



**Industrial Maintenance Technology
and
Mining Maintenance Technology
Technology & Industry Division**

PROGRAM REVIEW

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Section I: Overview

I A. Purpose of the Program

The Industrial Maintenance/Mining Maintenance Program serves a number of purposes within our community:

- It provides full-time students with the opportunity to learn and develop the skills necessary to begin a career in the Industrial Maintenance and the Mining Maintenance Technology fields.
- It provides working students with the opportunity to enhance current skills and gain certifications in order to advance their present careers.
- It provides testing and training for local industry based on standards set by their corporations.
- It provides the opportunity to students who complete Industrial Maintenance/Mining Maintenance Technology programs to fulfill the requirements to earn an A.A.S. Degree or Certificate.
- It accommodates working students and shift workers by providing a flexible 5-week block schedule; this schedule also allows local employers to send their employees for more convenient five week blocks; those students can then return to work to practice what they have learned.

Our mission is to train students for employment in industry, including safe work practices, troubleshooting, and repairing and maintaining equipment.

I B. Primary Program Goals

Program Level Goals <i>What will students learn in this program?</i>	WWCC College Wide Goals <i>Which goals will be strengthened?</i>	Assessment for Student Goals <i>How will the skill be measured?</i>
Demonstrate effective and appropriate communication techniques with peers employees and supervisors.	Communicate Competently Develop Life Skills See Issues from Multiple Perspectives Solve Problems	<ul style="list-style-type: none"> ▪ Instructor lab assessment data * ▪ Survey industry partners/Advisory Council
Identify concepts, principles, and maintenance of industrial equipment.	Develop Life Skills Retrieve Information Solve Problems	<ul style="list-style-type: none"> ▪ Instructor lab assessment data * ▪ Survey industry partners/Advisory Council
Use a systematic approach to identify the root cause of problems with industrial equipment, and develop a solution.	Retrieve Information Solve Problems	<ul style="list-style-type: none"> ▪ Instructor lab assessment data * ▪ Survey industry partners/Advisory Council
Identify safe maintenance practices necessary to sustain a well-equipped, safe work environment and develop an accountable, systematic approach to safe work practices.	Communicate Competently Develop Life Skills Retrieve Information Solve Problems	<ul style="list-style-type: none"> ▪ Instructor lab assessment data * ▪ Survey industry partners/Advisory Council

* See Appendix VII

Section II: Fact Finding

II A. Enrollment and Audience

A. Enrollment

Enrollment in the Industrial Maintenance/Mining Maintenance Technology Programs has been high for a number of years. Traditional students continue to enter the programs both to pursue of a career in Maintenance as well as to compliment other programs offered on campus.

As can be seen in the table in Appendix I, enrollment increased 26% in 2006 and has maintained at that level ever since. In 2006 there was a 54% increase in total credit hours taught. To further demonstrate the increased trends in enrollment, the program saw 13 graduates in 2002, and 36 in 2007.

Over the past five years, IM/MM FTEs have consistently been on the rise. In 2002, IM/MM students comprised 1.8% of the total college FTEs; that number jumped to 3.4% of the total FTEs in 2007. More specifically, in 2002 we had 35 IM/MM FTEs; and in 2007 we had 73 IM/MM FTEs. Continuing Education students account for a significant share of the IM/MM enrollments, and Continuing Education FTEs have also produced the same increased numbers. Of the specific FTE trends discussed above, 15 FTEs in 2002 were Continuing Education students (43%), as were 34 FTEs in 2007 (47%).

We continue to offer the same degree programs as we have in the past, with enrollments remaining fairly consistent in those programs over the years. We have been flexible and increased the number of certificates offered due to industry demands, and as they have been requested by industry partners. Enrollments within the various certificates shift from year to year as student training needs respond to industry demand; for example prior to 2002 four certificates were offered, and currently we offer seven.

B. Audience

We serve a large number of students who are actively working in industry. Hence, the audience we serve can be broken into two categories: 1) those who are matriculating toward a certificate, degree, or both; and 2) those who take Industrial Maintenance and Mining Maintenance courses as continuing education/workforce training.

It is also significant to compare the ratio of Continuing Education for credit enrollment, to total enrollment. In 2006-07, total enrollment (duplicated) was 506.50, and of those students, Continuing Education students taking courses for credit (duplicated) was 354.50; hence Continuing Education students comprised 64% of enrollment. <See Appendix IV>

When examining the ratio of traditional students versus non-traditional students (that is students age 22 or older) served over the past four fall semesters, it is noteworthy that the majority of matriculating students are non-traditional students. In Fall 2008, 81% of matriculating students were non-traditional. We believe the majority of our non-traditional students are sent in by local industry, with the majority being non-traditional students seeking to develop and/or improve existing skills on their own. <See Appendix III>

We believe many of our traditional students become interested in the program by knowing someone that has gone through the program. One specific example of word-of-mouth marketing is one particular family of which we have had four family members graduate from our program – the father (certificate), and his three sons (A.A.S. degrees). Another specific example is of one of our students who recruited his own brother.

Another strong source of marketing students are attracted during high school promotions. On Senior Day we typically award stipends to 12 to 13 students each year. Of those, at least half actually enroll and complete courses in our program.

II B. Facilities, Equipment, and Staffing

Facilities strengths:

- Through the diligence of the faculty, the facilities are in very good shape as a whole.
- The lab space is utilized well and is a great strength of our program.
- The transformer in the Hydraulics lab (1508) was replaced and is much quieter than the previous one.
- The seals around the overhead doors in labs 1508, 1510 and 1511 have recently been replaced, and function well.

Facilities weaknesses:

- The in-floor hoist in labs 1510 and 1509 are no longer usable because the hydraulic tank has been removed. However, the in-floor part is still installed. This presents a tripping hazard and makes moving equipment around in the labs difficult. Removal of these hoists would be a great asset.
- Room 1502 is in dire need of improvement. The fan noise is distracting and makes it difficult to speak and hear. In addition, the ventilation is poor, causing air temperature to be erratic and at extreme.
- The compressed air system for labs 1508 and 1510 is in poor shape. You cannot run two pneumatic pieces of equipment at the same time. During the pneumatics class labs must be modified due to the lack of compressed air. The water in the air system is unacceptable. It causes the pneumatic equipment to fail prematurely and some equipment to not even work.
- Furniture in the current faculty office spaces is inefficient due to the layout and cubicles. A new layout consisting of the following configuration is suggested: two faculty offices, conference space with large table, copy machine, network printer, and other office equipment. Carpet removal and painting walls is also needed.
- Variable frequency drives need to be added to the pumping systems in the plant to better simulate industry application.

Equipment strengths:

- We have purchased four new alignment lasers since the last program review. This has increased the strength in the program since this equipment is used in the Mechanics III class as well as in numerous industry classes that are taught in a two day format.
- We have purchased more hand tools to allow the larger class sizes to have the tools necessary for the hands on portion of the class.
- We have had pumps and gearboxes donated by industry, as well as have purchased more to allow for greater hands on experiences.

Equipment weaknesses:

- Several of the metal lathes in the Machine Tool Lab need to be replaced. They have been repaired as much as possible.
- The surface grinder in the Machine Tool Lab needs to be replaced because it is prehistoric (built 1950/1960).
- We would like a CNC (mechanized computerized metalworking machine). This could be used in all machine tool courses (we offer four). CNC machines are the most modern technology available.

Staffing strengths:

- We feel the two fulltime faculty members we currently is sufficient number for fulltime needs for the current offerings.

Staffing weaknesses:

- More adjunct faculty is needed so we will continue to look for additional qualified adjunct faculty members. Recruiting qualified adjunct faculty has been difficult because it requires much time to plan, prepare, and teach and this requires a significant time commitment, especially for the compensation offered. In addition, many qualified potential instructors work rotating shifts so they are not available to teach in 5-week block at one specific time.

II C. Printed Materials and Website

Printed Brochure Review:

Printed information in Technology and Industry brochure, and Process Simulator Plant brochure:

- a) Currently, within a general Technology and Industry brochure, the Industrial Maintenance/Mining Maintenance Program's printed material consists of one paragraph. While the general Technology & information is fairly detailed, and would inform students or employers about onsite training, co-op, or features, there's only a paragraph for any given program, and IM is combined with Mining Maintenance in its write up. This is more of an overview for the entire T and I program.

Since we conducted this review we produced a new brochure which promotes the program to new markets. Also included is information on the green power industry, since it is a growing market that the program is currently pursuing. The new brochure also shows the diversity of jobs that are achievable with a degree in Industrial Maintenance/Mining Maintenance.

- b) The Process Simulator Plant brochure is more up to date with graphics and photographs, and explains how students can receive hands on experience with industrial operations; specifically, there's one overview paragraph about Industrial Maintenance and how the PSP is used for educating students. This is good informative and helpful documentation.

Because of this disparity, print information has been developed that has some of the same level of detail as the web page, specific for Industrial Maintenance, and Mining Maintenance separately and respectively.

Web page:

The Industrial Maintenance and Mining Maintenance have two separate links, which seems appropriate. Both webpage contains the following information: Why Western, Programs, Courses, Careers, Faculty, Comments, and Online Training. While many of the sections are good, such as up to date faculty information, and good marketing on the "Why Western" page, and the information is extensive and specific, the following need some adjustment:

- On the IM main home page there's a Rocky Mountain Oil and Gas Career Toolkit. This looks to be a very good feature, but many features on it don't work, such as the careers section with the "Job Family" or "Job Dictionary" or all of the "Resources". Basically, none of that material is shown, and the "print icon" for each doesn't work.
- The Programs section includes detailed catalog information about the AAS in Industrial Maintenance, and the different options for certificates. However, it states there are three options, when in fact there are four mentioned there, but six are detailed (as they are in the catalog). Aside from that, the catalog

matches up perfectly with the Programs section perfectly with exact classes, course numbers, and credit levels.

- The Careers section needs to have better HTML as some of the sentences are cut off. Moreover, this could be a better marketing page with more information and salary information about the different careers.
- The Comments section works well for marketing, but needs to be updated with more recent comments about newer faculty.

Catalog:

While all of the catalog information is up to date in terms of the degree programs and the courses listed, the following need updating:

- Industrial Maintenance and Mining Maintenance Technology each have their own description paragraph. Both paragraphs need to be updated with regard to the number of certificates, i.e. it states there are “two certificates, but then mentions there are several additional certificates.
- An additional paragraph titled “Purpose and Goals of Industrial Maintenance and Mining Technology” is also in the paragraph, but it is inappropriately located on pages behind the two programs’ information.
- The “Industrial Safety” section appears between Industrial Maintenance and Mining Maintenance Technology. Consideration should be given to moving “Industrial Safety” out of alphabetical order in order for IM and MMT to appear consecutively.

II D. Learning Pathways

	<u>Program Goal 1</u> Demonstrate effective and appropriate communication techniques with peers and supervisors.	<u>Program Goal 2</u> Identify concepts, principles, and maintenance of industrial equipment.	<u>Program Goal 3</u> Use a systematic approach to identify the root cause of problems with industrial equipment, and develop a solution.	<u>Program Goal 4</u> Identify safe maintenance practices necessary to sustain a well-equipped, safe work environment and develop an accountable, systematic approach to safe work practices.	GSS 1 – Communicate Competently	GSS 2 – Retrieve Information	GSS 3 – Issues from Multiple Perspectives	GSS 4 – Solve Problems	GSS 5 – Develop Life Skills
INDM 1510	X	X		X	X	X		X	X
INDM 1520	X	X	X	X	X	X		X	X
INDM 1530	X	X	X	X	X	X	X	X	X
INDM 1540	X	X	X	X	X	X	X	X	X
INDM 1550	X	X	X	X	X	X	X		X
INDM 1560	X	X	X	X	X	X	X	X	X
INDM 1570	X	X		X	X	X	X		X
INDM 1580	X	X	X	X	X	X	X	X	X
INDM 1585	X	X	X	X	X	X	X	X	X
INDM 1590	X	X	X	X	X	X	X	X	X
MCH 2740		X		X		X			X
MINE 1500	X			X	X	X	X		X
TECH 1600	X			X	X	X	X		X
TECH 1680	X	X	X	X	X	X	X	X	X

We feel it noteworthy that our courses incorporate the majority Program Goals, as well as the Goals for Student Success. We consider this a plus for our department, and continue to maintain to strive to integrate both sets of goals in our courses.

