

# Western Student Learning Results (Program Outcomes) for 2012

Source: Student

# of Grads: 18

Program: Air Cond, Heat, & Refrig Tech

# of Responses: 13

Outcome	Yes	No	Unk	NA	Result	Feedback
What did you like about this program?	13 100.00%	0	0	0		
					Yes	It would be helpful to have more hands on lab time for the courses we learned in the first year of the program (eg. refrigeration & heating). That would facilitate keeping the knowledge fresh in our minds, and it would also provide us with more experience going forward. Since we have not used our furnace trouble shooting skills since 2010 I feel less confident applying for a tech position. The System Design course should be more structured with assignments due along the way. The rubric was handed out merely a few days before the only assignment for the class was due. Many of us scrambled (are scrambling) last minute to attempt to achieve the rubric standards. The rubric is necessary at the beginning of an assignment not at the end. I feel I would have gotten much more out of the class with more structure and a rubric.
					Yes	The lab time and the field hands on also will be great time most of the time should have a job shadow or internship for students going for the 2 yr program.
					Yes	I'm not a very mechanical person so this has been great to develop that part of my brain...so that I can be the best in the world at what I do.
					Yes	the program/courses is up to date with current standard and up to date with current industry
					Yes	I feel that I have learned alot over the past semester. If I had any questions the instructor was prompt to answer my questions.
					Yes	Very hands on. The ability to see a large variety of equipment is very helpful. The second year could encompass more hands on in labs.
					Yes	Learning about the HVAC feild, flanagan
					Yes	instructors were very helpful. easy to learn with them
					Yes	It was awesome and so where students and teachers.
					Yes	I liked the hands on parts of the program, mainly because I learn by doing not being told. otherwise I think the second years should have more hands on matieral
					Yes	I liked the hands on experience especially in the refridgeration department. I also enjoyed the professional teachings of John Flanagan.I enjoyed the patience that each instructor had with us and how they went out of their way to occomadate us.
What would you change about this program?	12 92.31%	1 7.69%	0	0		
					Yes	nothing

<b>Outcome</b>	<b>Yes</b>	<b>No</b>	<b>Unk</b>	<b>NA</b>	<b>Result</b>	<b>Feedback</b>
					Yes	Again, the System Design & Temp Controls classes should have a rubric for the projects at the very beginning of the project not at the end. The System Design class in particular would be more beneficial if the project had milestones along the way and not merely a final hand in date. Most project management in organizations have such milestones which are necessary for the best final outcome of a project. This provides the project manager (instructor in this case) to have a firm grasp on what we are competent in and what areas we need further education in. I don't feel I got out of those two classes with what I had hoped to learn.
					Yes	more hands on in lab, homework is kept to a minimum, and better instruction on project and what is expected
					Yes	I didn't like how some instructors don't grade till the end of the semesters which creates a worry in your mind as to how you are doing.
					Yes	More into industrial refrigeration
					Yes	More hands on in the second year. Boiler lessons in first year?
					Yes	nothing
					Yes	I thought the program was very good and educational. I do think that it would be nice to do even more hands on learning.
					Yes	We should have more time hands with the teacher. More auto cad in the labs and the library
					Yes	A rigorous indoctrination program to get rid of the dead-weight in this program. There are a lot of guys that simply won't make it. We should have been rid of them in the first semester.
Use effective communication skills.	13	0	0	0	100.00%	
					Yes	I believe after taking these courses; I have learned to be a better communicator with my peer. In person and on paper.
					Yes	The instructor has an open door policy, he was always around if you needed anything. Also he gave his home phone number to me, if I had any questions on the current assignment.
					Yes	There will be great on the communications with student that they try to teach on our level. But sometimes that we have different students learn at a different pace than others.
					Yes	I interpret this as if communication from top (instructors) down (students) was effective. The feedback in first year heating systems (Rick Tuma) was absent. Assignments were not handed back and the only feedback we received was our final grade after class was concluded. Rick really knows his stuff and establishes an excellent rapport with his students, however he didn't provide the necessary feedback and was untimely in handing back assignments.
					Yes	im better than i used to be
					Yes	It was ok
					Yes	Yes I do.
					Yes	Very much so. Communications between departments and with students is very professionally handled.
					Yes	I am a great communicator...I think it would be helpful if in the future instructors require each individual to present; rather than it always being the same person in each group up presenting.
					Yes	yes, I have always been pretty good at communicating, but the classes that base around that are very useful in improving it.

