Illinois PLTW Teacher Workshop Agenda - November 30, 2016

8:00 - 8:45 am	**Registration and Coffee** (Lobby and Illinois Ballroom) **Informal Teacher Display Sharing and Success/Challenges**
8:45 - 9:00 am	**Welcome and Announcements (Illinois Ballroom)** *Brenda Pacey, U of Illinois PLTW Affiliate Director*
9:00 - 3:00 pm	**Gateway Design and Modeling Update Workshop (Chancellor Ballroom)** **Working Box Lunches** All-day hands-on workshop to assist current DM teachers to transition to new curriculum and Autodesk 123D, Geogebra, and Open Sim Software Kathryn Rabolt and Rob Harmon, Gateway Master Teachers
11:10 - 3:00 pm	**LAUNCH VEX IQ Robotics Workshop (Quad Room)** **Box Lunch Break** Hands-on building and programming workshop for Launch classroom teachers Kathy Feser and Nate Pratt, Launch Master Teachers; Emily Schaefer, PLTW Regional Trainer
9:00 - 10:00 am	**Concurrent Sessions #1**
10:05 - 11:05 am	**Concurrent Sessions #2**
11:10 - 12:10 pm	**Concurrent Sessions #3**
12:10 - 1:00 pm	**Box Lunches, Discussion Round Tables and PR Make and Take (Illinois Ballroom)** *or* **Working lunches in extended Session 3 classrooms**
1:00 - 2:00 pm	**Concurrent Sessions #4**
2:05 - 3:05 pm	**Concurrent Sessions #5**
3:05 - 4:30 pm	**SNACKS and networking; PR Make and Take continued (Illinois Ballroom)**
3:30 - 4:30 pm	**Optional tours of C-U Community Fab Lab and UIUC Architecture Lab (10 blocks away - shuttle service provided, meet at Registration table)**

Project Lead The Way curriculum is founded on the Activity-, project-, problem-based (APB) instructional approach.

Concurrent Session 1 - 9:00 - 10:00 AM

***L**=Launch**; G**=Gateway**; DM**=Gateway DM; **AR**=Gateway AR**; EE**=Gateway EE**; GA**=Gateway GA**; ST**=Gateway ST**; ME**=Gateway ME**; FS**=Gateway FS**; MD**=Gateway Medical Detectives**: Biomed**=PBS, HBS, MI, BI; **Eng**=HS Engineering—all courses**; IED**=Intro to Eng Design**; POE**=Principles of Engineering**; DE**=Digital Electronics**; CEA**=Civil Engineering and Architecture; **CIM**=Computer Integrated Manufacturing**; AE**= Aerospace**; ES**= Environmental Sustainability**; EDD**=Eng Design and Development**; CS**=Computer Science (ICS, CSE)*

Presentation Title: **Streamlining your RobotC Teaching: Quick Ways to Solve Ten Common Problems**
Description: Small issues with VEX and RobotC can trip up great projects and lessons; having solutions to these issues in your toolbox can take your RobotC lessons from good to great. This session demonstrates how to work around hardware limitations and highlight code snippets to solve problems common to student projects.
Presenters: Gary Cotie, Michael Karasch, Michael DeWees, Master Teachers
Room: Lincoln Target Audience:POE, DE, CIM, AR

Presentation Title: **Autodesk Inventor Update 1 (Beginner)—First 50 Minutes of Inventor**
Description: Everything you need to know to teach your students "the first 50 minutes" of Autodesk Inventor. These tips and helpful hints will simplify the rest of the year of teaching Autodesk Inventor. This session will explain how a teacher is in the role of "detective" when teaching the complex software. Hands-on session.
Presenters: Don Whitman and Kyle Thomas, IED Master Teachers
Room: Alma Mater Target Audience:IED, EDD

Presentation Title: **APB PLTW Instructional Approach**
Description: PLTW curriculum is founded on Activity-, project-, problem-based (APB) instructional approach. Interactive session includes introductory video, hands-on graphic organizer design for scaffolding and reflections on impact on student learning.
Presenters: Emily Schaefer, PLTW Regional Trainer; Paul Zurek and Sydney Schuler, Master Teachers
Room: Quad Target Audience:All

Presentation Title: **EDD Suggested Practices for Community Involvement and Student Success**
Description: Share hints on making the EDD capstone course great—effectively conveying the "EDD perspective" to students, administrators, and community; facilitating meaningful LMS/Innovation Portal and other student documentation and reporting; developing successful community partnerships for indepth professional level EDD rigor, and more.
Presenters: Stephen Buchs, Cindy Bednara, Michael DeWees, Master Teacher facilitators
Room: Humanities Target Audience:EDD