II E. Professional Development

Mark Winkel

Recent training:

- 40 hour OSHA General Industry Safety Training (Denver, CO 2005)
This course qualifies Mark to teach OSHA 10 hour General Industry Safety Training and OSHA 30 hour General Industry Safety Training courses.
- 40 hour OSHA General Construction Safety Training (Denver, CO 2005)
This course qualifies Mark to teach OSHA 10 hour General Construction Safety Training and OSHA 30 hour General Construction Safety Training courses.
- Vibration Analysis Course (Richmond, Virginia 2008)
This in-depth course gave Mark the information needed to expand the coursework in the existing Preventative Maintenance courses offered at WWCC.
- Forklift Operator Training (Rock Springs, WY 2009)
This one-day course qualifies Mark to teach Forklift Safety Training (NCIND 920). The work study students and some of our Industrial Maintenance courses require forklift training.
- Centrifugal Pump and Fluid Sealing course (Grand Rapids, MI 2009)
This week-long course gave Mark the up-to-date information which is taught in INDM 1540 & 1550 Industrial Maintenance IV & V.

Certifications:

- Completed requirements and renewed bi-annual registration for Professional Engineers License (2007).

Future Training possibilities:

- Further training in vibrations analysis and failure analysis.
- Increase skills in industrial machining and hydraulics design.

Lou Flaim

Recent training:

- 80 hours Industrial Hydraulics, Fluid Power (WWCC, Spring 2008)
- Review of various texts, references and video presentations relative to hydraulic power.
- Two in-depth courses and textbook review gave Lou the information needed to teach the courses in the existing Industrial Maintenance Program offered at WWCC.

Future Training possibilities:

- Further training in fluid power systems, possibly from Parker-Hannifin.
- Increase skills in fluid pump and valve maintenance techniques.

II F. Previous Recommendations

The Recommendations listed in the 2003 Program Review for Industrial Maintenance/Mining Maintenance are as follows:

RECOMMENDATIONS	ACTIONS
Design survey forms geared toward students' abilities in the areas of (1) critical thinking and (2) retrieving and interpreting information.	Glenn Dalton created a rubric to measure student skills. Beyond this rubric, it is determined that no other survey form is necessary because the Goals and Objectives table integrated in each Industrial Maintenance course syllabus specifically addresses how critical thinking, and retrieving and interpreting information fits into and is taught and measured in each of our courses. The current consensus is that no other measures are required.
Add one additional hydraulic training bench to lab.	Two additional hydraulics benches as well as one pneumatics bench with electro-pneumatic option were purchased. This was made possible from non-budget funding.
Acquire storage space for equipment and materials.	A new metal building was built behind the Industrial Maintenance lab with a waste oil burner installed. This allowed us to have some enclosed storage for the equipment being changed out every five weeks. We also move equipment into the lab space in 1511. This was made available by the addition of the New Diesel lab and having the auto's program move down one lab. Additional outside storage was added outside the Industrial Maintenance labs in 2005.
Repaint labs and carpet classrooms.	<ul style="list-style-type: none"> • Painting: Room 1511 was painted in Summer 2009. Room 1508 is scheduled for painting in Summer 2010. Room 1510 and the 1509 (offices) still need painting. • Carpeting: No carpeting has been installed because it is agreed that hard floor surface with throw carpets would be more suitable.

Section III: Focus on the Future

III A. Assessment Reporting of Program Goals

Two primary methods are used to evaluate this program's goals:

A. *Direct.* Direct evaluation occurs in two formats.

- 1) Assess the number of graduates or certificate earners.
- 2) Instructor Observation. The instructor observes students throughout the semester. The lab setting simulates workplace relationships, with the other students equating co-workers, and the instructor equating to a supervisor, and the newly created "Lab Assessment" form will be administered at the beginning and end of each course.

B. *Indirect.* Indirect evaluation occurs in two formats.

- 1) Survey. A survey was conducted of 16 Industrial Maintenance/Mining Maintenance Employers by Dianna Renz, Learning Assessment Associate. The employers surveyed were FMC, OCI Chemical, General Chemical, Solvay, PacifiCorp, Church & Dwight, and Simplot. This group is especially critical to our programs for two reasons:
 - i. Since they are local companies, they directly affect our enrollment and the curriculum we focus on.
 - ii. These companies employ individuals who have completed courses through WWCC's Industrial Maintenance/Mining Maintenance program.
- 2) Advisory Council Meetings. Official minutes are taken by the Instructional Support Assistant/Advisory Council Secretary, and are kept on file for reference.

1. Demonstrate effective and appropriate communication techniques with other employees and supervisors.

A. *Direct*

- Students are observed by the instructor in terms of the voice volume used when communicating, their ability to share knowledge or provide input during projects.
- The instructor evaluates all completed projects, which determines if communication of the assignment was clearly received, understood, and then carried out.
- The instructor continually observes interaction in the lab with other students, as well as with the instructor.

B. *Indirect*

- 1) According to the survey referenced above:
 - Students are doing well communicating on the job by expressing and listening to the subject at hand. Working on written communication is an area that will be address. Since this survey we have started including more written assignments in the program.

- In terms of working well with others, employees function well as part of a larger group in the workplace, and the attitude about work and creation of positive work environment is addressed in class and lab on a daily basis.

2) From Advisory Council Construction Meeting comments:

- Similar positive comments to those reported in the survey have been echoed in discussions during meetings.

2. Identify concepts, principles, and maintenance of industrial equipment.

A. *Direct*

- Student knowledge of concepts, principles, and maintenance are measure in written exams.
- Student knowledge is measured in the lab in both as well as in hands-on lab testing situations.
- Knowledge of principles is evaluated during demonstrations and daily labs.

B. *Indirect*

1) According to the survey reference above:

- Job-specific skills is an area identified for improvement from the previous program review. Improvements have been made but more are still needed. We have implemented requiring students to find and documented maintenance information not located in the text book. They are also now required to write papers on class subjects in two of the program core classes. We have developed some more open answer questions to develop diagnostic thought process. We have also developed some trainers that we put a bug “problem” in and access how they analyze the issue.
- Employees have most of the “soft skills” necessary to perform the work assigned. The lab environment encourages these soft skills and provides a reward and consequences basis for performance. This skill has been identified by possible employers as critical for students to work and perform in the modern team environment.
- Generally, employers seem satisfied with the quality of service provided by the Industrial Maintenance/Mining Maintenance program, giving comments such as:
 - “I am very pleased with the craftsmen in our organization that have acquired their skills and training through WWCC.”
 - “I am happy with the results of the training.”
 - “All the employees are doing very good.”
 - “Good program.”
 - “Most do exceptionally well, some struggle.”
 - “WWCC Industrial Maintenance Department does a great job in teaching our employees and giving them the tools to be top-notch maintenance mechanics.”

- “The former graduates of WWCC that are in our employment have turned out to be excellent employees.”
- 2) From Advisory Council Construction Meeting comments:
 - Advisory Council members are asked at every meeting if they feel student knowledge in this area is adequate; Responses are generally positive and similar to the survey quoted above.
- 3. Use a systematic approach to identify the root cause of problems with industrial equipment, and develop a solution.
 - A. *Direct*
 - Student knowledge of concepts, principles, and maintenance are measure in written exams.
 - Student knowledge is measured in the lab in both as well as in hands-on lab testing situations.
 - Knowledge of principles is evaluated during demonstrations and daily labs.
 - B. *Indirect*
 - 1) According to above survey:
 - 85% of employers stated employees possessed sufficient trouble-shooting/diagnostic skills.
 - 2) From Advisory Council Construction Meeting comments:
 - We address this important issue at each annual meeting, and brainstorm ways to provide students with more trouble-shooting opportunities in the classroom and lab.
 - a) Pneumatics course now includes a trouble-shooting component.
 - b) Added more vibration analysis curriculum and lab work to the Preventative Maintenance course.
- 4. Identify safe maintenance practices necessary to sustain a well-equipped, safe work environment and develop an accountable, systematic approach to safe work practices.

**Note: Local Construction leaders put a great deal of emphasis on safety for several reasons:*

 - *Companies are fined by MSHA and OSHA for violations.*
 - *Too many safety violations will result in shut down.*
 - *Lost time accidents result in profitability of the company.*
 - A. *Direct*
 - Student knowledge of concepts, principles, and maintenance are measure in written exams.
 - Student knowledge is measured in the lab in both as well as in hands-on lab testing situations.
 - Knowledge of principles is evaluated during demonstrations and daily labs.

B. Indirect

1) From Advisory Council Construction Meeting comments:

- In response to a request from local Construction, we expanded the two-day rigging section of the Mechanics I course to full week to address safety issues pertaining to rigging.
- Beyond that change, we consider no news to be good news; although safety is always a major issue on our agenda, we have had no reports or requests at Advisory Meetings that our graduates do not understand safe practices, and there has been no mention that students are not properly trained in safety.

Conclusion:

The Assessment Reporting of Program Goals we currently use indicates that our program goals are being adequately met. We however, wish to continue to strive for even better skills for our students, and in turn will see even better Assessment results.

To accomplish this we have added new components to our courses:

- additional trouble-shooting components
- additional safety components
- additional writing requirements for in-class assignments and exams

Our desire is that through requiring additional components which target these skills, we will further meet our program goals and graduate an even higher quality of students than we have now.

In addition, by creating and implementing our new "Lab Assessment" form, we will have more concrete data to help us further assess our program in the future. (see Appendix VI)

III B. Strengths, Limitations, Opportunities

STRENGTHS

Quality Instructors: All of our instructors (two fulltime, one adjunct) have first-hand, professional experience in the industrial maintenance field; that qualification allows the students to feel an instant connection to the faculty. This scenario is also valuable to our construction partners who are requesting training from our program.

Community Connection: We offer several programs which maintain and strengthen our community connection, as well as market our ongoing programs.

- We travel out to Construction sites in the fall and spring semesters, to promote and register students out at their place of employment.
- We conduct high school visits to discuss and market our programs.
- We conduct an annual T&I day for high school Seniors, and award the winners with stipends ranging in amounts from \$700.00 to \$1200.00.
- We welcome students and their parents on campus for individual and group tours.

Proficiency of Graduates: According to the survey conducted of local Construction Leaders (see Appendix II), 85% of employers surveyed were satisfied with their employees trouble-shooting skills. We consider this a positive comment, since it exceeds our goal of 80% proficiency.

Successful Graduates: Turning out successful graduates/successful employees is considered one of our biggest assets. We estimate our graduates have between a 90-95% job placement rate after they receive a certificate or degree. This translates into success in the program with employers wanting our students. We are always looking at identifying areas to increase the knowledge of our instructors, and thus in turn providing the best, most current information to students, in order to increase students' knowledge.

Strengths of Graduates: Twelve of the 13 employers who responded to the survey (see Appendix II) commented on strengths of their WWCC graduates. Some common themes are listed below.

- 42% cited knowledge (technical, systems, techniques, etc.).
- 25% cited equipment maintenance skills.
- 25% cited self-motivation and working alone effectively.
- 17% cited getting along with others in the workplace.
- 17% cited knowledge of mechanical principles.

Up-to-Date, Valid Program Offerings: A strong Advisory Council is in place, and their recommendations are taken seriously and implemented. The following actions were taken recently following Advisory Council requests:

- The One-Year Certificate in Power Plant Maintenance was revised by adding TECH 1680 Blueprint Reading and THE 1550 General Metallurgy; this revision was in response to Advisory Council suggestion in October 2007.

- The scheduling format of three courses (ELTR 1505 Electrical Assembly & Measure, ELTR 1520 Basic Electricity - DC, and ELTR 1530 Basic Electricity – AC) was officially changed from 16-week full semester courses to 5-week block classes in response to Advisory Council suggestion in October 2007. This change allows students to complete three 5-week block courses, up to 9 credits, in one semester; it also minimizes conflicts in course offerings, which benefits both students and faculty. The revision was in response to Advisory Council suggestion in October 2007.
- The One-Year Surface Maintenance Mechanic Certificate was revised by adding “any 12 credits of Welding.” This change increases the skill set of students as well as makes them more marketable. This revision was in response to Advisory Council suggestion in October 2007.
- AUTO 1665 Automotive Electrical Systems and AUTO 1770 Automotive Electronics were added to the option of the Customized Maintenance Mechanic Certificate for Construction. The Advisory Council felt these courses rounded out the optional curriculum. This revision was in response to Advisory Council suggestion in October 2007.

In general: The survey which was administered indicated that the Industrial Maintenance/Mining Maintenance program clearly has much strength which benefits employees and employers in this field.

