

Continuous Improvement Using Lean Principles Fiscal Year 2012

Kaizen Improvement Events

Event Name	Sponsoring Department	Event Type*	Description	Results	Estimated Annual Savings**
Meat, Cheese, and Pizza Dough Kaizen	Dining Services	Cost	Eliminate duplication of efforts in the production of deli meats, cheeses, and pizza dough in the four kitchens on campus.	<ol style="list-style-type: none"> 1.) A production commissary was developed, one location ordering and preparing food items (reduced from four). 2.) Incorporated bulk ordering and increased usage of raw meats. 3.) New pizza dough and cheese slicing standards reduced ingredient requirements. 4.) Now make homemade pizza dough, 64% reduction in cost (52,000 crusts per year). 5.) Inventory, space, and equipment reductions. 	\$97,500
Lean Path	Dining Services	Cost	Implemented an automated system to weigh and record information about all preconsumer food waste.	<ol style="list-style-type: none"> 1.) Stop Waste Action Team meets weekly to share ideas to stop waste. 2.) More food is made just in time as needed. 3.) Creative uses for previously wasted food are being implemented. 4.) Have cut preconsumer food waste in half over the course of the school year, \$1,000 per week. 5.) Involves all management, staff and student workers in the process, leading to a problem solving culture and increased communication. 	\$30,000
Increasing Purchasing Card Usage	Accounting	Cost	Review the use of purchasing cards, purchasing processes, and related documentation to show that the purchasing card is more efficient for some purchases currently utilizing purchase orders or blanket orders.	<ol style="list-style-type: none"> 1.) Team identified that a majority of purchases utilizing the purchase order and blanket order process, can be made with purchasing cards. 2.) Communication plan to share findings with campus. 3.) Team goal is to convert 50% of purchase orders and blanket orders to the purchasing card. If achieved, this would free up 530 hours per year for more value add work (i.e. vendor relationships, quotes for large dollar purchases, etc.) 	TBD
Price Review Process	Dining Services	Cost	Create a standard process for reviewing prices in catering and retail operations so that revenue margins will not be shrunk by failure to update pricing.	<ol style="list-style-type: none"> 1.) Regular price update schedules were established with electronic reminder and audit systems. 2.) Increase revenue due to past failure to review process as profit margins shrink. 3.) Customers will not be frustrated by large price jumps, as they will be more gradual. 	TBD
Ticket Office Kanban Board	Rozsa Center	Delivery	Establish a visual task board to support daily communications about projects and reduce programming oversights.	<ol style="list-style-type: none"> 1.) Staff can see current projects and the status of projects at a glance. 2.) Staff are now accountable for projects not getting done. 3.) Supports daily meetings focused on current work and follow through. 	TBD

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Graduate Application Review Process	Geological & Mining Eng. & Sciences	Delivery	Reduce the lead time to review and respond to graduate student applications.	<ol style="list-style-type: none"> 1.) A 27% reduction in process steps to prepare application for committee review (10 hours per year cost containment). 2.) Committee review time reduced to 30 days (prior average was 50 days). 3.) Department chair will no longer review all applications, deemed unnecessary (20 hours per year cost containment). 4.) Local shared drive created so review of applications is simpler and accessible to all in department. 	\$2,500
Cost Share Authorization Form	VP for Research	Delivery	This form is used to commit cost share on sponsored projects and transferring the funds at the award stage. Duplicate data entry and overprocessing come with a paper form.	<ol style="list-style-type: none"> 1.) Implemented a web fillable form that is directly imported into the system, which reduced data entry time. 2.) Reduced lead time, direct submission, no need for mail delivery of paper form. 	TBD
Receivable Collections	VP for Research	Delivery	A team reviewed and developed standard practices to be proactive when a sponsor was late on payments.	<ol style="list-style-type: none"> 1.) Established a visual control tool so staff can see the receivables that are more 60 days old. 2.) Implemented monthly huddles to determine proactive course of action for the outstanding receivables. 3.) An expedited collection process is in place for industrial sponsors. 	TBD
Sub Awardee Notifications	VP for Research	Delivery	When Michigan Tech enters into a subawardee arrangement with another entity, it is required to receive that entities A133 audit.	<ol style="list-style-type: none"> 1.) Developed a standard practice of obtaining this information. 2.) The manual process was automated using existing fields in the database to produce and print the form letters and labels. 3.) The two week process was reduced to four hours. 	\$1,500
Key Management	Public Safety & Police Services	Delivery, Safety	Redesign the key requisition process and implement standards and procedures for key requests.	<ol style="list-style-type: none"> 1.) Reduced lead time to receive a key by redesigning the key request process and moving it on-line. 2.) Key requests can now be tracked, there is an average of 200 requests per month. 3.) Eliminated all paper and printing for key request forms. 4.) New process now allows multiple keys per request. 5.) Team outlined future steps to incorporate controls and actions for lost or unreturned keys. 	TBD