Presentation Title: **Utilizing Quizzes Feature in LMS—Tips and Tricks (to be repeated Session 5)**
Description: The Quizzes feature in the LMS has several features that make it a useful tool in many facets of effectively and efficiently presenting PLTW courses. Go beyond the basics that are presented during the summer training and explore potential data analysis, multimedia capabilities, and possible course implementations. Create groups, create and modify assignments, create question banks, and use the calendar for announcements. This is for any new comers or experienced teachers.
Presenters: Nate Beebe, Jason Huber, Paul Zurek, Master Teacher facilitators
Room: Innovation Target Audience:MS and HS

Presentation Title: **Gateway Specialty Unit Idea-Sharing, Part 1: EE, ST, ME, FS, GA, MD**
Description: Share best practices with other Gateway teachers.
Presenters: Gateway Master Teachers Sydney Schuler and Ed Coyle, facilitators
Room: Loyalty Target Audience:EE, ST, ME, FS, GA, MD

Concurrent Session 2 - 10:05 - 11:05 AM

Presentation Title: **Arduino Part I: Introduction to Arduino Uno Board**
Description: By focusing on the Arduino Uno board, students gain a foundation in procedural thinking and basic electronics. Students at all grades can learn to use a solderless breadboard and common electronic components to perform a variety of tasks. Along the way, they will learn that most all devices today have some sort of programmable logic controller in it and how engineers create the code and pro cesses necessary for today's devices. This session features different resources to bring this exciting tool into your classroom.
Presenters: Michael Dewees, Master Teacher
Room: Lincoln Target Audience:DE, POE, AE

Presentation Title: **Autodesk Inventor Update 2 (Advanced) - Top-Down Design Process with Autodesk Inventor**
Description: Understanding the difference between "Down-Up" vs "Top-Down" Design Process workflow with Autodesk Inventor. This is an advanced hands-on session using the Top-Down workflow used when designing with Autodesk Inventor. Participants will design several different products.
Presenters: Don Whitman and Kyle Thomas, IED Master Teachers
Room: Alma Mater Target Audience:IED, EDD

Presentation Title: **LAUNCH Grade Level Roundtable Show and Tell—6 Grades, 24 Modules, Lots of Fun!**
Description: A chance to review and share implementation of best student engagement practices for the K-6 modules.
Presenters: Kathy Feser and Nate Pratt, Launch Master Teachers, and Emily Schaefer, PLTW Regional Trainer
Room: Quad Target Audience:Launch

Presentation Title: **Autodesk REVIT Updates for CEA and Gateway GA**
Description: Best practices sharing and hands-on Revit tips.
Presenters: CEA Master Teacher Jason Huber, facilitator
Room: Humanities Target Audience:CEA, GA

Presentation Title: **Best Practices for PTLW Computer Science Programs**
Description: Share ICS, CSP, CSA best practices and plan for series of courses.
Presenters: Mike Crowhurst, CS Master Teacher
Room: Innovation Target Audience:ISC, CSP, CSA

Presentation Title: **Gateway Specialty Unit Idea-Sharing, Part 2: EE, ST, ME, FS, GA, MD**
Description: Share best practices with other Gateway teachers.
Presenters: Gateway Master Teachers Sydney Schuler and Ed Coyle, facilitators
Room: Loyalty Target Audience:EE, ST, ME, FS, GA, MD

Concurrent Session 3 - 11:10 - 12:10 PM

Presentation Title: **Arduino, Part II: Teaching Arduino Microprocessor on a Limited Budget or Large Class Size**
Description: In PLTW Digital Electronics the Arduino microprocessor is utilized to interface with real world devices. As class sizes increase and budgets decrease it is more difficult to put hardware/ equipment in each student's hands for the hands on activities. By utilizing Autodesk's free Circuit123d Arduino simulation and hardware simulation is brought together in a cloud based application. Participants will walk away with a project to help your students learn Arduino C programming and interface with real world devices without spending a penny.
Presenters: Gary Cotie, Master Teacher
Room: Lincoln Target Audience:DE, POE, AE