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Apply mathematical concepts.	13 100.00%	0	0	0		
					Yes	The math skills improve since apply for this course.
					Yes	Feel confident
					Yes	Yes, as far as the math that pertains to the program itself I learned a lot and usefull math. Tech Math was a pain but still good to have, maybe just not required for the program.
					Yes	feel way better about my math skills
					Yes	No
					Yes	These courses has giving me the require mathematical concepts needed for my future
					Yes	Tech Math should have been used earlier on to decrease the class size.
					Yes	I think that of all the equations we have discussed, we have had extensive preperation so we can retain them in the future.
					Yes	The Tech Math was an excellent concept. The instructor (Jason Rouvel) was the best math teacher I have ever had. The program had flaws in that it was too fast paced with too little contact time. Classes whould have been longer to allow for homework review. Too much material was crammed into too little time. Check the washout rate and that substantiates my comments. I had over 50 hours in the math lab above and beyond class time in addition to the two to four hours a day it would take me to get the homework finished. That class should have been spread over a year with more emphasis on learing and retention than merely having a cirriculum to show the public. After spending well over 150 hours on Tech Math and getting a D lowering my GPA the course requirement was dropped a week before its conclusion last December. I feel financially ripped off by that and it hurt my GPA. As I stated I think it should be required, but at a slower pace with more contact hours. Many of us are non traditional students with families. The extra 50+ hours in the math lab had a very stressful impact on my family and student life. That could have been avoided by a longer math course over two sememsters.
Transfer social and natural science theories into practical applications.	13 100.00%	0	0	0		
					Yes	They try to break down the theories of the formula of the chemical that we will be working on
					Yes	yes
					Yes	Again, the instruction at WTC has been extreamlly well executed. I will be able to retain information later on.
					Yes	Yes very good
					Yes	Good instruction overall.
					Yes	yes
					Yes	
Demonstrate ability to think critically.	13 100.00%	0	0	0		
					Yes	Yes did everyday
					Yes	They make sure that you be able to work by your self without no help at all.
					Yes	found a new way of thinking

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					Yes	Absolutely
					Yes	base on project, i have learn to make critical decesion and demonstrated logical thinking
					Yes	Yes, working on the funraces and AC durning the first took a lot of critical thinking when troubleshooting, and defiently built on that. Also the second year was a good amount when it came to the computer programs I learned how to even better by figuring out my own problems first.
					Yes	Somewhat.
Demonstrate ability to value self and work ethically with others in a diverse population.	13	100.00%	0	0	0	
					Yes	Yes, I have always done both of these.
					Yes	Yes I can do that
					Yes	No. The population isn't diverse there is one non-white guy...and I knew how to do this before I showed up the first day of school.
					Yes	yes
					Yes	Yes
					Yes	They treat every person the same and make sure you boast morale through class
					Yes	Very much so. I think that the instructors have prepared us for what we will be experiencing later on.
Use technology effectively.	13	100.00%	0	0	0	
					Yes	Mr. Flanagan was excellent at getting us all to use Microsoft Office Suite. Mr. Running also regularly introduced us to different programs to help move us along.
					Yes	Yes, the technology that deals with HVAC/R was very good to learn and I learned how to use all of fairly decent, when I had no prior experience.
					Yes	They try to teach us the newest equipment out there but they should have some more chance to see different places where we can get more hands on
					Yes	Definatly. Excellent instruction to use all equipment correctly and efficiently.
					Yes	my computer skill has improved
					Yes	Yes everyday
					Yes	I went from being completley useless on computers to the ability to use many computer programs.
					Yes	Absolutely
Make decisions that incorporate the importance of sustainability	13	100.00%	0	0	0	
					Yes	Not everyday
					Yes	yes there should that we can understand it
					Yes	yes
					Yes	Yes.
					Yes	The Energy class was excellent for teaching us different methods of sustainability.
					Yes	yeah going green!
					Yes	yes