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Scholarship Coding Process	Accounting and Financial Aid	Quality	As scholarships are received by Michigan Tech students, they are coded in Banner. Coding standards were needed to ensure correct billing and financial aid packages.	<ol style="list-style-type: none"> 1.) Updated student communication to reduce errors submitted with student notification of scholarships. 2.) Eliminated a few sources of bad data on student bills. 3.) Staff in Accounting and Financial Aid now understand the causes and implications of scholarship coding. 	TBD
Room Reservation Process	Auxiliary Services	Quality	Establish a centralized room reservation system for all University meeting rooms to reduce customer confusion.	<ol style="list-style-type: none"> 1.) Established all meeting room locations available for reservation on campus. 2.) Created the University Room Reservation Information website to showcase the options: http://www.mtu.edu/room-reservations/. 3.) Established and posted 'Contact Information' signs outside all Auxiliary Services meeting rooms. 	TBD
Food Court Heijunka	Dining Services	Quality	Level the production of grilled and fried items in the Memorial Union Food court to improve quality by reduced batching.	<ol style="list-style-type: none"> 1.) Cooking and holding times for grilled and fried items established. 2.) Production levels established for each 15 minute time period. 3.) Electronic production level screen added to the grill area so that employees know the exact amount of each product to produce at any given time. 4.) Improved product quality due to shortened holding times. 5.) Avoids overproduction of food items and reduces preconsumer food waste. 	TBD
Billing and Applying Payments	Dining Services	Quality	Create a standard process to eliminate errors and multiple invoices to customers.	<ol style="list-style-type: none"> 1.) Created a system for cashiers office staff to know where to apply payments when received. 2.) Developed visual controls for cashiers to reduce errors. 	TBD
Stores Clerk Standardized Work	Dining Services	Quality	Develop standardized manual for the stores clerk position, which standardized ordering and maintaining inventory at the four kitchens.	<ol style="list-style-type: none"> 1.) Created a stores clerk manual detailing standardized procedures. 2.) Time savings of 8 hours per week for inventory checks. 3.) Accurately order product as needed. 4.) Reduced days of inventory on hand by 50% since established (\$50,000 less food on the shelves, reduction in spoilage). 	\$6,750
Award Activity Sheet	VP for Research	Quality	An outdated award activity sheet was asking for information that was no longer relevant. The sheet was unorganized and redundant.	<ol style="list-style-type: none"> 1.) Removed irrelevant information. 2.) The flow of the form was revised to improve the data entry process. 3.) The form was reduced from 2 pages to 1. 	TBD

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Group Study Room Reservations	J. Robert Van Pelt Library	Quality	Evaluate the process for student study room reservations to eliminate double bookings, reduce staff monitoring, and reduce student frustration due to having to kick others out of a reserved room.	<ol style="list-style-type: none"> 1.) Evaluated and streamlined usage policy: 10 rules down to four rules. 2.) Increase room reservation increments from two to four hours per day, based on customer feedback. 3.) Increased visual notices of the room use policy. 4.) Communicated changes with students at Orientation, on the Library website, on bookmarks at the desk, and in The Lode. 	TBD
Internal Cost Share Tracking Process	VP for Research	Quality	The process of tracking cost share from proposal to closeout was cumbersome. The VPR office conducted an initial Kaizen event which identified 10 process improvements needed.	<ol style="list-style-type: none"> 1.) The VPR office is currently working through improvements to standardize the process. 2. Reduced lead time. 	TBD
Project Payroll Certification Pilot	VP for Research	Quality	Michigan Tech was one of four universities approved to implement an effort reporting process for Sponsored Projects.	<ol style="list-style-type: none"> 1. Standard process that aligns with the annual technical reporting. 2. Reduced the number of forms from 7,000 per year to 700 per year. 3. Eliminated PI confusion, as it is now project specific rather than total effort over an arbitrary period of time. 	\$250
Mont Ripley Ski School Registration Process	Ski Hill	Quality	Current registration system was inadequate or designed for large volumes of participants causing registration errors.	<ol style="list-style-type: none"> 1.) Standardized process established utilizing software to manage Ski School participants, improved customer service. 2.) All scheduled lessons available in report for each day. 3.) Contributed to 13% increase in revenues to the Ski School. 	TBD
Residential Dining Student Shift Report	Dining Services	Quality, Safety	Increase communication among dining hall managers and student supervisors.	<ol style="list-style-type: none"> 1.) Established the components of a shift report that include key areas such as safety, equipment problems, staff issues, customer complaints, etc. 2.) Implemented a standard process for submitting shift reports. 	TBD
Student Organizations using the Kitchen	Dining Services	Quality, Safety	Develop efficient process for student groups to reserve and establish proper use of the kitchen for special events.	<ol style="list-style-type: none"> 1.) Set standards for student groups to reserve the kitchen. 2.) Established standard training and supervision of student groups. 3.) Alleviated overcrowding of kitchen space through standards. 4.) Improved safety precautions and clean-up of the kitchen after use, no knives left in the dish room since kaizen. 	TBD

Total Estimated Annual Savings for Fiscal Year 2012 Improvements \$138,500**

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Pictures from 5S Events



← Husky Motors 5S - Incorporated visual controls (color coding) for key types and shifted work area layout for flow of tasks associated with vehicle checkout.

Library Workspace 5S - Eliminated need for additional storage, established a system to store files and merge printed and electronic files. →



← IT Infrastructure Soppo Area 5S - Created a system to maintain IT inventory which quickly becomes obsolete. The 5S improvements reduced time spent searching for equipment, safety hazards, storage space needs, employee frustration, and eliminated future purchases for new equipment the department currently has on hand.

Forestry Personal Workspace 5S - Sorted seven file cabinets from a late professors research and dispersed for other faculty. Opened office space for current research to occur (due to space limitations there was previously a lot of movement waste). →



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Student Work Area 5S - Utilized 5S to make improvements to the student work area that quickly can become unorganized. Not pictured, the team incorporated visual controls to maintain the order of the area.



SDC Ticket Office 5S - The entire ticket office was turned upside down, from supply areas and cabinets to the ticket sales counters. The area was organized and standards were implemented. Results include an aesthetically pleasing sales area and workspace improvements for the flow of ticket sales.



Involvement Numbers To Date

Employee Type	Total
Faculty	12
AFSCME Union	36
UAW Union	94
POA Union	2
Non-Union Staff	249
Students	32
Guests (non-employees)	8
Total Employees Involved	393
Total Involved Including Guests	433