Presentation Title: **Math in the IED Classroom - Do not skip the math lessons, activities your students can COUNT on!**
Description: Introduction To Engineering immerses students in lessons that focus on basic engineering mathematics and how to apply basic math to solve engineering problems. The goal of IED is to provide high school freshmen/sophomores an introduction to engineering and show how math is applied to solve fundamental engineering problems. This session will explore the current math activities in the curriculum and provide helpful hints on ways to engage the students. We will also look at alternative activities that could be used to enrich the current curriculum.
Presenters: Don Whitman, IED Master Teacher
Room: Alma Mater Target Audience:IED

Presentation Title: **Architecture Resources for CEA and GA; Gable Solar House Tour**
Description: Learn about UIUC HS student architecture camps; hear about Homewood-Flossmoor's involvement with the ACE Mentor after-school program; review Chicago Architecture Foundation resources. Step right outside the I-Hotel to the Gable Solar House, a UIUC student project recognized in a world-wide competition.
Presenters: Lee Waldrep, UIUC School of Architecture; Nate Beebe, Jason Huber and Sydney Schuler, Master Teachers
Room: Humanities Target Audience:CEA, GA, General

Presentation Title: **Creative Computing with AppInventor**
Description: App Development is a creative activity; this session builds on ICS and CSP curriculum coverage.
Presenters: Mike Crowhurst, CS Master Teacher
Room: Innovation Target Audience:ICS, CSP

Presentation Title: **PLTW Biomedical - PBS Curriculum Roundtable and Software/Equipment Review**
Description: Share best practices and technology tips and tricks.
Presenters: Tammy Martin, Biomed Master Techer
Room: Loyalty Target Audience:PBS

Lunch 12:10 - 1:00 PM - Illinois Ballroom

Presentation Title: **PR Make and Take - Promoting Your Program through Student Produced Engineering Projects**
Description: See how students can create promotional items such as t-shirts, memo pads, coffee mugs, stickers, custom engineering notebooks, banners and buttons to help connect classroom engineering concepts to real-life projects. Participants will be involved in hands-on demos
Presenters: Don Whitman, Kyle Thomas, facilitators

Presentation Title: **Informal Discussion Networking Roundtables**
Description: Identify a topic of interest and have others join you for lunch! A few topics are suggested but pick your own-Student organizations and Competitions; K-12 PLTW Collaboration; Grants and Funding Sources; Student Presentations and Documentation/Reporting Best Practices; Student Recruitment; Standards-based Assessment

Concurrent Session 4 - 1:00 - 2:00 PM

Presentation Title: **Fix Your Broken VEX Gear**
Description: The title says it all - this presentation will focus on the best practices of organizing and fixing VEX robotics gear. We will share some of the best practices and tips that we have learned over the years. We will demonstrate how to fix broken pins and motor wires that have worn down. We will also discuss the supplies and tools needed for making repairs and where to buy them.
Presenters: Tim Walsh, Adrienne Court, Brian Shinner, Steve Olson, Gateway Teachers, Oak Park SD 97
Room: Lincoln Target Audience:AR, POE

Presentation Title: **IED Unit 4 Curriculum Pilot Update — Automata (aw-'tom-uh-tuh) What?**
Description: The IED Unit 4 has been updated to replace the puzzle cube for students building an Automata system. In this session, we will dive deep into this design problem by looking at student designs·that have been built and tested in Autodesk Inventor and as real prototypes. Attendees will build a Unit 4 prototype to take home.
Presenters: Don Whitman and Kyle Thomas, IED Master Teachers
Room: Alma Mater Target Audience:IED

Presentation Title: **Engaging Economically Disadvantaged and Non-Traditional Special Population Students in the Technology and Engineering Education Classroom.**
Description: Session focuses on resources and strategies developed by the Illinois State University's Special Populations and CTE project, introducing special populations groups, sharing data about special population students in Illinois, and providing resources available to technology and engineering education teachers.
Presenters: Sally Arnett-Hartwick, Josh Brown, Michael Cermak, ISU Special Populations Project
Room: Humanities Target Audience: HS All

Presentation Title: **Putting the AP in CSA**
Description: Learn about ways to teach App Development and AP Computer Science elements in the CSA class
Presenters: Mike Crowhurst, CS Master Teacher
Room: Innovation Target Audience:CSP, CSA

Presentation Title: **PLTW Biomedical—HBS Curriculum Roundtable and Software/Equipment Review**
Description: Share best practices and technology tips and tricks.
Presenters: Tammy Martin, Biomed Master Techer
Room: Loyalty Target Audience:HBS