LIMITATIONS

Technical Writing Skills Lacking Due to Scheduling Conflicts: As discussed often in Advisory Council meetings, but particularly in the April 2009 meeting, Industrial Maintenance students often lack Technical Writing skills. This poses a problem since ENGL 2010 Technical Writing is not offered in the 5-week block format, hence making students unable to matriculate through that course.

General Skills Lacking Among Graduates: According to the survey (see Appendix II), five of the 13 respondents commented on skills they wish employees possessed. One common theme was that employees lacked confidence and assertiveness (40% response).

Increased Enrollment without Budget Increase: Although our enrollment trend is consistently rising, we have seen a spike in enrollment due to the increase in recent local layoffs. This trend puts a strain on our budget from the standpoint of additional students being served (increased expenses), but also due to the increase in traditional students who are less experienced and therefore have more incidents of damage to equipment.

Lack of Preventative Maintenance Training: Construction partners have indicated their workers could use additional training in this area – especially Thermography, Vibration Analysis, and Electrical Print Reading. We have discussed adding a PTCE Preventative Maintenance course, but due to limited faculty and time, such a course has not been yet created.

OPPORTUNITIES

Technical Skills Lacking Among Graduates: Since the survey revealed that some of our students lack confidence and assertiveness, and skills in rigging, electricity, math, writing & speaking, and familiarity with industrial equipment, we will take this opportunity to adjust our curriculum to include a greater focus on providing students with these necessary and requested skills.

In addition technical writing skills could be addressed by approaching the English Department about offering ENGL 2010 in a 5-week block format, or PTCE offer technical writing skills in a PTCE course, in a two- or five-day format.

Soft Skills Lacking Among Graduates: Some areas for improvement revealed by the survey are those that did not meet the 80% Criteria for Success; it is interesting to note that four of these five of the soft skills noted as lacking in the survey are also among WWCC's Goals for Student Success.

- Diagnostics
- Writing skills
- Computer skills
- Retrieving and interpreting information
- Dealing with differences in co-workers

We will take this opportunity to adjust our curriculum whenever possible to include a greater focus on providing students with these requested skills. This increased emphasis will be easier to accomplish in academic courses with students pursuing an Associate degree because these skills are more heavily covered in courses which satisfy general education requirements; versus the student pursuing a certificate who is not required to completed general education requirements, but who concentrate entirely on completing technical skill courses.

To Better Serve Local Companies: The survey says, 10 of the 13 respondents gave comments or suggestions to help WWCC better serve their companies.

Comments are summarized below.

- Additional focus on electrical; vfd, plc, touchscreen, and networking in particular.
- Additional focus on teamwork and troubleshooting.
- Increased familiarity with industrial equipment.
- Skills and abilities are satisfactory, but confidence is lacking.
- Request for classes that fit and benefit companies' work times.
- OCI Superintendent Michael Rudoff indicated in his survey response that he would like to meet with program staff to discuss "familiarity with industrial equipment" in greater detail.

Again, each one of these issues is currently being addressed and we have taken these comments to adjust our curriculum to include a greater focus on providing students with these necessary and requested skills, as well as scheduling issues.

Other Potential Opportunities: Although survey questions did not address every possible issue, the following are areas of concern are issues that are areas of focuses that are currently being addressed and responded to by the appropriate, respective departments.

- Electrical
- Diagnostics
- Teamwork

III C. Action Plan

First Year: 2010-11			
Task or Action	Purpose	Measure of Success	Who is Responsible?
Develop and implement a more concrete, measurable plan to assess whether students are meeting program goals	To provide a means to better assess program goals are being met	The program will have results to report and interpret from the 2010-11 academic year	Full-time faculty
Room 1510 and 1509 (offices) need painting.	Was recommended in 2003 Program Review. These rooms present an unprofessional looking environment.	Completion of task	Ken Fitschen Mark Winkel Corey Brown
Update web pages	Provide current, usable information to prospective students and industry	Completion of task	Mark Winkel Anna McClure
Update catalog information	Provide current, usable information to prospective students and industry	Completion of task	Mark Winkel Kay Leum
Approach the English Department about offering ENGL 2010 in a 5-week block format, or PTCE about offering technical writing skills in a two- or five-day format PTCE course.	To respond to survey results that our graduates lack technical writing skill	Implementation of a course	Mark Winkel Paul Johnson Janell Winkel Ann Rudoff
Tasks Dependent on Funding	Data to Justify Need, and Consequence of Not Funding		Who is Responsible?
Remove old carpeting and install hard flooring and throw carpets in Room 1509 (offices).	Although installation of new carpeting was recommended in 2003 Program Review, it would be preferable to have surfaces which could be easily maintained and cleaned. <i>Consequence for not funding:</i> Rooms will present an unprofessional looking environment.		Ken Fitschen Mark Winkel Corey Brown
Repair surface grinder in Machine Tool Lab	Maintain necessary equipment <i>Consequence for not funding:</i> Students will miss important coursework		

Second Year: 2011-12			
Task or Action	Purpose	Measure of Success	Who is Responsible?
Continue to implement program- level assessment of student learning goals	To provide an ongoing means to assess whether program goals are being met	Submission of annual assessment records	Full-time faculty
Determine need for additional faculty	Allow for appropriate courses to be offered according to local need/demand	Enrollment statistics Advisory Council response	Paul Johnson Lou Flaim Mark Winkel Ken Fitschen
Tasks Dependent on Funding (Data to Justify Need, and Consequence of Not Funding		Who is Responsible?
Add new courses (PTCE or block format courses) which concentrate on Preventative Maintenance.	Advisory Council request for courses to be offered <i>Consequence for not funding:</i> No new courses		Ken Fitschen Paul Johnson Mark Winkel Janell Winkel
Remodel office space, including reorganize layout and add conference table	Increase efficiency and create a usable and appropriate meeting space for industry meetings <i>Consequence for not funding:</i> Continue with inefficient, unprofessional office space, with no meeting space		Ken Fitschen Mark Winkel Paul Johnson Rich Matthews Corey Brown
Add variable frequency drives to the plant	Better simulation of industry application <i>Consequence for not funding:</i> We will not keep pace with industry advancements		Mark Winkel Gena Moser-Clark Gerry Aust

Third Year: 2012-13			
Task or Action	Purpose	Measure of Success	Who is Responsible?
Removal of in-floor hoists in 1509 and 1510	Improved safety and provide for more mobility and organization	Completion of task	Ken Fitschen Paul Johnson Rich Matthews Corey Brown
Determine need for additional faculty	Allow for appropriate courses to be offered according to local need/demand	Enrollment statistics Advisory Council response	Paul Johnson Lou Flaim Mark Winkel Ken Fitschen
Tasks Dependent on Funding (Provide estimated cost)	Data to Justify Need, and Consequence of Not Funding		Who is Responsible?
Repair/Replace fans	Lessen noise Improve ventilation <i>Consequence for not funding:</i> Poor learning environment		Ken Fitschen Paul Johnson Rich Matthews Corey Brown
Replace compressed air piping	Improve efficiency and life of pneumatic equipment <i>Consequence for not funding:</i> The system will totally fail at some point		Ken Fitschen Paul Johnson Rich Matthews Corey Brown
Add four metal lathes to Machine Tool Lab	The old equipment is worn out and is necessary equipment <i>Consequence for not funding:</i> As lathes fail we would be forced to reduce class size to match up with limited equipment		Ken Fitschen Paul Johnson Mark Winkel
Add two CNC machines	Modernize equipment in Machine Tool Class. <i>Consequence for not funding:</i> Coursework would not match up with industry standard.		Ken Fitschen Paul Johnson Mark Winkel

Appendices

Appendix I Graduates – Technology & Construction Degrees May 2002 – May 2007

Technology and Construction Division	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	Total
AAS						
Automotive Technology	1	3	2	1	1	8
Diesel Technology	0	0	0	0	0	0
Diesel & Heavy Equipment Mech				1	2	3
Elec/Elect/Instrumentation	3	4	4	2	3	16
Industrial Maintenance	3	6	3	4	4	20
Instrumentation Technology	0	3	0	1	6	10
Mining Maintenance Tech	2	0	0	0	3	5
Oil & Gas Production Tech					6	6
Plant Operations	0	2	1	0	2	5
Welding Technology	0	5	5	1		11
Welding Technology- Mine Maint				1	0	1
Certificate						
Automotive Technology	0	0	2	1	1	4
Diesel & Hvy Equip Maint & Repair		1	0	0	3	4
Diesel Technology	2	7	2	2	3	16
Electrical Mining Maintenance					1	1
Elec/Instrumentation Control Tech	2	1		2	4	9
Ind Maintenance-Hydraulics	2	1	3	4	7	17
Ind Maintenance-Welding	2	0	4	4	9	19
Mining Maintenance	0	0	1	1	4	6
Plant Operations	0	0	0	3	0	3
Power Plant Maintenance	0	4	1	1	3	9
Surface Maintenance Mech	2	0	2	2	4	10
Undergrnd Maintenance Mech	2	1	3	2	2	10
Welding Technology	1	3	2	3		9
Total AAS	9	23	15	11	27	85
Total Certificates	13	18	20	25	41	117
TECHNICAL/OCCUPATIONAL TOTAL	22	41	35	36	68	202
WWCC DEGREES & CERTIFICATES	246	366	336	380	407	1735
T&I PERCENT OF TOTAL GRADUATES	8.9%	11.2%	10.4%	9.5%	16.7%	11.6%

Appendix II
Industrial Maintenance/Mining Maintenance Employer Survey
(survey conducted by Dianna Renz, Learning Assessment Associate)

Audience Surveyed: Approximately 16 local employers were surveyed, including FMC, OCI Chemical, General Chemical, Solvay, PacifiCorp, Church & Dwight, and Simplot. This group is especially critical first, because they are local, and second because in our analysis since these companies employ individuals who have completed courses through WWCC's Industrial Maintenance/Mining Maintenance program.

Response Rate: 13 individuals completed the survey, for a response rate of 81%.

- **Criteria for Success:** Questions were designed on a five-point Likert Scale, the top two answers being "Strongly Agree" and "Generally Agree". The Industrial Maintenance/Mining Maintenance program review committee agreed to look for an 80% positive rating in the top two categories on all questions.

I. General Employee Function on the Job

Employees have most of the skills and knowledge necessary to perform the work assigned in a satisfactory manner.

- Demonstrates knowledge necessary to job (100% positive response)
- Performs skills necessary to job (92% positive response)
- Overall performance of employee(s) (100% positive response)

II. Job-Specific Skills

Employees have some of the job-specific skills needed to perform the work assigned. Please note that for these three questions, calculations have been figured only for respondents who perceived the question WAS applicable to the job setting.

- Demonstrates critical thinking in relation to **diagnostics** (75% positive response)
- Demonstrates ability to **retrieve and interpret information** from both electronic and conventional reference and specifications materials (75% positive response)
- Has appropriate **computer skills** for the job (64% positive response)

III. "Soft Skills" on the Job

Employees have most of the "soft skills" necessary to perform the work assigned.

- Demonstrates professionalism (92% positive response)
- Demonstrates self-confidence on job (92% positive response)
- Demonstrates self-direction, responsibility, accountability (85% positive response)

IV. Communication on the Job

Employees have some of the communication skills needed to perform effectively in the workplace. Please note that for these three questions, calculations have been figured only for respondents who perceived the question WAS applicable to the job setting.

- Communicates well with supervisor and co-workers (92% positive response)
- **Writes clearly** and effectively for the job (72% positive response)
- Listens well and understands spoken directions (92% positive response)

V. Working With Others

Employees function well as part of a larger group in the workplace.

- Contributes to a positive work environment (100% positive response)
- Works effectively as a team member (85% positive response)
- Demonstrates ability to **deal with differences** in people (75% positive response)

VI. Additional Comments

Twelve of the 13 respondents commented on **strengths of their WWCC graduates**. Some common themes are listed below.

- 42% cited knowledge (technical, systems, techniques, etc.).
- 25% cited equipment maintenance skills.
- 25% cited self-motivation and working alone effectively.
- 17% cited getting along with others in the workplace.
- 17% cited knowledge of mechanical principles.

Five of the 13 respondents commented on **skills they wish employees possessed**. Some common themes are listed below.

- 40% cited trouble-shooting/diagnostics.
- 40% cited employee confidence and assertiveness.
- Others claimed a need for improved skills in rigging, electricity, math, writing & speaking, and familiarity with industrial equipment.

Ten of the 13 respondents gave **comments or suggestions** to help WWCC better serve their companies. Comments are summarized below.

