TBD 3. TBD	1. TBD 2. TBD 3. TBD	1. TBD 2. TBD 3. TBD	1. TBD 2. TBD 3. TBD	n/a
Architectural Industries (Technology and Art)	4. TBD 5. TBD 6. TBD	4. TBD 5. TBD 6. TBD	4. TBD 5. TBD 6. TBD	4. TBD 5. TBD 6. TBD	4. TBD 5. TBD 6. TBD	n/a
Construction Management	7. TBD 8. TBD	7. TBD 8. TBD	7. TBD 8. TBD	7. TBD 8. TBD	7. TBD 8. TBD	n/a

**Skills Map** (last updated March 2015)

<b>ALL MAJORS AND CAREER PATHS</b>		
<b>Technical Skills</b>	<b>Professional Skills</b>	<b>Academic Skills</b>
<p>Complete understanding of AutoCAD e.g. layering templates, printing protocols, use of general drafting techniques, knowledge of programming codes, exporting to PDF</p> <p>Solid understanding of CAD standards e.g. creating libraries, comparing standards generally to other standards, applying layers across other applications</p> <p>Generate and interpret blueprints, scale and measurements, takeoffs</p>	<p>Competent use of AutoCAD software</p> <p>Ability to complete drafting assignments with little supervision</p> <p>Working knowledge of Adobe and Microsoft Office, especially PowerPoint</p> <p>Able to generate conceptual drawings</p> <p>Able to complete preliminary quantity takeoffs</p> <p>Ability to complete assignments independently</p> <p>Ensure consistency of work</p> <p>Attention to detail</p> <p>Understand impact of work on others, work in teams</p> <p>Participate in meetings</p> <p>Understand and satisfy client needs</p> <p>Work to achieve desired goals and milestones</p> <p>Negotiating</p> <p>Problem solving</p> <p>Time management</p> <p>Scheduling and meeting deadlines</p> <p>Knowing when to ask questions and “own the learning”</p> <p>Managing ambiguity</p> <p>Life-long learning</p> <p>Initiative and adaptability</p> <p>Ethics</p>	<p>1 semester of general AutoCAD</p> <p>1 semester of Materials &amp; Methods of Construction</p> <p>1 semester of Estimating Measurements</p> <p>Math: arithmetic, trigonometry, geometry</p> <p>Presentation skills</p> <p>Written and oral communication, listening</p> <p>1 semester of technical writing</p> <p>Outlining and organizing thoughts</p> <p>Research Skills – Library Skills</p>
<b>DESIGNING AND DRAWING</b> Example job titles: Designer, Junior CAD Architect, Intern Architect		
<b>Technical Skills</b>	<b>Professional Skills</b>	<b>Academic Skills</b>
<p>Rendering software (Revit)</p> <p>Ability to draw in 2D and 3D site Survey e.g. plans, sections, elevations, rendered perspectives</p> <p>General understanding of specs for electrical, mechanical, and architectural equipment</p> <p>Converting hand sketches into computer drawings</p> <p>Producing working drawings from directions from engineers</p> <p>Interpreting drawings from Consultants</p> <p>Research and assist with materials and construction methods</p> <p>Perform/assist in review of shop drawings</p> <p>Know procedure for change orders</p> <p>Accompany senior members for site visits</p>	<p>Understand impact of work on others</p> <p>Work in teams</p> <p>Ensure consistency of work</p> <p>Understand and satisfy client needs</p> <p>Work to achieve desired goals and milestones</p> <p>Ability to identify and resolve issues using a log format</p>	<p>2 semesters of general AutoCAD</p> <p>1 semester of Revit</p> <p>Graphic organizational skills e.g. adobe products: Photoshop, Pages, Illustrator</p> <p>Written and oral communication</p> <p>1 semester of a Building Systems course</p> <p>1 semester of Land Surveying</p>
<b>WRITING AND INTERPRETING PLANS</b> Example job titles: Junior Estimator, Field Engineer, Intern Engineer		
<b>Technical Skills</b>	<b>Professional Skills</b>	<b>Academic Skills</b>
<p>Regulatory standards and codes</p> <p>CPM schedules</p> <p>Materials and products knowledge</p>	<p>Able to research codes (City, State &amp; Federal)</p> <p>Able to review documents and shop drawings</p> <p>Ability to create CPM Schedule</p>	<p>1 semester in Construction codes</p> <p>2 Semesters of Construction Management</p> <p>1 semester of CPM</p>