Concurrent Session 5 - 2:05 - 3:05 PM

Presentation Title: **Fab Lab - Maker Space in Schools**
Description: What is the fab lab/maker space movement? What does research show about maker space learning outcomes assessment models? How are maker spaces set up? Find out from CU Community Fab Lab Director Jeff Ginger, who also shares “10 apps in 30 minutes” as examples of lab technologies. (Optional tour of the Community Fab Lab follows 3:30-4:30 - come see an informatics lab class in action!)
Presenters: Jeff Ginger, Director, CU Community Fab Lab
Room: Lincoln Target Audience:All

Presentation Title: **Utilizing Quizzes Feature in LMS—Tips and Tricks (repeat of Session 1)**
Description: The Quizzes feature in the LMS has several features that make it a useful tool in many facets of effectively and efficiently presenting PLTW courses. Go beyond the basics that are presented during the summer training and explore potential data analysis, multimedia capabilities, and possible course implementations. Create groups, create and modify assignments, create question banks, and use the calendar for announcements. This is for any new comers or experienced teachers.
Presenters: Nate Beebe, Jason Huber, Paul Zurek, Master Teacher facilitators
Room: Innovation Target Audience:MS and HS

Presentation Title: **PLTW Biomedical—MI/BI Curriculum Roundtable and Software/Equipment Review**
Description: Share best practices and technology tips and tricks; explore Biomedical Innovations community partnership opportunities.
Presenters: Tammy Martin, Biomed Master Teacher
Room: Loyalty Target Audience:Biomed

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8:45 - 9:00 - Opening Announcements in Illinois Ballroom

	9:00-10:00 Session 1	**10:05-11:05 Session 2**	**11:10-12:10 Session 3**	**12:10-1:00**	**1:00-2:00 Session4**	**2:05-3:05 Session 5**
Illinois Ballroom				Box Lunches: PR Make and Take		
Lincoln	Streamlining Robot C	Arduino, Part I: Introduction to Arduino Uno Board	Arduino, Part II: Teaching Arduino Microprocessor		Fix Your Broken VEX Gear	Fab Lab - Maker Space in Schools
Alma Mater	Autodesk Inventor Update 1 - First 50 minutes	Autodesk Inventor Update 2 - Top Down Design Process	Math in the IED Classroom		IED Unit 4 Curriculum Pilot Update- Automata What?	
Chancellor Ballroom	**Gateway Design and Modeling Curriculum Update Workshop** **(6 hour Session - 9am-3pm with working box lunches)** All-day hands-on workshop to assist current DM teachers to transition to new curriculum and Autodesk 123D, Geogebra, and Open Sim Software - Kathryn Rabolt and Rob Harmon, Gateway Master Teachers					
Quad	APB PLTW Instructional Approach	LAUNCH Grade Level Round-table Show and Tell - 6 grades, 24 modules, lots of fun	**LAUNCH VEX IQ Robotics Workshop** **(3 hour Session - 11:10-3pm, with box lunch break)** Hands-on building and programming workshop for Launch classroom teachers Kathy Feser and Nate Pratt, Launch Master Teachers; Emily Schaefer, PLTW Launch Regional Trainer			
Humanities	EDD Best Practices for Community Involvement and Student Success	Autodesk REVIT Updates for CEA, GA	Architecture Resources for CEA and GA and Gable Solar House tour		Engaging Economically Disadvantaged & Non-Traditional Students	
Knowledge	Illinois PLTW Conference Headquarters					
Innovation	Utilizing Quizzes Feature in LMS-Tips and Tricks (repeat Session 5)	Best Practices for PLTW Computer Science Programs	Creative Computing with AppInventor for ICS and CSP Teachers		Putting the AP in CSA	Utilizing Quizzes Feature in LMS-Tips and Tricks (repeat of Session 1)
Loyalty	Gateway Specialty Unit Idea-Sharing, Part 1 - EE, ST, ME, FS, GA, MD	Gateway Specialty Unit Idea-Sharing, Part 2-EE,ST,ME, FS,GA, MD	PLTW Bio-medical - PBS Curriculum Roundtable and Software/Equip-ment Review		PLTW Bio-medical- HBS Curriculum Roundtable and Software/Equip-ment Review	PLTW Biomedical- MI/ BI Curriculum Roundtable and Software/Equip-ment Review

3:05 - 4:30 Lobby and Illinois Ballroom - SNACKS and networking; PR Make and Take Continued

3:30 - 4:30 Optional tours of C-U Community Fab Lab and UIUC Architecture Fabrication Lab, Lee Waldrep, UIUC Scholarly Architecture (10 blocks away, shuttle service provided) - Meet at Registration table.