- Additional focus on electrical; vfd, plc, touchscreen, and networking in particular.
- Additional focus on teamwork and troubleshooting.
- Increased familiarity with industrial equipment.*
- Skills and abilities are satisfactory, but confidence is lacking.
- Request for classes that fit and benefit companies' work times.
- Generally, employers seem satisfied with the quality of service provided by the Industrial Maintenance/Mining Maintenance program, giving comments such as:
 - "I am very pleased with the craftsmen in our organization that have acquired their skills and training through WWCC."
 - "I am happy with the results of the training."
 - "All the employees are doing very good."
 - "Good program."
 - "Most do exceptionally well, some struggle."

- “WWCC Industrial Maintenance Department does a great job in teaching our employees and giving them the tools to be top-notch maintenance mechanics.”
- “The former graduates of WWCC that are in our employment have turned out to be excellent employees.

Appendix III
IMT/MMT MATRICIULATING STUDENTS BY AGE GROUP
Fall 2006 through Fall 2009

IMT/MMT MATRICIULATING STUDENTS

<u>Fall 2006</u>	<u>Fall 2007</u>	<u>Fall 2008</u>	<u>Fall 2009</u>
Birthdate	Birthdate	Birthdate	Birthdate
11/27/1984	5/18/1984	4/30/1981	5/4/1991
5/18/1984	4/30/1981	9/2/1989	12/11/1974
3/19/1986	9/2/1989	6/11/1969	9/2/1989
10/2/1982	6/7/1978	4/2/1961	11/26/1974
8/3/1977	9/4/1957	4/6/1971	12/30/1978
2/1/1961	4/17/1984	10/11/1977	10/26/1990
3/11/1972	7/5/1986	12/11/1970	2/25/1976
12/27/1985	12/20/1987	6/5/1959	12/20/1987
6/5/1985	2/12/1959	12/6/1981	6/30/1977
8/20/1987	9/9/1987	1/7/1966	
6/30/1987	12/17/1973	7/6/1988	
4/4/1986	1/7/1966		
7/22/1966	1/9/1981		
	9/5/1985		
	7/6/1988		
13 TOTAL	15 TOTAL	11 TOTAL	9 TOTAL
7 TRADITIONAL	6 TRADITIONAL	2 TRADITIONAL	4 TRADITIONAL
6 NON-TRADITIONAL	9 NON-TRADITIONAL	9 NON-TRADITIONAL	5 NON-TRADITIONAL
(46%)	(60%)	(81%)	(55%)

Note: For the purpose of this specific analysis, "Traditional Age" is students ranging in age from 18 through 21 by the beginning of fall semester.

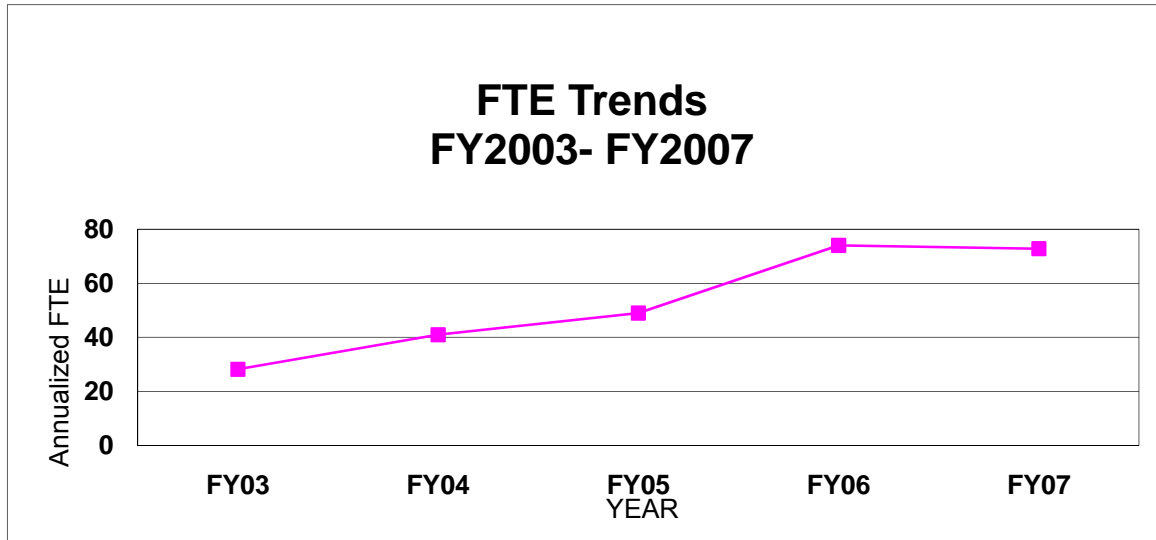
Appendix IV
Western Wyoming Community College
Program Data Period: FY2003 - FY2007
Department: INDM, MCH, & MINE

TOTAL ENROLLMENT - All Locations,
Includes Continuing Education for Credit

	SEMESTER 02-03'				SEMESTER 03-04' PERCENT					SEMESTER 04-05' PERCENT					SEMESTER 05-06' PERCENT					SEMESTER 06-07' PERCENT				
	SU02	FA02	SP03	ANNUAL	SU03	FA03	SP04	ANNUAL	CHANGE	SU04	FA04	SP05	ANNUAL	CHANGE	SU05	FA05	SP06	ANNUAL	CHANGE	SU06	FA06	SP07	ANNUAL	CHANGE
Duplicated Headcount	63	169	181	206.50	80	215	156	225.50	9.20%	92	175	324	295.50	31.04%	141	311	515	483.50	63.62%	145	325	543	506.50	4.76%
FTE	8.18	34.37	28.16	35.36	12.08	41.81	28	40.95	15.81%	16.67	33.89	47.37	48.97	19.59%	18.35	54.12	75.58	74.03	51.18%	18.48	54.42	72.70	72.80	-1.65%
% of Total College FTE	4.65%	1.87%	1.60%	1.87%	6.29%	2.17%	1.52%	2.07%	10.38%	9.06%	1.70%	2.32%	2.32%	12.28%	6.85%	2.54%	3.72%	3.34%	44.08%	7.33%	2.63%	3.68%	3.39%	1.51%
Number of Classes:																								
Day Classes	8	20	21	24.50	10	26	19	27.50	12.24%	12	18	29	29.50	7.27%	20	31	45	48.00	62.71%	18	38	47	51.50	7.29%
Evening Classes	0	2	3	2.50	0	2	4	3.00	20.00%	0	1	3	2.00	-33.33%	0	4	7	5.50	175.00%	0	2	6	4.00	-27.27%
Asynchronous	0	0	0	0.00	0	0	0	0.00	-	0	0	0	0.00	0.00%	0	0	0	0.00	0.00%	0	0	0	0.00	0.00%
Total	8	22	24	27.00	10	28	23	30.50	12.96%	12	19	32	31.50	3.28%	20	35	52	53.50	69.84%	18	40	53	55.50	3.74%
Avg. Class Size	7.88	7.68	7.54	11.55	8.00	7.68	6.78	11.23	-2.76%	7.67	9.21	10.13	13.50	20.22%	7.05	8.89	9.90	12.92	-4.31%	8.06	8.13	10.25	13.21	2.27%
Classes Under 10 (directed study excluded)	5	13	13	15.50	7	21	16	22.00	41.94%	7	11	19	18.50	-15.91%	14	22	30	33.00	78.38%	13	23	27	31.50	-4.55%
Staffing:																								
Hours Taught by FT Faculty	2	29	18	24.50	7	31	18	28.00	14.29%	14.5	24	31	34.75	24.11%	7	31	46	42.00	20.86%	9	40	51	50.00	19.05%
Hours Taught by PT Faculty	10	28	33.5	35.75	10.5	35.5	36	41.00	14.69%	10.5	17	24	25.75	-37.20%	19.5	37	46	51.25	99.03%	14.5	32.5	40	43.50	-15.12%

Total Credit Hrs. Taught	12	57	51.5	60.25	17.5	66.5	54	69.00	14.52%	25	41	55	60.50	-12.32%	26.5	68	92	93.25	54.13%	23.5	72.5	91	93.50	0.27%
Student/Faculty/Ratio (FTE/(Cr. Hrs./15))	10.23	9.04	8.20	13.74	10.35	9.43	7.78	8.90	-35.20%	10.00	12.40	12.92	17.66	98.40%	10.39	11.94	12.32	17.32	-1.90%	11.80	11.26	11.98	17.52	1.13%
FTE By FT Faculty	1.09	22	13.74	18.42	4.08	24.66	12.41	20.58	11.73%	10.08	24.42	25.16	29.83	44.98%	5.92	34.83	45.93	43.34	45.29%	6.17	32.08	41.81	40.03	-7.64%
% of Program FTE	13.33%	64.01%	48.79%	63.06%	33.77%	58.98%	44.32%	50.25%	-20.32%	60.47%	72.06%	53.11%	60.92%	21.24%	32.26%	64.36%	60.77%	58.55%	-3.90%	33.39%	58.95%	57.51%	54.99%	-6.08%
FTE By PT Faculty	7.09	12.37	14.42	16.94	8	17.15	15.59	20.37	20.25%	6.59	9.47	22.21	19.14	-6.06%	12.43	19.29	29.65	30.69	60.36%	12.31	22.34	30.89	32.77	6.79%
% of Program FTE	86.67%	35.99%	51.21%	86.94%	66.23%	41.02%	55.68%	49.75%	-42.77%	39.53%	27.94%	46.89%	39.08%	-21.45%	67.74%	35.64%	39.23%	41.45%	6.07%	66.61%	41.05%	42.49%	45.01%	8.59%

Graduates										Total														
AAS - INDM			2	2		1	5	6	200.00%		0	2	2	-66.67%			4	4	100.00%		0	4	4	18
AAS - MINE			2	2				0	-100.00%				0	0.00%				0	0.00%		1	2	3	5
Cert- INDM- Hydraulics			2	2		1		1	-50.00%			4	4	300.00%			4	4	0.00%		1	6	7	18
Cert- INDM- Welding			2	2				0	-100.00%			3	3	0.00%		1	3	4	33.33%		1	8	9	18
Certificate- Mine Maint			0	0				0	0.00%			1	1	0.00%			1	1	0.00%	1	1	2	4	6
Certificate- Surface			2	2				0	-100.00%			2	2	0.00%			2	2	0.00%			4	4	10
Certificate- Underground			1	1		1		1	0.00%		1	2	3	200.00%			3	3	0.00%			2	2	10
TOTALS			11	11		3	5	8	-27.27%		1	14	15	87.50%		1	17	18	20.00%	1	4	28	33	85

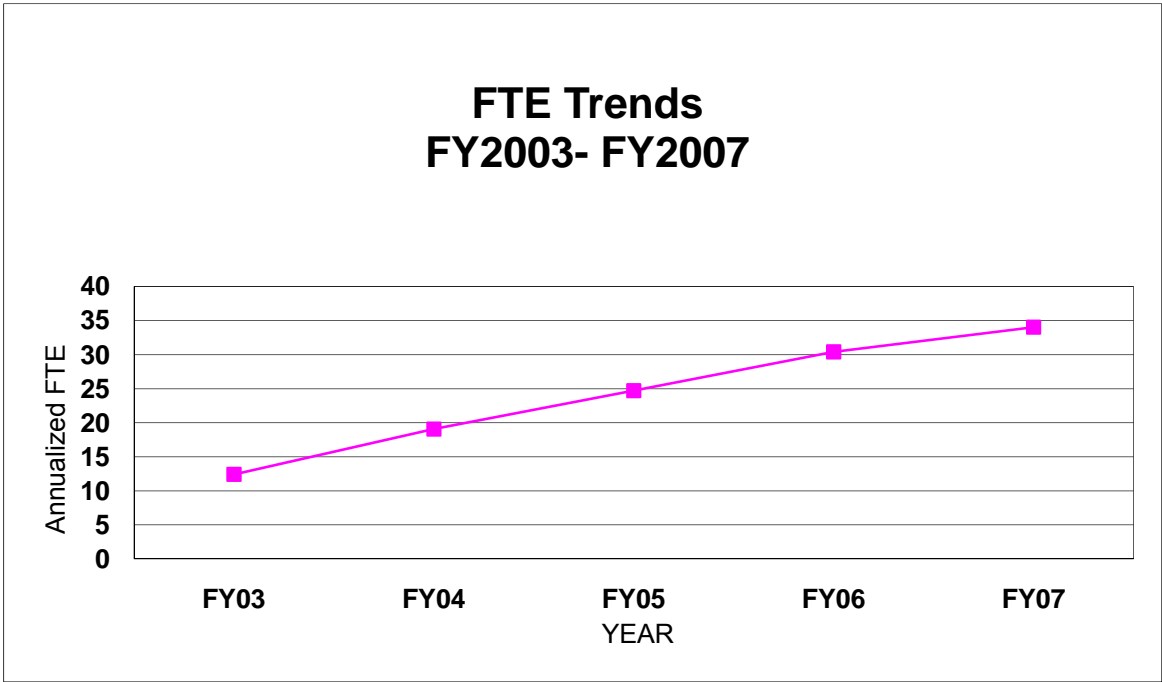


Appendix V
Western Wyoming Community College
Program Data Period: FY2003 - FY2007
Department: INDM, MCH, & MINE