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Install HVACR systems.	13 100.00%	0	0	0		<p>Yes with this program I feel confident in my skill and knowledge to properly install a HVACR system</p> <p>Yes The installation class was very beneficial. After seeing it done at WTC, then doing it on the job. It's very similar in the field when compared to how we were taught. Excellent course. Although in the lab, access to the top of our structure is limited. That space is crucial and having to access it from ladders can be dangerous. Implement easier access to that area.</p> <p>Yes Yes, but having hands on for refrigeration and heating during the second year would be very beneficial to students in the future.</p> <p>Yes still nervous, but ready</p> <p>Yes Yes I did. The installation program was very good at teaching how to install systems as well as the refrigeration and AC courses.</p> <p>Yes To a certain extent could go in depth more</p> <p>Yes Yep! Mr. Tuma had a good setup for the installation of a furnace and duct work, it certainly helped me put everything into perspective in this industry.</p> <p>Yes The install class should go deeper I think it would be helpful to understand more about the initial setups of all units.</p> <p>Yes For the 2 yr program we didnt get more on that it was not enough lab time to understand the basic that we learn from the first yr we should almost have a refresh course</p>
Service HVACR systems.	13 100.00%	0	0	0		<p>Yes Yes to an extent should go in depth more</p> <p>Yes Very wide range of equipment that we work on. The service side to this programs is very important and is executed very effectively.</p> <p>Yes yed</p> <p>Yes we should have a class to refresh our minds on it</p> <p>Yes Good instruction from all department instructors.</p> <p>Yes yes, I had already done some before but it helped advance my knowledge in that.</p> <p>Yes We pushed troubleshooting everyday I learned to troubleshoot with no prior HVAC background.</p>
Repair HVACR equipment	13 100.00%	0	0	0		<p>Yes To an extent should have more repairs</p> <p>Yes Could be more on replacement of parts, and actual "in field" procedures.</p> <p>Yes Yes, I liked how much time was devoted to working on equipment</p> <p>Yes Good instruction, but second year students need first year lab program follow up to keep up our skills.</p> <p>Yes yes</p> <p>Yes It was great to see some of it we should have more lab time on it more sim labs to learn more</p>
Troubleshoot HVACR systems.	13 100.00%	0	0	0		<p>Yes yes</p>

<b>Outcome</b>	<b>Yes</b>	<b>No</b>	<b>Unk</b>	<b>NA</b>	<b>Result</b>	<b>Feedback</b>
					Yes	They it was great to see how to troubleshoot we should have more hands on and more videos to see what happen when something went wrong
					Yes	Again, very well executed.
					Yes	Did a excellent job at this
					Yes	Yes, It was good when we the students had to figure out what was wrong with each furnace and/or AC
					Yes	This was the most fun, it was like a treasure hunt...
					Yes	Again, yes, but that was a year and a half ago and I no longer feel confident since we have not used our first year skills from lab since the classes concluded.
Analyze HVACR systems.	13 100.00%	0	0	0		
					Yes	yes
					Yes	Was very helpfull
					Yes	Yes, from the begining of the year, this has been a key component to our success.
					Yes	We should have more information on analyze a system
Evaluate building systems and plans.	13 100.00%	0	0	0		
					Yes	Could implement more into the first year. The design aspect of the second year encompasses these procedures very efficiently.
					Yes	To an extent but helpful
					Yes	yes
					Yes	We learn alot of that and hoping we learn more on netzero housing and see how they put everything together
					Yes	I think that there should be a little more emphasis on this.
					Yes	The System Design course was not structured enough.
					Yes	yes
Design HVACR systems.	13 100.00%	0	0	0		
					Yes	yes, even though the system design project for child center should have been more organized I think. But otherwise did a good job
					Yes	We should have more cad computers in the library and more on campus to work on the systems
					Yes	Yes, one of my favorite parts of this course. I think a little more direction could be included, but I was satisfied.
					Yes	Yes but was complicated
					Yes	System Design was not structured enough. Rubric was handed out at the end of the course. Incorporating a project management style with milestones is necessary rather than one completion date with the rubric handed out at the end. That's not real world.
					Yes	We worked along time on Design and I really enjoyed the challenge.
					Yes	yes
<b>Aggregate Assessment of Achievement</b>	<b>207 99.52%</b>	<b>1 0.48%</b>	<b>0</b>	<b>0</b>		