Kaizen Project List

#	Short Description	Long Description
1	Mentor Guide (CNC Mill) Tips/Tricks	The "CNC Machining" section of Mentor Guide (on the mindworks web-page) is currently blank. This team would write basic instructions / tips for operating the CNC Mill.
2	Mentor Guide (CNC Lathe) Tips/Tricks	The "CNC Machining" section of Mentor Guide (on the mindworks web-page) is currently blank. This team would write basic instructions / tips for operating the CNC Lathe.
3	Mentor Guide General Welding Tips	The"General Welding" section of Mentor Guide (on the mindworks web-page) is currently blank. This team would write basic instructions / tips for welding.
4	Shop After Hours Update	The rules/process for arranging after-hours shop time is out-of-date and needs revising. This team would identify and codify the processes/approvals required to arrange for after-hours
5	Paint Booth Work Instructions & MSDS Database	Update paint booth instructions and procedures and create plan for training ME 223 students. Also: Material Safety Data Sheets are required for all materials used in the paint booth. Creating a MSDS online database for the paints typically used would streamline the use of the area.
6	MasterCAM 2017 Updates	The tutorial for MasterCAM on the mindworks page is out of date. This project would update that tutorial to the newset version of MasterCAM.
7	Manual Threading /Power Feed Lathe	Create a wikipage to show instructions on the manual threading and the power feed on the lathe. This project would also involve creating/installing labels on the manual lathes to describe power feed operations (axis direction labels etc)
8	Safety Wiring Instructions	This project would consist of identifying codes and regulations that control safety wiring. Then a summary/outline this information woud be created for the wikipage. This outline would be used by students on future projects.
9	CMM - Reinshaw probe use	The Coordinate Measuring Machine has a manual and automatic (Reinshaw) head. There are no written instructions for the use of the Reinshaw head at this time. This team would create a set of installation instructions and identify best-practices for its calibration and use.
12	Update MakerBot instructions / wiki	The wiki for the 3d printers is out of date. This team would update the wiki-page to identify the 3d-printing resources available to ME students and summarize their use.
13	3D Printers process optimization	Currently the 3D printers are used on a first-come-first-served basis. This project will create a organizational process for the printers that will optimize their usage. (Potentially create a use log/schedule, remote monitoring, tool and filament storage, training approved usesrs list).
14	2D floor plan of the shop	This team would create a physical model of the ME machine shop and major equipment. This would facilitate the visualization of new floor layouts (we may re-arrange/optimize the show and we want to visualize plans easily/quickly).
15	Organize and label tools and toolbox in Senior Design Suite	After this last year the tools in the Senior Design Suite have become an absolute mess and it is nearly impossible to find the tool that you need. A collection, reorganization, labeling, and signage is needed. Additionally, improving the organization of the electrical/soldering area
16	Senior Design Suite Partitions/group labels.	This project would consist of formulating and creating a system of identifying and organizing the senior design suite into "owned" areas. This is a much more open ended project for the students to come up with a solution. Teams who are working in the design suite should have an allocated area that they are responsible for keeping clean and organized.
17	Honda Engine Rebuild or organization	After the modeling of the Honda crf 150 engine, the parts of the stripped motor are just sitting on a table in the metrology lab. The engine could be reassembled, or categorized into labeled sections describing the sub-assemblies as a teaching tool.
18	Updating the Math Modeling Resources Mindworks page	It is unclear to students what resources are available for Math/numeric modeling. This project would consist of identifying and summarizing the resources available to students and their strengths/weaknesses. (Matlab and TK solver).

19	Updating the Instrumentation tab of the IEW Page	On the Mindworks web-page there is a section for instrumentation. This project would consist of identifying the instrumentation resources available to students (labs, equipment, etc.) that could be used (temporarily) on other projects (power supplies, signal generators, etc.) and outline their function and how to obtain them.
20	Organizing tools and workstations in the HEV	This project would consist of organizing the HEV garage. Creation of shadow boards, point of use storage etc.. (MRM note: The CATIA class did a remodel of this room which could provide some inspiration.)
21	SolidCam fixturing modeling	The SolidCam software supports the use of pre-modeled tool-holders and fixturing for collision detection during CAM-coding. This project would consist of creating simplified versions of the fixtures (clamps) and tool-holders currently used on the CNC mill (including the vise). I believe there is a Catia model of the vise, but it would be nice to have one in solidworks for collision detection in other programs.
22	Laser Cutter Posters and Sign up Sheet	Currently the laser-cutter is used on a first-come-first-served basis. This project will create a organizational process for the laser that will optimize its usage. (Potentially create a use log/schedule, remote monitoring, improved material storage, training approved users list). As I understand there has been a video made this semester from the Catia class on how to use the laser cutter. It would be good to expand on that and create posters in the laser cutter room, so that it is no longer written on the white board.
23	Rockwell hardness tester refurbishment and poster/wiki	The Rockwell hardness tester in EP 109 is reading incorrectly and needs to be calibrated. There are some simple procedures for use that could be made into a poster and/or put on the wiki site. MRM has a .pdf of the instruction manual with calibration procedures. We will probably need a new calibration block set. about $200 from McMaster.
24	Lathe Chuck and Live Center Holder for Lathe 2	This project would consist of creating a wiki describing the use of the tailstock for the manual lathes (live-center, drill chucks, morse-taper). It would also involve improving the tool holders (with labels).
25	Manual Lathe auto oil/coolant	A simple method to auto feed oil on the manual lathes (some sort of mounted reservoir with a controllable drip/flow rate)