ENROLLMENT - CONTINUING EDUCATION FOR CREDIT only
All Locations (T Section Courses)

	SEMESTER 02-03'					SEMESTER 03-04'					SEMESTER 04-05'					SEMESTER 05-06'					SEMESTER 06-07'				
	SU02	FA02	SP03	ANNUAL		SU03	FA03	SP04	ANNUAL	PERCENT CHANGE	SU04	FA04	SP05	ANNUAL	PERCENT CHANGE	SU05	FA05	SP06	ANNUAL	PERCENT CHANGE	SU06	FA06	SP07	ANNUAL	PERCENT CHANGE
Duplicated Headcount	63	79	122	132.00		80	95	87	131.00	-0.76%	92	87	225	202.00	54.20%	141	156	334	315.50	56.19%	145	173	391	354.50	12.36%
FTE	8.18	10.29	12.42	15.45		12.08	15.56	10.51	19.08	23.50%	16.67	11.89	20.87	24.72	29.57%	18.35	13.70	28.79	30.42	23.08%	18.48	16.34	33.28	34.05	11.93%
% of Total College FTE	4.65%	0.56%	0.70%	0.82%		6.29%	0.81%	0.57%	0.96%	17.71%	9.06%	0.60%	1.02%	1.17%	21.65%	6.85%	0.64%	1.42%	1.37%	17.30%	7.33%	0.79%	1.69%	1.59%	15.53%
Number of Classes:																									
Day Classes	8	11	15	17.00		10	13	11	17.00	0.00%	12	12	22	23.00	35.29%	20	21	34	37.50	63.04%	18	25	35	39.00	4.00%
Evening Classes	0	0	0	0.00		0	0	0	0.00	0.00%	0	0	0	0.00	0.00%	0	0	0	0.00	0.00%	0	0	0	0.00	0.00%
Asynchronous	0	0	0	0.00		0	0	0	0.00	0.00%	0	0	0	0.00	0.00%	0	0	0	0.00	0.00%	0	0	0	0.00	0.00%
Total	8	11	15	17.00		10	13	11	17.00	0.00%	12	12	22	23.00	35.29%	20	21	34	37.50	63.04%	18	25	35	39.00	4.00%
Avg. Class Size	7.88	7.18	8.13	11.60		8.00	7.31	7.91	11.61	0.11%	7.67	7.25	10.23	12.57	8.30%	7.05	7.43	9.82	12.15	-3.35%	8.06	6.92	11.17	13.07	7.59%
Classes Under 10 (directed study excluded)	5	8	7	10.00		7	10	8	12.50	25.00%	7	10	13	15.00	20.00%	14	15	20	24.50	63.33%	13	18	17	24.00	-2.04%
Staffing:																									
Hours Taught by FT Faculty	2	7	6	7.50		7	9	3	9.50	26.67%	14.5	6	4	12.25	28.95%	7	4	5	8.00	-34.69%	9	2	7	9.00	12.50%
Hours Taught by PT Faculty	10	12	15.5	18.75		10.5	14	13.5	19.00	1.33%	10.5	14	21	22.75	19.74%	19.5	18	29.5	33.50	47.25%	14.5	21.5	26	31.00	-7.46%

Total Credit Hrs. Taught	12	19	21.5	26.25	17.5	23	16.5	28.50	8.57%	25	20	25	35.00	22.81%	26.5	22	34.5	41.50	18.57%	23.5	23.5	33	40.00	-3.61%
Student/Faculty/Ratio (FTE/(Cr. Hrs./15))	10.23	8.12	8.67	13.51	10.35	10.15	9.55	10.04	-25.67%	10.00	8.92	12.52	15.72	56.59%	10.39	9.34	12.52	16.12	2.56%	11.80	10.43	15.13	18.68	15.84%
FTE By FT Faculty	1.09	2.58	4.24	3.96	4.08	9.58	1.41	7.54	90.52%	10.08	3.92	1.91	7.96	5.57%	5.92	1.33	3.59	5.42	-31.87%	6.17	0.59	5.97	6.37	17.44%
% of Program FTE	13.33%	25.07%	34.14%	36.27%	33.77%	61.57%	13.42%	39.50%	8.92%	60.47%	32.97%	9.15%	32.19%	-18.52%	32.26%	9.71%	12.47%	17.82%	-44.64%	33.39%	3.61%	17.94%	18.69%	4.92%
FTE By PT Faculty	7.09	7.71	8.18	11.49	8	5.98	9.1	11.54	0.44%	6.59	7.97	18.96	16.76	45.23%	12.43	12.37	25.2	25.00	49.16%	12.31	15.75	27.31	27.69	10.74%
% of Program FTE	86.67%	74.93%	65.86%	113.73%	66.23%	38.43%	86.58%	60.50%	-46.81%	39.53%	67.03%	90.85%	67.81%	12.09%	67.74%	90.29%	87.53%	82.18%	21.19%	66.61%	96.39%	82.06%	81.31%	-1.07%



Appendix VI
Lab Assessment Form

Lab Assessment

INDM _____

start date ____/____/____ end date ____/____/____

Goal	1st Day in Lab	Last Day in Lab	Instructor Notes
Use safe work practices			
▲ Personal protective equipment			
▲ Safe work practice			
Ability to troubleshoot equipment			
▲ Identify troubleshooting sequence			
▲ Recognize root cause			
Skill to repair equipment			
▲ Proper tool choice			
▲ Care in assembly			
Skill to maintain equipment			
▲ Failure analysis/Problem ID			
▲ Identify long-term solution			
Use good communication			
▲ Communication with supervisor			
▲ Communication with team			

*% of students
achieving this goal*

Appendix VII
Western Wyoming Community College
Courses Offered: FY2003 - FY2007
Department: INDM, MCH, & MINE

Term	Section Name	Short Title	Full Name	Location	Min Cred	Start Time	Cnt	Course FTE		
02/SU	MINE_1870_T2	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	06:40AM	2	0.33		
02/SU	MINE_1850_T1	MSHA SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	11	1.38		
02/SU	MINE_1870_T1	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	06:50AM	18	3		
02/SU	MINE_1850_T2	MSHA SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	10	1.25		
02/SU	MINE_1850_T3	MSHA SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	8	1		
02/SU	MINE_1850_T4	MSHA SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	1	0.13		
02/SU	INDM_1531_T1	INDUS MECHANICS III-A	Glenn Dalton	ROC	1	08:00AM	5	0.42		
02/SU	INDM_1521_T1	INDUS MECHANICS II-A	Glenn Dalton	ROC	1	08:00AM	8	0.67		

02/SU							12	63	8.18	CECR
02/FA	INDM_2480_01	COOPERATIVE WORK EXPERIENCE	Glenn Dalton	ROC	4		5	1.67		
02/FA	INDM_1510_A1	INDUSTRIAL MECHANICS I	Glenn Dalton	ROC	3	12:30PM	15	3.75		
02/FA	INDM_1520_B1	INDUSTRIAL MECHANICS II	Glenn Dalton	ROC	3	12:30PM	15	3.75		
02/FA	INDM_1530_C1	INDUSTRIAL MECHANICS III	Glenn Dalton	ROC	3	12:30PM	14	3.5		
02/FA	INDM_1570_A1	INDUST HYDRAUL I (FLUID POWER)	Glenn Dalton	ROC	3	03:30PM	12	3		
02/FA	INDM_1580_B1	INDUST HYDRAUL II (FLUID POWER)	Glenn Dalton	ROC	3	03:30PM	9	2.25		
02/FA	INDM_1585_C1	INDUSTRIAL HYDRAULICS III	Glenn Dalton	ROC	3	03:30PM	6	1.5		
02/FA	MCH_2740_01	MACHINE TOOL PROCESSES I	John Mortensen	ROC	4	06:00PM	4	1.33		
02/FA	MCH_2750_01	MACHINE TOOL PROCESSES II	John Mortensen	ROC	4	06:00PM	5	1.67		
							30	85	22.42	Local
02/FA	MINE_1870_T2	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	06:40AM	2	0.33		
02/FA	MINE_1870_T4	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	06:40AM	1	0.17		
02/FA	MINE_1850_T1	MSHA SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	10	1.25		
02/FA	MINE_1850_T2	MSHA SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	14	1.75		
02/FA	MINE_1850_T3	MSHA SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	6	0.75		
02/FA	MINE_1870_T3	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	06:50AM	8	1.33		
02/FA	MINE_1850_T4	MSHA SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	17	2.13		
02/FA	INDM_2990_T4	STD: PUMPS & ALIGNMENT	Glenn Dalton	ROC	2	07:00AM	4	0.67		
02/FA	INDM_1521_T1	INDUS MECHANICS II-A	Glenn Dalton	ROC	1	08:00AM	7	0.58		
02/FA	INDM_1521_T2	INDUS MECHANICS II-A	Glenn Dalton	ROC	1	08:00AM	7	0.58		

02/FA	INDM_2990_T5	STD: PUMPS & ALIGNMENT	Glenn Dalton	ROC	3	08:00AM	3	0.75	
					19		79	10.29	CECR
02/FA	MCH_2740_K1	MACHINE TOOL PROCESSES I	Stanley Nelson	KEM	4	04:00PM	1	0.33	
02/FA	MCH_2750_K1	MACHINE TOOL PROCESSES II	Stanley Nelson	KEM	4	04:00PM	4	1.33	
					8		5	1.66	Outreach
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02/FA					57		169	34.37	Total
03/SP	INDM_1540_A1	INDUSTRIAL MECHANICS IV	Glenn Dalton	ROC	3	12:30PM	11	2.75	
03/SP	INDM_1550_B1	INDUSTRIAL MECHANICS V	Glenn Dalton	ROC	3	12:30PM	11	2.75	
03/SP	INDM_1560_C1	PREVENTIVE MAINTENANCE	Glenn Dalton	ROC	3	12:30PM	12	3	
03/SP	INDM_1590_A1	INDUSTRIAL PNEUMATICS	Glenn Dalton	ROC	3	04:30PM	4	1	
03/SP	MCH_2740_01	MACHINE TOOL PROCESSES I	John Mortensen	ROC	4	06:30PM	7	2.33	
03/SP	MCH_2750_01	MACHINE TOOL PROCESSES II	John Mortensen	ROC	4	06:30PM	4	1.33	
			Christopher						
03/SP	MINE_1600_G2	UNDERGROUND MINE FRM REVIEW	Pritchard	GRE	3	06:30PM	5	1.25	
					23		54	14.41	Local
03/SP	MINE_1850_T1	MSHA SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	9	1.13	
03/SP	MINE_1870_T1	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	06:50AM	1	0.17	
03/SP	MINE_1850_T2	MSHA SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	12	1.5	
03/SP	MINE_1870_T2	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	06:50AM	4	0.67	
03/SP	MINE_1850_T3	MSHA SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	9	1.13	
03/SP	MINE_1850_T4	MSHA SURFACE NEW MINER	Donald Haney	GRE	1.5	06:50AM	10	1.25	
03/SP	MINE_1870_T4	MSHA UNDERGROUND NEW MINER	Donald Haney	GRE	2	06:50AM	3	0.5	
03/SP	MINE_1850_T5	MSHA SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	12	1.5	
03/SP	MINE_1870_T5	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	06:50AM	2	0.33	
03/SP	INDM_1531_T1	BASIC ALIGNMENT	Glenn Dalton	ROC	1	08:00AM	10	0.83	
03/SP	INDM_1541_T1	MECHANICAL DRIVES	Glenn Dalton	ROC	1	08:00AM	10	0.83	
03/SP	INDM_1521_T1	BASIC BEARING AND LUBRICATION	Glenn Dalton	ROC	1	08:00AM	10	0.83	
03/SP	INDM_2990_T2	STD: RIGGING - PACIFICORP	Glenn Dalton	KEM	0.5	08:00AM	12	0.5	
03/SP	INDM_2990_T4	STD: RIGGING FOR PACIFICORP	Glenn Dalton	KEM	0.5	08:00AM	14	0.58	
03/SP	INDM_2990_T5	STD: INDUSTRIAL PUMPS	Glenn Dalton	ROC	2	08:00AM	4	0.67	
					21.5		122	12.42	CECR
03/SP	MCH_2990_K1	ADVANCED MACHINE TOOL TECH	Stanley Nelson	KEM	3	03:00PM	4	1	
03/SP	MCH_2740_K1	MACHINE TOOL PROCESSES I	Stanley Nelson	KEM	4	03:00PM	1	0.33	
					7		5	1.33	Outreach
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03/SP					51.5		181	28.16	Total