<p>Narrative specifications</p> <p>Quality control</p> <p>Risk management</p> <p>Growing repertoire, staying current</p> <p>Contracts, RFPS, permits</p>	<p>Ability to use Industry Standard Software</p> <p>Able to research and specify products</p> <p>Budgeting and understanding finances</p> <p>Writing in professional context</p> <p>Ability to review protects and determine risk potential</p> <p>Forward thinking</p> <p>Manners and socialization in business meetings</p> <p>Strategic work towards performance metrics</p> <p>Use of down time</p>	<p>Microsoft Project and PowerPoint</p> <p>Interpret data</p> <p>2 semesters in Materials &amp; Methods of Construction</p> <p>Property and confidentiality</p> <p>Visual literacy</p> <p>1 semester of Quality Control (BT)</p> <p>Problem identification and framing</p> <p>1 semester of Risk Management (BT)</p> <p>Recognizing patterns and system in unfamiliar and new forms</p> <p>Logic</p> <p>Office practices</p> <p>1 semester of Construction</p> <p>Project Management course</p>
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**OVERSEEING PROJECTS**  
Example job titles: Construction supervisor, project assistant, project manager, field engineer

Technical Skills	Professional Skills	Academic Skills
<p>Read and interpret construction drawings</p> <p>Understand basic contract documents</p> <p>Apply engineering principles</p> <p>Field testing for concrete</p> <p>Field surveying</p>	<p>Ethics</p> <p>Record keeping and diary</p> <p>Ability to determine construction methods</p> <p>Ability to review construction methods and field operations, logistics</p> <p>Scheduling and planning</p> <p>Prepare work plans</p> <p>Work ethic</p> <p>Be able to make decisions</p>	<p>1 semester of Construction Management</p> <p>2 semesters of Materials &amp; Methods of Construction</p> <p>1 semester in Project Cost Controls</p> <p>Budgets/finance</p> <p>Microsoft Project</p> <p>Understanding of the principles of engineering and construction management</p> <p>Environmental compliance</p> <p>1 semester of Site Safety</p> <p>OSHA 10 Certification</p> <p>Understanding safety regulations</p> <p>1 semester of Steel Design</p> <p>1 semester of Concrete Design</p> <p>ACI Certification – Level 1</p> <p>1 semester of CPM</p> <p>1 course Engineering economics (BS)</p>

**MONITORING HEALTH, SAFETY AND EQUIPMENT**  
Example job titles: Technician, Health, safety, and environment technician, Field Safety Coordinator

Technical Skills	Professional Skills	Academic Skills
<p>Understanding of basic tools, mechanically inclined</p> <p>Some hands-on experience with equipment use</p> <p>Awareness of city building &amp; construction regulations and codes</p> <p>Protocols for safety</p> <p>Useful but not required: technical sketching, basic computer/technology skills (ability to operate/troubleshoot)</p> <p>Familiarity with foundational mechanical engineering concepts</p> <p>Field testing and soil testing</p> <p>Possible physical requirements to lift heavy objects</p>	<p>Perform inspections at jobsite and work areas</p> <p>Maintain inventory sheets and logs</p> <p>Raising safety violations to supervisor</p> <p>Safety coordination at meetings</p> <p>Conduct safety orientation and trainings for employees</p>	<p>OSHA certification</p> <p>Concrete Inspection certification</p>

Skills in blue are Lower Priority

## Brainstorm Topics:

- Community
  - Community trip
- Early College Scholarship Program @ City Tech
  - Application process
  - Take Accuplacer
  - Skills Map self-assessments
  - Grad Leaders
- Guidance and Advisement
  - Receive semester program
  - Parent Engagement
  - Take Learning Environment Survey
  - Transcript Review
  - Student-led conference??
  - Student Document Tracking: Lunch forms, immunization, etc
- Post-secondary Planning
  - College application process
  - FAFSA
  - Student Portfolio
  - P/SAT Prep