03/SU	MINE_1850_T1	MSHA SURFACE NEW MINER	Herbert Price	GRE	1.5	06:50AM	8	1	
03/SU	MINE_1870_T1	UNDERGROUND NEW MINER	David Black	GRE	2	06:50AM	14	2.33	
03/SU	MINE_1870_T2	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	1	0.17	
03/SU	MINE_1850_T2	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	14	1.75	
03/SU	MINE_1850_T3	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	10	1.25	
03/SU	MINE_1870_T3	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	9	1.5	
03/SU	INDM_2990_T1	STD: ADVANCED HYDRAULICS	Glenn Dalton	ROC	1	08:00AM	7	0.58	
03/SU	INDM_2990_T3	STD: INDUSTRIAL PUMPS	Glenn Dalton	ROC	2	08:00AM	7	1.17	
03/SU	INDM_1531_T1	BASIC ALIGNMENT	Glenn Dalton	ROC	1	08:00AM	1	0.08	
03/SU	INDM_1510_T1	INDUSTRIAL MECHANICS I	Glenn Dalton	ROC	3	08:00AM	9	2.25	

03/SU					17.5		80	12.08	CECR
03/FA	INDM_2480_01	COOPERATIVE WORK EXPERIENCE	Glenn Dalton	ROC	4		4	1.33	
03/FA	INDM_1510_A1	INDUSTRIAL MECHANICS I	Glenn Dalton	ROC	3	12:30PM	8	2	
03/FA	INDM_1520_B1	INDUSTRIAL MECHANICS II	Glenn Dalton	ROC	3	12:30PM	6	1.5	
03/FA	INDM_1530_C1	INDUSTRIAL MECHANICS III	Glenn Dalton	ROC	3	12:30PM	7	1.75	
03/FA	INDM_2490_GQ1	STD: QS MANFCTRNG ORG PRIN	Herbert Price	GRE	1	12:30PM	12	1	
03/FA	INDM_2490_GQ2	STD: QS MNFCTRNG WRKPLC SKLS	Herbert Price	GRE	1	12:30PM	12	1	
03/FA	INDM_2490_GQ3	STD: QSCS: AUTO MANUF SKILLS	Herbert Price	GRE	2.5	12:30PM	12	2.5	
03/FA	INDM_1570_A1	INDUST HYDRAUL I (FLUID POWER)	Glenn Dalton	ROC	3	03:30PM	18	4.5	
03/FA	INDM_1580_B1	INDUST HYDRAUL II (FLUID POWER)	Glenn Dalton	ROC	3	03:30PM	9	2.25	
03/FA	INDM_1585_C1	INDUSTRIAL HYDRAULICS III	Glenn Dalton	ROC	3	03:30PM	7	1.75	
03/FA	MCH_2740_01	MACHINE TOOL PROCESSES I	John Mortensen	ROC	4	06:00PM	5	1.67	
03/FA	MCH_2750_01	MACHINE TOOL PROCESSES II	John Mortensen	ROC	4	06:00PM	5	1.67	
					34.5		105	22.92	Local
03/FA	MINE_1850_T1	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	10	1.25	
03/FA	MINE_1870_T1	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	4	0.67	
03/FA	MINE_1850_T2	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	9	1.13	
03/FA	MINE_1870_T2	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	1	0.17	
03/FA	MINE_1870_T3	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	2	0.33	
03/FA	MINE_1870_T4	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	4	0.67	
03/FA	MINE_1850_T4	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	7	0.88	
03/FA	MINE_1850_T3	SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	7	0.88	
03/FA	INDM_1531_T1	BASIC ALIGNMENT	Glenn Dalton	ROC	1	08:00AM	9	0.75	
03/FA	INDM_1541_T1	MECHANICAL DRIVES	Glenn Dalton	ROC	1	08:00AM	4	0.33	
03/FA	INDM_2990_T1	STD: ADVANCED HYDRAULICS	Glenn Dalton	ROC	1	08:00AM	6	0.5	
03/FA	INDM_1520_T1	INDUSTRIAL MECHANICS II	Glenn Dalton	ROC	3	08:00AM	19	4.75	
03/FA	INDM_1570_T1	INDUST HYDRAUL I (FLUID POWER)	Glenn Dalton	ROC	3	08:00AM	13	3.25	
					23		95	15.56	CECR

03/FA	MCH_2990_K1	ADVANCED MACHINE TOOL TECHN	Stanley Nelson	KEM	3	02:30PM	4	1	
03/FA	MCH_2740_K1	MACHINE TOOL PROCESSES I	Stanley Nelson	KEM	4	02:30PM	3	1	
03/FA	MCH_2495_K1	MACHINE VIBRATION MEASUREMENT	Albert Carollo	KEM	2	03:00PM	8	1.33	
					9		15	3.33	Outreach

03/FA					66.5		215	41.81	Total
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04/SP	INDM_1570_01	INDUST HYDRAUL I (FLUID POWER)	Glenn Dalton	ROC	3		2	0.5	
04/SP	INDM_1540_A1	INDUSTRIAL MECHANICS IV	Glenn Dalton	ROC	3	12:30PM	5	1.25	
04/SP	INDM_1550_B1	INDUSTRIAL MECHANICS V	Glenn Dalton	ROC	3	12:30PM	10	2.5	
04/SP	INDM_1560_C1	PREVENTIVE MAINTENANCE	Glenn Dalton	ROC	3	12:30PM	15	3.75	
04/SP	INDM_2490_GQ4	STD: MANUFACTURING PROD REQS	Herbert Price	GRE	1.5	12:30PM	4	0.5	
04/SP	INDM_2490_GQ5	STD: REP MANUFACTURING SKILLS	Herbert Price	GRE	4	12:30PM	4	1.33	
04/SP	INDM_1590_A1	INDUSTRIAL PNEUMATICS	Glenn Dalton	ROC	3	04:30PM	12	3	
04/SP	MCH_2740_01	MACHINE TOOL PROCESSES I	John Mortensen	ROC	4	06:30PM	1	0.33	
04/SP	MCH_2750_01	MACHINE TOOL PROCESSES II	John Mortensen	ROC	4	06:30PM	4	1.33	
			Christopher						
04/SP	MINE_1600_G1	UNDERGROUND MINE FRM REVIEW	Pritchard	GRE	3	06:30PM	7	1.75	
04/SP	MCH_2760_01	ADV MACHINE TOOL PROCESSES I	John Mortensen	ROC	3	06:30PM	1	0.25	
					34.5		65	16.49	Local

04/SP	MINE_1850_T1	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	4	0.5	
04/SP	MINE_1850_T2	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	6	0.75	
04/SP	MINE_1850_T3	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	11	1.38	
04/SP	MINE_1850_T4	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	24	3	
04/SP	MINE_1870_T4	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	3	0.5	
04/SP	MINE_1870_T2	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	4	0.67	
04/SP	MINE_1850_T5	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	17	2.13	
04/SP	MINE_1870_T3	MSHA UNDERGROUND NEW MINER	David Black	ROC	2	07:00AM	1	0.17	
04/SP	INDM_0920_T1	BASIC HYDRAULICS	Glenn Dalton	ROC	1	08:00AM	4	0.33	
04/SP	INDM_2990_T1	STD: LUBRICATION ANALYSIS	Glenn Dalton	ROC	1	08:00AM	4	0.33	
04/SP	INDM_2990_T2	STD: VIBRATION ANALYSIS	Glenn Dalton	ROC	1	08:00AM	9	0.75	
					16.5		87	10.51	CECR

04/SP	MCH_2990_K1	ADV. MACHINE TOOLS III	Stanley Nelson	KEM	3	03:00PM	4	1	
					3		4	1	Outreach

04/SP					54		156	28	Total
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04/SU	MINE_1870_T1	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	4	0.67	
04/SU	MINE_1850_T1	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	10	1.25	
04/SU	MINE_1870_T3	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	2	0.33	

04/SU	MINE_1850_T3	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	11	1.38		
04/SU	MINE_1850_T2	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	21	2.63		
04/SU	MINE_1870_T2	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	2	0.33		
04/SU	INDM_2490_Q1	STD: INDST MAINT FUNDAMENTALS	Glenn Dalton	ROC	1.5	08:00AM	2	0.25		
04/SU	INDM_1570_T1	INDUST HYDRAUL I (FLUID POWER)	Glenn Dalton	ROC	3	08:00AM	16	4		
04/SU	INDM_1520_T1	INDUSTRIAL MECHANICS II	Glenn Dalton	ROC	3	08:00AM	10	2.5		
04/SU	INDM_1510_T1	INDUSTRIAL MECHANICS I	Glenn Dalton	ROC	3	08:00AM	9	2.25		
04/SU	INDM_1542_T1	INDUSTRIAL PUMPS	Glenn Dalton	ROC	1	08:00AM	1	0.08		
04/SU	INDM_2990_T2	STD: PRECISION MAINTENANCE	Glenn Dalton	ROC	3	08:00AM	4	1		

04/SU							25	92	16.67	CECR
04/FA	INDM_1510_A1	INDUSTRIAL MECHANICS I	Glenn Dalton	ROC	3	12:30PM	16	4		
04/FA	INDM_1520_B1	INDUSTRIAL MECHANICS II	Glenn Dalton	ROC	3	12:30PM	13	3.25		
04/FA	INDM_1530_C1	INDUSTRIAL MECHANICS III	Glenn Dalton	ROC	3	12:30PM	17	4.25		
04/FA	INDM_1570_A1	INDUST HYDRAUL I (FLUID POWER)	Glenn Dalton	ROC	3	03:30PM	17	4.25		
04/FA	INDM_1580_B1	INDUST HYDRAUL II (FLUID POWER)	Glenn Dalton	ROC	3	03:30PM	10	2.5		
04/FA	INDM_1585_C1	INDUSTRIAL HYDRAULICS III	Glenn Dalton	ROC	3	03:30PM	9	2.25		
							18	82	20.5	Local
04/FA	MINE_1850_T1	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	18	2.25		
04/FA	MINE_1870_T1	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	4	0.67		
04/FA	MINE_1870_T2	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	4	0.67		
04/FA	MINE_1850_T2	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	8	1		
04/FA	MINE_1870_T4	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	7	1.17		
04/FA	MINE_1850_T4	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	10	1.25		
04/FA	MINE_1850_T3	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	5	0.63		
04/FA	MINE_1870_T3	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	2	0.33		
04/FA	INDM_2990_T1	STD: LUBRICATION ANALYSIS	Glenn Dalton	ROC	1	08:00AM	8	0.67		
04/FA	INDM_2990_T3	STD: PRECISION MAINTENANCE	Glenn Dalton	ROC	3	08:00AM	9	2.25		
04/FA	INDM_2990_T5	CONTRACT:TRANSF BLOWERS-JIM B	Glenn Dalton	ROC	1	08:00AM	3	0.25		
04/FA	INDM_2990_T4	STUDIES IN INDUST MAINTENANCE	Glenn Dalton	ROC	1	08:00AM	9	0.75		
							20	87	11.89	CECR
04/FA	MCH_2770_K1	ADV MACHINE TOOL PROCESSES II	Stanley Nelson	KEM	3	06:00PM	6	1.5		
							3	6	1.5	Outreach

04/FA							41	175	33.89	Total
05/SP	INDM_2480_01	COOPERATIVE WORK EXPERIENCE	wwcc Staff	ROC	1		1	0.33		
05/SP	INDM_1540_A1	INDUSTRIAL MECHANICS IV	Glenn Dalton	ROC	3	12:30PM	20	5		

05/SP	INDM_1550_B1	INDUSTRIAL MECHANICS V	Glenn Dalton	ROC	3	12:30PM	15	3.75	
05/SP	INDM_1560_C1	PREVENTIVE MAINTENANCE	Glenn Dalton	ROC	3	12:30PM	18	4.5	
05/SP	INDM_1590_A1	INDUSTRIAL PNEUMATICS	Glenn Dalton	ROC	3	04:30PM	14	3.5	
05/SP	INDM_1570_B1	INDUST HYDRAUL I (FLUID POWER)	Glenn Dalton	ROC	3	04:30PM	7	1.75	
05/SP	INDM_1580_C1	INDUST HYDRAUL II (FLUID POWER)	Glenn Dalton	ROC	3	04:30PM	7	1.75	
05/SP	MCH_2740_01	MACHINE TOOL PROCESSES I	Glenn Dalton	ROC	4	06:30PM	6	2	
05/SP	MCH_2750_01	MACHINE TOOL PROCESSES II	Glenn Dalton	ROC	4	06:30PM	2	0.67	
05/SP	MINE_1600_G1	UNDERGROUND MINE FRM REVIEW	Christopher Pritchard	GRE	3	06:30PM	13	3.25	
					30		103	26.5	Local
05/SP	MINE_1870_T4	UNDERGROUND NEW MINER	David Black	GRE	2		1	0.17	
05/SP	MINE_1850_T1	SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	14	1.75	
05/SP	MINE_1870_T1	UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	5	0.83	
05/SP	MINE_1850_T2	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	15	1.88	
05/SP	MINE_2490_T1	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	22	0.92	
05/SP	MINE_1850_T3	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	19	2.38	
05/SP	MINE_2490_T2	UNDERGROUND ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	5	0.21	
05/SP	MINE_1870_T3	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	2	0.33	
05/SP	MINE_2490_T6	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	9	0.38	
05/SP	MINE_2490_T3	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	7	0.29	
05/SP	MINE_2490_T5	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	9	0.38	
05/SP	MINE_1850_T4	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	19	2.38	
05/SP	MINE_2490_T9	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	10	0.42	
05/SP	MINE_2490_T8	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	11	0.38	
05/SP	MINE_1850_T5	SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	23	2.88	
05/SP	MINE_1870_T5	UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	12	2	
05/SP	MINE_2490_T7	UNDERGROUND ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	6	0.25	
05/SP	MINE_1850_T6	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	9	1.13	
05/SP	INDM_1521_T1	BASIC BEARING AND LUBRICATION	Glenn Dalton	ROC	1	08:00AM	5	0.42	
05/SP	INDM_2990_T1	STUDIES IN INDUST MAINTENANCE	Glenn Dalton	ROC	1	08:00AM	7	0.58	
05/SP	INDM_1531_T1	ALIGNMENT	Glenn Dalton	ROC	1	08:00AM	4	0.33	
05/SP	INDM_0920_T1	BASIC HYDRAULICS	Glenn Dalton	ROC	1	08:00AM	7	0.58	
					25		221	20.87	CECR
05/SP					55		324	47.37	Total
05/SU	MINE_1850_T1	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	13	1.63	
05/SU	MINE_1850_T2	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	5	0.63	
05/SU	MINE_1870_T1	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	4	0.67	

05/SU	MINE_1855_T1	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	1	0.04	
05/SU	MINE_1855_T3	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	7	0.29	
05/SU	MINE_1875_T2	MSHA UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	07:00AM	5	0.21	
05/SU	MINE_1855_T5	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	12	0.5	
05/SU	MINE_1875_T3	UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	07:00AM	1	0.04	
05/SU	MINE_1870_T2	UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	4	0.67	
05/SU	MINE_1850_T3	SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	28	3.5	
05/SU	MINE_1875_T4	UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	07:00AM	2	0.08	
05/SU	MINE_1850_T5	SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	8	1	
05/SU	MINE_1870_T4	UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	6	1	
05/SU	MINE_1855_T7	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	4	0.17	
05/SU	MINE_1850_T4	SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	2	0.25	
05/SU	MINE_1875_T5	UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	07:00AM	2	0.08	
05/SU	MINE_1870_T3	UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	10	1.67	
05/SU	INDM_2990_T1	STUDIES IN INDUST MAINTENANCE	Glenn Dalton	ROC	1	08:00AM	5	0.42	
05/SU	INDM_1510_T1	INDUSTRIAL MECHANICS I	Glenn Dalton	ROC	3	08:00AM	12	3	
05/SU	INDM_1520_T1	INDUSTRIAL MECHANICS II	Glenn Dalton	ROC	3	08:00AM	10	2.5	

05/SU					26.5		141	18.35	CECR
05/FA	INDM_1510_A2	INDUSTRIAL MECHANICS I	Glenn Dalton	ROC	3	08:00AM	14	3.5	
05/FA	INDM_1520_C1	INDUSTRIAL MECHANICS II	Mark Winkel	ROC	3	08:00AM	7	1.75	
05/FA	INDM_1530_C2	INDUSTRIAL MECHANICS III	Glenn Dalton	ROC	3	08:00AM	8	2	
05/FA	INDM_1510_A1	INDUSTRIAL MECHANICS I	Glenn Dalton	ROC	3	12:30PM	17	4.25	
05/FA	INDM_1520_B1	INDUSTRIAL MECHANICS II	Glenn Dalton	ROC	3	12:30PM	24	6	
05/FA	INDM_1530_C1	INDUSTRIAL MECHANICS III	Glenn Dalton	ROC	3	12:30PM	22	5.5	
05/FA	INDM_1570_A1	INDUST HYDRAUL I (FLUID POWER)	Glenn Dalton	ROC	3	03:30PM	19	4.75	
05/FA	INDM_1580_B1	INDUST HYDRAUL II (FLUID POWER)	Glenn Dalton	ROC	3	03:30PM	14	3.5	
05/FA	INDM_1585_C1	INDUSTRIAL HYDRAULICS III	Glenn Dalton	ROC	3	03:30PM	9	2.25	
05/FA	MCH_2740_01	MACHINE TOOL PROCESSES I	Wesley Johnson	ROC	4	06:00PM	10	3.33	
05/FA	MCH_2750_01	MACHINE TOOL PROCESSES II	Wesley Johnson	ROC	4	06:00PM	2	0.67	
05/FA	MCH_2760_01	ADV MACHINE TOOL PROCESSES I	Wesley Johnson	ROC	3	06:00PM	1	0.25	
					38		147	37.75	Local
05/FA	MINE_1850_T4	SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	15	1.88	
05/FA	MINE_1855_T7	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	06:50AM	10	0.42	
05/FA	MINE_1855_T8	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	06:50AM	21	0.88	
05/FA	MINE_1870_T4	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	06:50AM	1	0.17	
05/FA	MINE_1875_T4	MSHA UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	06:50AM	5	0.21	
05/FA	MINE_1855_T1	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	6	0.25	

05/FA	MINE_1855_T2	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	6	0.25		
05/FA	MINE_1850_T1	SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	15	1.88		
05/FA	MINE_1875_T1	UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	07:00AM	6	0.25		
05/FA	MINE_1870_T1	UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	4	0.67		
05/FA	MINE_1855_T3	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	3	0.13		
05/FA	MINE_1855_T4	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	8	0.33		
05/FA	MINE_1850_T2	SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	19	2.38		
05/FA	MINE_1875_T2	UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	07:00AM	5	0.21		
05/FA	MINE_1855_T5	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	3	0.13		
05/FA	MINE_1855_T6	SURFACE ANNUAL REFRESHER	Donald Haney	GRE	0.5	07:00AM	2	0.08		
05/FA	MINE_1850_T3	SURFACE NEW MINER	Donald Haney	GRE	1.5	07:00AM	16	2		
05/FA	MINE_1875_T3	UNDERGRND ANNUAL REFRESHER	Donald Haney	GRE	0.5	07:00AM	2	0.08		
05/FA	MINE_1870_T3	UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	1	0.17		
05/FA	INDM_1570_T1	INDUST HYDRAUL I (FLUID POWER)	Glenn Dalton	ROC	3	08:00AM	4	1		
05/FA	INDM_2990_T2	LUBRICATION ANALYSIS	Glenn Dalton	ROC	1	08:00AM	4	0.33		
							22	156	13.7	CECR
05/FA	MCH_2740_S1	MACHINE TOOL PROCESSES I	Farren Haderlie	AFT	4	02:10PM	6	2		
05/FA	MCH_2740_K1	MACHINE TOOL PROCESSES I	Stanley Nelson	KEM	4	06:00PM	2	0.67		
							8	8	2.67	Outreach

05/FA					68		311	54.12	Total	
06/SP	INDM_1590_C1	INDUSTRIAL PNEUMATICS	Glenn Dalton	ROC	3	08:00AM	14	3.5		
06/SP	INDM_1550_A1	INDUSTRIAL MECHANICS V	Glenn Dalton	ROC	3	08:00AM	15	3.75		
06/SP	INDM_1540_B1	INDUSTRIAL MECHANICS IV	Glenn Dalton	ROC	3	08:00AM	10	2.5		
06/SP	MINE_1500_C1	INTRODUCTION TO MINING	Mark Winkel	ROC	3	11:00AM	7	1.75		
06/SP	INDM_1540_A1	INDUSTRIAL MECHANICS IV	Glenn Dalton	ROC	3	12:30PM	18	4.5		
06/SP	INDM_1550_B1	INDUSTRIAL MECHANICS V	Glenn Dalton	ROC	3	12:30PM	19	4.75		
06/SP	INDM_1560_C1	PREVENTIVE MAINTENANCE	Glenn Dalton	ROC	3	12:30PM	18	4.5		
06/SP	INDM_1570_A1	INDUST HYDRAUL I (FLUID POWER)	Glenn Dalton	ROC	3	03:30PM	19	4.75		
06/SP	INDM_1580_B1	INDUST HYDRAUL II (FLUID POWER)	Glenn Dalton	ROC	3	03:30PM	15	3.75		
06/SP	INDM_1585_C1	INDUSTRIAL HYDRAULICS III	Glenn Dalton	ROC	3	03:30PM	9	2.25		
06/SP	MCH_2740_01	MACHINE TOOL PROCESSES I	Glenn Dalton	ROC	4	06:30PM	8	2.67		
06/SP	MCH_2750_01	MACHINE TOOL PROCESSES II	Glenn Dalton	ROC	4	06:30PM	5	1.67		
06/SP	MCH_2760_01	ADV MACHINE TOOL PROCESSES I	Wesley Johnson	ROC	3	06:30PM	1	0.25		
06/SP	MCH_2770_01	ADV MACHINE TOOL PROCESSES II	Wesley Johnson	ROC	3	06:30PM	1	0.25		
06/SP	MINE_1600_G1	UNDERGROUND MINE FRM REVIEW	Christopher Pritchard	GRE	3	06:30PM	8	2		
06/SP	INDM_1590_C2	INDUSTRIAL PNEUMATICS	Glenn Dalton	ROC	3	06:30PM	8	2		
					50		175	44.84	Local	

06/SP	MINE_1855_T1	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	5	0.21
06/SP	MINE_1875_T1	UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	07:00AM	2	0.08
06/SP	MINE_1870_T1	UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	5	0.83
06/SP	MINE_1850_T1	SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	14	1.75
06/SP	MINE_1850_T2	SURFACE NEW MINER	Donald Haney	GRE	1.5	07:00AM	4	0.5
06/SP	MINE_1855_T3	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	16	0.67
06/SP	MINE_1875_T2	MSHA UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	07:00AM	3	0.13
06/SP	MINE_1850_T3	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	13	1.63
06/SP	MINE_1870_T2	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	5	0.83
06/SP	MINE_1855_T4	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	8	0.33
06/SP	MINE_1855_T5	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	17	0.71
06/SP	MINE_1875_T3	MSHA UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	07:00AM	3	0.13
06/SP	MINE_1850_T4	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	19	2.38
06/SP	MINE_1870_T3	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	5	0.83
06/SP	MINE_1855_T6	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	15	0.63
06/SP	MINE_1855_T7	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	16	0.67
06/SP	MINE_1875_T4	MSHA UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	07:00AM	7	0.29
06/SP	MINE_1850_T5	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	27	3.38
06/SP	MINE_1870_T4	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	6	1
06/SP	MINE_1855_T8	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	21	0.88
06/SP	MINE_1850_T6	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	13	1.63
06/SP	MINE_1850_T7	SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	26	3.25
06/SP	MINE_1855_T9	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	11	0.46
06/SP	MINE_1875_T5	UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	07:00AM	2	0.08
06/SP	MINE_1870_T5	UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	6	1
06/SP	MINE_1855_TA	SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	15	0.63
06/SP	INDM_0920_T1	BASIC HYDRAULICS	Glenn Dalton	ROC	1	08:00AM	9	0.75
06/SP	INDM_1531_T1	ALIGNMENT	Glenn Dalton	ROC	1	08:00AM	10	0.83
06/SP	INDM_1542_T1	INDUSTRIAL PUMPS	Glenn Dalton	ROC	1	08:00AM	8	0.67
06/SP	INDM_1521_T1	BEARING AND LUBRICATION	Mark Winkel	ROC	1	08:00AM	8	0.67
06/SP	INDM_2990_T1	ADVANCED HYDRAULICS	Glenn Dalton	ROC	1	08:00AM	8	0.67
06/SP	MINE_1855_M2	MSHA SURFACE ANNUAL REFRESHER	David Black	MTV	0.5	07:00AM	2	0.08
06/SP	MINE_1855_M3	MSHA SURFACE ANNUAL	David Black	MTV	0.5	07:00AM	3	0.13

06/FA	INDM_2990_T2	MAINT BEST PRACT/PREC MAINT	Glenn Dalton	GRE	2	08:00AM	16	2.67	
06/FA	INDM_1520_B2	INDUSTRIAL MECHANICS II	Mark Winkel	ROC	3	08:00AM	14	3.5	
06/FA	INDM_1530_C2	INDUSTRIAL MECHANICS III	Mark Winkel	ROC	3	08:00AM	14	3.5	
06/FA	INDM_1510_A1	INDUSTRIAL MECHANICS I	Mark Winkel	ROC	3	12:30PM	11	2.75	
06/FA	INDM_1520_B1	INDUSTRIAL MECHANICS II	Mark Winkel	ROC	3	12:30PM	16	4	
06/FA	INDM_1530_C1	INDUSTRIAL MECHANICS III	Mark Winkel	ROC	3	12:30PM	18	4.5	
06/FA	INDM_1570_C1	INDUST HYDRAUL I (FLUID POWER)	Glenn Dalton	ROC	3	01:00PM	7	1.75	
06/FA	INDM_1510_A2	INDUSTRIAL MECHANICS I	Mark Winkel	ROC	3	03:30PM	10	2.5	
06/FA	MCH_2740_01	MACHINE TOOL PROCESSES I	John Mortensen	ROC	4	06:00PM	10	3.33	
					42		145	36	Local
06/FA	MINE_1855_T4	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	06:50AM	15	0.63	
06/FA	MINE_1855_T5	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	06:50AM	10	0.42	
06/FA	MINE_1870_T2	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	06:50AM	8	1.33	
06/FA	MINE_1875_T4	MSHA UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	06:50AM	5	0.21	
06/FA	MINE_1855_T8	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	06:50AM	3	0.13	
06/FA	MINE_1870_T3	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	06:50AM	15	2.5	
06/FA	MINE_1875_T5	MSHA UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	06:50AM	1	0.04	
06/FA	MINE_1875_T2	MSHA UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	06:50AM	3	0.13	
06/FA	MINE_1870_T4	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	06:50AM	6	1	
06/FA	MINE_1855_T9	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	06:50AM	8	0.33	
06/FA	MINE_1855_TA	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	06:50AM	12	0.5	
06/FA	MINE_1855_M1	MSHA SURFACE ANNUAL REFRESHER	David Black	MTV	0.5	07:00AM	2	0.08	
06/FA	MINE_1855_M2	MSHA SURFACE ANNUAL REFRESHER	David Black	MTV	0.5	07:00AM	2	0.08	
06/FA	MINE_1855_M3	MSHA SURFACE ANNUAL REFRESHER	David Black	MTV	0.5	07:00AM	7	0.29	
06/FA	MINE_1855_T6	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	2	0.08	
06/FA	MINE_1850_T1	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	14	1.75	
06/FA	MINE_1855_T1	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	1	0.04	
06/FA	MINE_1875_T1	MSHA UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	07:00AM	6	0.25	
06/FA	MINE_1855_T2	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	07:00AM	1	0.04	

06/FA	MINE_1870_T1	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	07:00AM	7	1.17		
06/FA	MINE_1850_T2	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	14	1.75		
06/FA	MINE_1850_T3	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	18	2.25		
06/FA	MINE_1850_T4	MSHA SURFACE NEW MINER	David Black	GRE	1.5	07:00AM	6	0.75		
06/FA	INDM_1524_T1	LUBRICATION PRINC & ANALYSIS	Mark Winkel	ROC	1	08:00AM	2	0.17		
06/FA	INDM_1566_T1	VIBRATION ANALYSIS FOR INDUS	Glenn Dalton	ROC	1	08:00AM	5	0.42		
							23.5	173	16.34	CECR
06/FA	MCH_2740_S1	MACHINE TOOL PROCESSES I	Farren Haderlie	AFT	4	02:13PM	4	1.33		
06/FA	MCH_2760_K1	ADV MACHINE TOOL PROCESSES I	Stanley Nelson	KEM	3	06:00PM	3	0.75		
							7	7	2.08	Outreach

06/FA					72.5		325	54.42	Total	
07/SP	INDM_1540_B1	INDUSTRIAL MECHANICS IV	Glenn Dalton	ROC	3	08:00AM	4	1		
07/SP	INDM_1550_A1	INDUSTRIAL MECHANICS V	Glenn Dalton	ROC	3	08:00AM	9	2.25		
07/SP	INDM_1590_C1	INDUSTRIAL PNEUMATICS	Glenn Dalton	ROC	3	08:00AM	12	3		
07/SP	INDM_1580_A1	INDUST HYDRAUL II (FLUID POWER	Glenn Dalton	ROC	3	08:00AM	10	2.5		
07/SP	MINE_1500_C1	INTRODUCTION TO MINING	Mark Winkel	ROC	3	11:00AM	6	1.5		
07/SP	INDM_1550_B1	INDUSTRIAL MECHANICS V	Glenn Dalton	ROC	3	12:30PM	9	2.25		
07/SP	INDM_1560_C1	PREVENTIVE MAINTENANCE	Glenn Dalton	ROC	3	12:30PM	19	4.75		
07/SP	INDM_1540_A1	INDUSTRIAL MECHANICS IV	Glenn Dalton	ROC	3	12:30PM	12	3		
07/SP	INDM_1570_A1	INDUST HYDRAUL I (FLUID POWER)	Glenn Dalton	ROC	3	03:30PM	10	2.5		
07/SP	INDM_1580_B1	INDUST HYDRAUL II (FLUID POWER	Glenn Dalton	ROC	3	03:30PM	10	2.5		
07/SP	INDM_1585_C1	INDUSTRIAL HYDRAULICS III	Glenn Dalton	ROC	3	03:30PM	13	3.25		
07/SP	INDM_1590_C2	INDUSTRIAL PNEUMATICS	Glenn Dalton	ROC	3	06:30PM	12	3		
07/SP	MCH_2740_01	MACHINE TOOL PROCESSES I	Glenn Dalton	ROC	4	06:30PM	5	1.67		
07/SP	MCH_2750_01	MACHINE TOOL PROCESSES II	Glenn Dalton	ROC	4	06:30PM	8	2.67		
07/SP	MINE_1600_G1	UNDERGROUND MINE FRM REVIEW	Christopher Pritchard	GRE	3	06:30PM	7	1.75		
							47	146	37.59	Local
07/SP	MINE_1855_T1	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	06:50AM	2	0.08		
07/SP	MINE_1855_T2	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	06:50AM	5	0.21		
07/SP	MINE_1875_T1	MSHA UNDERGRND ANNUAL REFRESH	David Black	GRE	0.5	06:50AM	1	0.04		
07/SP	MINE_1870_T1	MSHA UNDERGROUND NEW MINER	David Black	GRE	2	06:50AM	12	2		
07/SP	MINE_1850_T2	SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	11	1.38		
07/SP	MINE_1855_T3	MSHA SURFACE ANNUAL REFRESHER	David Black	GRE	0.5	06:50AM	14	0.58		
07/SP	MINE_1870_T2	UNDERGROUND NEW MINER	David Black	GRE	2	06:50AM	14	2.33		

07/SP	MINE_1855_T4	SURFACE ANNUAL REFRESHER UNDERGROUND ANNUAL	David Black	GRE	0.5	06:50AM	19	0.79	
07/SP	MINE_1875_T2	REFRESHER MSHA SURFACE ANNUAL	David Black	GRE	0.5	06:50AM	5	0.21	
07/SP	MINE_1855_T5	REFRESHER	David Black	GRE	0.5	06:50AM	10	0.42	
07/SP	MINE_1850_T3	MSHA SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	25	3.13	
07/SP	MINE_1870_T3	MSHA UNDERGROUND NEW MINER MSHA UNDERGRND ANNUAL	David Black	GRE	2	06:50AM	5	0.83	
07/SP	MINE_1875_T3	REFRESH MSHA SURFACE ANNUAL	David Black	GRE	0.5	06:50AM	7	0.29	
07/SP	MINE_1855_T6	REFRESHER MSHA SURFACE ANNUAL	David Black	GRE	0.5	06:50AM	23	0.96	
07/SP	MINE_1855_T7	REFRESHER	David Black	GRE	0.5	06:50AM	13	0.54	
07/SP	MINE_1850_T4	MSHA SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	16	2	
07/SP	MINE_1870_T4	MSHA UNDERGROUND NEW MINER MSHA UNDERGRND ANNUAL	David Black	GRE	2	06:50AM	9	1.5	
07/SP	MINE_1875_T4	REFRESH MSHA SURFACE ANNUAL	David Black	GRE	0.5	06:50AM	8	0.33	
07/SP	MINE_1855_T8	REFRESHER	David Black	GRE	0.5	06:50AM	19	0.79	
07/SP	MINE_1855_T9	MSHA SURFACE ANNUAL REFRESH	David Black	GRE	0.5	06:50AM	15	0.63	
07/SP	MINE_1850_T5	MSHA SURFACE NEW MINER	David Black	GRE	1.5	06:50AM	25	3.13	
07/SP	MINE_1870_T5	MSHA UNDERGROUND NEW MINER MSHA SURFACE ANNUAL	David Black	GRE	2	06:50AM	7	1.17	
07/SP	MINE_1855_TA	REFRESHER MSHA UNDERGRND ANNUAL	David Black	GRE	0.5	06:50AM	6	0.25	
07/SP	MINE_1875_T5	REFRESH	David Black	GRE	0.5	06:50AM	1	0.04	
07/SP	MINE_1850_T1	MSHA SURFACE NEW MINER MSHA SURFACE ANNUAL	David Black	GRE	1.5	07:00AM	27	3.38	
07/SP	MINE_1855_M3	REFRESHER MSHA SURFACE ANNUAL	David Black	MTV	0.5	07:00AM	3	0.13	
07/SP	MINE_1855_M4	REFRESHER	David Black	MTV	0.5	07:00AM	4	0.17	
07/SP	INDM_1525_TS3	BASIC HYDRAULICS	Glenn Dalton	ROC	1	07:00AM	9	0.75	
07/SP	INDM_1525_TS1	BASIC HYDRAULICS	Glenn Dalton	ROC	1	07:00AM	14	1.17	
07/SP	INDM_1525_TS2	BASIC HYDRAULICS	Glenn Dalton	ROC	1	07:00AM	18	1.5	
07/SP	INDM_2990_T3	FUNDAMENTALS OF RIGGING	Glenn Dalton	ROC	0.5	08:00AM	17	0.71	
07/SP	INDM_1531_T2	BASIC ALIGNMENT	Glenn Dalton	ROC	1	08:00AM	5	0.42	
07/SP	INDM_1531_T1	BASIC ALIGNMENT	Glenn Dalton	ROC	1	08:00AM	8	0.67	
07/SP	INDM_2990_TS1	CONTRACT = FUND OF RIG - OCI	Glenn Dalton	ROC	0.5	08:00AM	10	0.42	
07/SP	INDM_1521_TS1	BASIC BEARING AND LUBRICATION	Mark Winkel	ROC	1	08:00AM	4	0.33	
					33		391	33.28	CECR
07/SP	MCH_2740_S1	MACHINE TOOL PROCESSES I	Farren Haderlie	AFT	4	12:45PM	3	1	
07/SP	MCH_2770_K1	ADV MACHINE TOOL PROCESSES II	Stanley Nelson	KEM	3	06:00PM	2	0.5	
07/SP	MCH_2740_K1	MACHINE TOOL PROCESSES I	Stanley Nelson	KEM	4	06:00PM	1	0.33	

07/SP

11	6	1.83	Outreach
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91	543	72.7	Total